A STUDY OF RELATIONSHIP OF CERTAIN DEVELOPMENTAL MEASURES TO MATURITY OF BOYS AS INDICATED BY MEASURES OF HEIGHT

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A STUDY OF THE RELATIONSHIP OF CERTAIN DEVELOPMENTAL MEASURES TO MATURITY OF BOYS AS INDICATED BY MEASURES OF HEIGHT

by

Gordon Emil Holmgren

AN ABSTRACT

Submitted to the School for Advanced Graduate Studies of
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GORDON EMIL HOLMGREN ABSTRACT

The purpose of this study was to determine the validity of height measures in detecting early and late maturing boys in public schools. As some educators question the value of collecting physical growth data on public school children this study has a practical justification.

The data used were of a longitudinal nature and were taken from the data of the Third Harvard Growth Study which are now on file at Michigan State University.[1]

The study involved 368 boys who met the following criteria:

1. eleven or more annual height measurements;
2. first measurement before the age of seven.

From this group fifty early maturers and fifty-five late maturers were selected to comprise two groups, an early maturing and a late maturing one. These two groups were then compared according to height, weight, dental, skeletal, mental, reading, and arithmetic growth.

Steps in the classification of early and late maturers were as follows:

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[1]The third of four studies of physical and mental growth of children sponsored by the Research Center of Harvard. Reported in Society for Research In Child Development Monographs, Vol. III, No. 1 (Washington, D. C.: National Research Council, 1938).

1. straight line growth was determined from the annual serial height measures by the use of the equation: $Y = mx + b$

$$m = \frac{n\sum xy - \sum x \sum y}{n \sum x^2 - \sum x^2}$$

$$b = \frac{\sum x^2 \sum y - \sum x \sum xy}{n \sum x^2 - \sum x^2}$$

2. the actual height was then compared with the computed straight line growth;
3. the difference between the actual height and the computed height was termed a deviation;
4. an early maturer was so designated who experienced a definite break[1] in his height growth pattern at or before 150 months of age, while a late maturer was so designated who experienced this same break at 170 months or more of age.[2]

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[1]A definite break was defined as, whenever the deviations, of a minus nature, went consistently from year to year to a lesser value, within the tolerance of a plus or a minus one-tenth (.1) of an inch, there would the break be revealed.

[2]If the actual measure was above the computed measure, the deviation was considered positive; if it was below the straight line, it was considered negative.

As groups, the early and late maturers were not alike. They differed to a noticeable degree on every characteristic in which they were compared. In a general way the early maturing group was taller, heavier, had greater skeletal maturation, advanced dentition, higher mental age, and greater reading and arithmetic development.

A definite cyclic pattern of growth was found in all cases. By the direction of the growth curves there was reason to believe that the differences between early and late maturers was largely in terms of time.

Late maturers had more difficulty with school work, especially in early grades, and they were the victims of more retentions. A comparison of the number of retentions on the first grade level between the early and late maturers resulted in a degree of significance on the nine per cent level. Separate tables of height norms for early and late maturers were created.

Operating on the hypothesis of the advantage of the early maturer, the method of cataloging a child as an early or late maturer is valid.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

FIGURE PAGE

CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

Most public schools have as a part of their pupil evaluation programs the recording of such aspects of human growth as height scores. The motivation or purpose in accumulating such data is to get some evidence of the child's physical growth and also to assess the health status of the child. However, accumulated height scores might possibly have other values, specifically that of determining whether or not a child is an early or a late maturer.

I. THE PROBLEM

Statement of the problem. It was the purpose of this study to determine the relationship of certain developmental measures to maturity of boys as indicated by measures of height.

Importance of the study. Teachers speak so often of the "immature" or the "slow maturing" child. Almost every explanation of poor achievement is followed with "this child is maturing slowly." This study attempts to show how longitudinal data on physical growth can be put to use in a more effective way.

Further, this study attempts to show justification why the educators should be concerned with the nature and character of a child's physical development. John E. Anderson, director of the Child Welfare Institute at the University of Minnesota, describes this thought when he says:

> . . . that as soon as one works with children he becomes aware that behavior of the moment is an end product determined by many factors, some of which are clearly related to the physical make-up and physiological state of the child, . . .[1]

Helen Thompson, writing in the Manual of Child Psychology, also emphasizes the importance of knowledge of physical growth. She suggests some interesting thoughts when she says:

> It may even be a fair prophecy that, in the investigation of individual physical and mental life histories, studies of social behavior and personality may find their fullest realization in the genetic analysis of physical individuality.[2]

The Encyclopedia of Educational Research in its section "Child Development V. Physical Growth," suggests three issues of physical growth studies:

> Studies in physical growth are concerned, in the first place, with determining the averages, and normal deviations from the average, of various measurements of size and body proportions in children at specific ages. Second, they are concerned with learning the relative influence of the various factors which operate in determining the course of growth. And third, they are concerned with the evaluation and prediction of the trends of growth in individual children.[3]

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[1]J. E. Anderson, "The Contribution of Child Development to Psychology," Journal Conslt. Psychology, Vol. 6, p. 129.

[2]Leonard Carmichael, editor, Manual of Child Psychology (New York: John Wiley and Sons, Inc. 1954), p. 293.

[3]Walter S. Monroe, editor, Encyclopedia of Educational Research (New York: The Macmillan Co., 1952), p. 153.

Courtis, for many years, a student of the child development movement, has pleaded for longitudinal records on children and he punctuates his thoughts with the following comments:

> . . . Will the time ever come when, out of her knowledge of child development and study of that individual's growth curve, the teacher will not only wisely overlook discrepancies that discipline will only intensify, but also actually interpret the child to himself; and by her faith and wise stimulation launch the child successfully into the new cycle and short circuit all the stress and strain of adolescence? Wisdom, plus records and faiths, spells inspiration and power; ignorance and inadequate equipment generates conflicts, disaster, tragedy. How great are the possibilities![1]

Millard in his writing and lectures emphasizes the importance of adequate longitudinal physical, mental, and educational records on public school children. In his book Child Growth and Development[2] he describes the need for data on children and then brings into focus the principles of growth and the need for their proper interpretation.

Quotations and statements give support to the idea of collection of physical data on children, and because of the importance that child development investigators have put upon the collection of longitudinal data, many public schools have developed quite adequate records.

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[1]S. A. Courtis, "Discipline Under the Growth Conflict," Child Growth in an Era of Conflict, ed. C. V. Millard, Fifteenth Yearbook, Dept. of Elementary School Principals (Lansing, Michigan: Mich. Education Association, 1944), p. 46.

[2]C. V. Millard, Child Growth and Development in the Elementary School (Boston: D. C. Heath and Co., 1951), passim.

The problem of this study becomes one of application. Other than using height scores to determine a child's health condition, in a very general way, and to describe his relative position when compared to height norms, this study attempts to use height scores to determine whether or not a child is an early or a late maturer as determined by his adolescent height growth. By a comparison of two groups, an early maturing and a late maturing one, the question is raised: How do these two groups compare in six other developmental characteristics--weight, dental, skeletal, mental, reading, and arithmetic.

II. DEFINITION OF TERMS USED

The following terms are used to describe this study.

Adlosecence growth spurt. As this study deals with height, reference to the above phrase means that it is the time in an individual's growth pattern when height growth is marked by a decided and very noticeable increase from the previous pattern.

Growth versus development. Millard's concept of growth and development will be used:

> Development will be used to describe general organization and organismic change, whereas growth will be considered as a phase of total development.[1]

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[1] *Ibid.*, p. 10.

Growth analysis. The consolidation of growth data in a sequence or bringing it into a longitudinal perspective so that it can be studied and analyzed.

Growth curve. Describes a design formed by cumulative movements.

Growth cycle. A curve of growth which is characterized by a phase of acceleration followed by deceleration. A new cycle begins where the deviations from straight line growth depart from a decelerating to an accelerating phase.

Cyclic nature of growth. Growth is not of a straight line description but rather is better described by a series of undulating waves each having a phase of acceleration and deceleration.

Maturation. The process by which an individual progresses in his development.

Stages of maturity. Periods or times in the maturational process which are quite definable, i.e.: prenatal, infanthood, childhood, adolescence, adulthood.

Immaturity. A word that characterizes an individual who has not reached the stage of development that one would normally expect at a given time.

Skeletal growth. Description of carpal maturation, union of bone joints by calcification, as measured by x-ray pictures. This growth is given in quantitative aspect by an interpretation of x-ray pictures in terms of skeletal age.

Longitudinal study. This can best be described by comparison to a status study. A status study involves single testings on a large number of cases while a longitudinal study requires many testings on fewer cases. Time is the fundamental factor in longitudinal studies.[1]

Physical data. Quantitative measurements in height, weight, tooth eruption, and bone calcification.

Harvard Growth Study. The third of four longitudinal growth studies on children of school age carried on by Harvard University.[2]

Developmental period. That time in an individual's life in which he is growing and full maturity has not been reached.

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[1] C. V. Millard, Child Growth and Development (Boston: D. C. Heath and Company, 1951), pp. 57-60.

[2] Walter F. Dearborn, John W. M. Rothney, Frank K. Shuttleworth, "Data on the Growth of Public School Children," Society for Research in Child Development Monographs (Washington, D. C.: National Research Council, 1938), Vol. III, No. 1, passim.

<u>Time</u>. Time in this study has a very significant meaning and place. Time means explicitly that period in an individual's life development when a specific measure is taken. Time and the measure then become greatly dependent on each other.

CHAPTER II

REVIEW OF PREVIOUS RELATED STUDIES

Child growth and development, child psychology, child behavior, or just child development have essentially many different meanings. The simple word growth is used to cover a great variety of diverse phenomena of complex nature. Because of the great number of sciences which are interested in this field, and because of growth's complexity, the literature on this subject is voluminous. Further, to make the whole matter more complex growth can be studied on many levels (prenatal, postnatal, adolescent, senility) and it also can be studied by different methods (cross-sectional, longitudinal, group-and individual-wise).

Kai Jensen, writing on the topic of physical growth in the Review of Educational literature described well the topic of growth in this statement:

> It connotes all and any of these reproduction, changes in dimension, linear increase, gain in weight, gain in organic mass, cell multiplication, mitosis, cell migration, protein synthesis, and more.[1]

For purposes of this study child growth and development will have a definite and specific meaning; one that relates directly with the school and education. In other

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[1]Kai Jensen, "Physical Growth," Review of Educational Research, Vol. 22 (Washington, D.C.: American Educational Research Association, 1952), p. 391.

words a study of the literature will include only that which is directed to educators, is related to the school and its objectives, and is appropo and practical to modern day education.

As a field of study, child development in the schools is concerned with mental and physical growth as it moves from one level of maturity to a higher, more structural level of maturity.

Olson[1], who has tried to put principles of growth and development to practice, emphasizes the importance of being familiar with the laws of growth and then using these principles as guides in curriculum planning, as guide lines for programs of evaluation, and for helps in creating the school environment.

In a publication by Millard[2], the principles of growth and development are brought into focus so that they play upon the educational scene pointing up many possible applications. He begins his book with the thought that educators, by borrowing knowledges and methods from the many related sciences, can now make education a more precise and exact science. He also describes the limitation of earlier studies and then suggests as an answer the organismic view.

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[1]Willard C. Olson, Child Development (Boston: D. C. Heath and Co., 1949), passim.

[2]Millard, op. cit., passim.

He describes this view as one which interprets all aspects of development in respect to a life pattern. He then prophecies with:

> Teachers with this viewpoint recognize the child as a dynamic organism that furnishes as much data as the observer is ingenious enough to measure and record. They realize that such data are related, if different, aspects of the total organismic pattern.[1]

Child development, as a field of research, is, then, concerned with physical and mental development. Educators are interested in the entire period from conception to maturity (adulthood) but due to the fact that they are directly involved with children in the childhood, adolescence, and young adulthood they are more interested in these periods.

Research in the field of child development can be dated as beginning at the turn of the century. Prior to this the research was sketchy, unorganized, and isolated. The first seriatim study of human growth was described by Scammon[2] in the _American Journal of Physical Anthropology_. The author begins his article by describing the two methods by which the growth of the living body is studied; the mass or cross-section method, or the individual, seriatim, or longi-section method. Of the first he says:

> The mass method has been used more extensively than the individual method. Its application apparently began with the work of Roederer (1753),

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[1]_Ibid._, p. 4.

[2]R. E. Scammon, "The First Seriatim Study of Human Growth," _American Journal of Physical Anthropology_, X: 329-336, 1927.

> Dietz (1757), and Joseph Clarke (1786) on the weight and physical proportions of the new born, although it was not extended to the detailed study of later development until the early part of the 19th century.[1]

Scammon then describes some of the early seriatim method research. He gives such names and dates as Wiener ('90), Gottman ('15), Camerer ('82, '93, ''01), Haehner ('80, '84), and also the more contemporary Baldwin (University of Iowa Studies) as examples of the first men who pursed such research along the longitudinal lines. However, Scammon spends considerable time describing a pioneer investigation by the individual method which took place in the eighteenth century. This is perhaps the first such kind of research. The following paragraph taken from this article describes it well:

> The observations in question were made by Gueneau de Montbillard and consist of measurements on the growth in height of his son (a first child), begun at birth (April 11, 1759) and continued for nearly eighteen years (until November 11, 1776, with a final check on January 30, 1777). The measurements were made at approximately semiannual intervals, there being but two observations in the series which are separated by an interval of over six months. In the latter part of the period, when growth in stature was less noticeable, the observations were made more frequently.[2]

The scientist Montbillard must have been a very keen and observant student for he also discovered some principles of growth which have been thought of as quite recent discoveries. Apparently he had graphed his data, for the curve

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[1]Ibid., p. 329. [2]Ibid., p. 330.

of growth which he describes has four phases: period of rapid growth during infancy and early childhood; a middle period of slower but constant growth from three to nearly thirteen years; from about thirteen and one-half to fifteen a marked period of prepuberal, and finally a period of slow growth. Further, he commented on the effect which the daily cycle of rest and activitity has on height. He is credited with recognition of the seasonal effect on height.

Boaz[1], writing in Science in 1892, made a strong plea for more studies that are longitudinal in nature and more carefully done. He completes his article by stating that:

> In order to carry out such a plan, it would be necessary to organize a bureau with sufficient clerical help to carry on the work. The questions underlying physical and mental growth are of fundamental importance for hygiene and education, and we hope the time may not be far distant when a work of this character can be under taken.[2]

A contemporary of Boaz was Bowditch[3]. Reporting in the Eighth Annual Report of the State Board of Health of Massachusetts he compared children of the same percentile rank from year to year. This, too, is an existing practice,

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[1]Frank Boaz, "Growth of Children," Science, XX:516: 351-352, 1892.

[2]Ibid., p. 352.

[3]H. P. Bowditch, "Growth of Children," Eighth Annual Report, Massachusetts Board of Health (Boston: 1875), quoted in Walter S. Monroe, ed., Encyclopedia of Ed. Research (New York: The Macmillan Co., 1952), p. 139.

and many people believe as Bowditch did that the same children on the average will remain in the same percentile rank.

Behavioral records, children's logs or diaries, or anecdotal records had their beginnings in Germany. The Encyclopedia of Educational Research lists Pruyer[1] as a pioneer in the type of work which Arnold Gesell made famous. Sully[2], working at the University of London at the turn of the twentieth century, promoted a style or method of child study which could easily have been the vanguard for further, later work in child observation. Some excerpts from his section on "Child-psychology: Conditions of the Study" will show the reader that his orientation was quite as it is today.

> . . . If we can only decipher the mystic characters of a child's external behavior, we may be able to approach at least the desired beginning and to supplement our introspection with a genetic psychology.
> Now this work of child-study is not an easy one which anybody can rashly take up. It requires, for one thing, special personal aptitudes and tastes,. . . . But what needs to be emphasized here is that these personal gifts are not everything, that they need to be accompanied and guarded by the caution bred of scientific reflection.[3]

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[1] W. Pruyer, Die Siele des Kindes, The Soul of the Child (Leipzig: Greiben, 1882), 424 pp., quoted in Walter S. Monroe, ed., Encyclopedia of Educational Research (New York: The Macmillan Co., 1952), p. 139.

[2] James Sully, The Teacher's Handbook of Psychology (New York: D. Appleton and Company, 1914), passim.

[3] Ibid., p. 7.

It was also with the turn of the century that the study of mental growth received impetus. Binet[1] was not only interested in mental measurement but he also became interested in mental and physical relationships, their integrations and correlations. He was concerned with head and face measurements, and attempted to find in them an index of mentality. His failure to find a close relationship resulted in attempts by others, Porter (1892) and Gilbert (1895, 1897) to seek some knowledge of this phenomenon. From these investigators we received such concepts as: dull children tended to be smaller for their age; bright children tended to be larger.

Apparently unforgotten was some important research carried on by Crampton[2] in 1902. He was challenged by the unexplained variability of boys of high school age.

> There were undoubtedly reasons why one boy of fourteen years of age was small and another large; one tall and thin, another short; one weak, another strong; one brilliant, another dull.[3]

He then challenged the existing "age of Puberty" concept which was the chronological age of thirteen and fourteen.

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[1] Helen Thompson, "Physical Growth," Manual of Child Psychology (New York: John Wiley and Sons, Inc., 1954), pp. 292-334.

[2] C. Ward Crampton, "Physiological Age--A Fundamental Principle," American Physical Education Review, XIII: 3: 111-151, 1908.

[3] Ibid., p. 141.

In a redefinition of puberty he writes:

> "Puberty" from "pubertas-tatis" (age of manhood) refers to that point of time when the asexual life is changed to the sexual, and the ability to procreate is established. It is not a stage or period of time, but a division line between two periods having no more duration than the division between one year and the next.[1]

Crampton sumarizes this study by emphasizing the point that it is impossible to predicate from the mere fact of age (those usual known ages of puberty twelve to seventeen) that an individual is mature or immature.

Another study[2] of this pioneer following the one described above was the study of scholarship and pubescence. Scholarship to Crampton was defined as:

> Success in school life means the ability to get marks', and satisfy the teacher in daily recitation and upon examinations that the subjects studies are relatively mastered.[3]

Crampton then summarizes by emphasizing that postpubescents are different from prepubescents mentally, that the immature group is less fitted for the strain of high school work, and that educators must recognize and understand the facts of puberal growth.

During the following decade little was done regarding the correlations and relationships between mental and physical traits or relationships between other physical measurements. The systematic collection of physical data on

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[1] Ibid., p. 142. [The underscoring was done by the writer of this thesis.]

[2] Ibid., pp. 214-227. [3] Ibid., p. 224.

children was noticeably for improving the child's health, improving physical conditions of schools, and getting certain health facts.

Terman[1] published a book at this time that was specifically pointed toward the hygiene of the school child. However, his first six chapters brought the results of the research up-to-date and put it into practice. An itemization of these chapters will give the reader an overview of the topics he was attempting to explore.

They are:

1. Introduction: The Broader Relations of Educational Hygiene
2. The Physical Basis of Education
3. The General Laws of Growth
4. The Factors Influencing Growth
5. Some Physiological Differences Between Children and Adults
6. The Educational Significance of "Physiological Age"[2]

His later studies such as the Genetic Studies of Genius brought into focus some interesting physical-mental correlations.[3]

Following the First World War there was a definite upward surge of interest in securing accurate information,

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[1]Lewis M. Terman, The Hygiene of the School Child (Boston: Houghton Mifflin Co., 1914), passim.

[2]Ibid., Table of Contents.

[3]L. M. Terman, et al, "Genetic Studies of Genius," Mental and Physical Traits of a Thousand Gifted Children, Vol. I (Stanford, California: Stanford University Press, 1925), passim.

both physical and mental, about children. Bird T. Baldwin,[1] director of the Iowa Child Welfare Research Station at the University of Iowa, was one of the first to make systematic studies of physical and mental growth of children and then to show the dependencies and interrelationships of them. Baldwin accumulated a number of anthropometric measurements. From these measurements he drew individual growth curves. These curves brought to him facts regarding the great variability in physical maturation of children. Baldwin's height-weight norms for girls and boys are featured in much of the literature. Baldwin also brought into use the method of measuring maturity by noting ossification of carpal bones as seen in x-rays.

The Harvard Growth Study came into prominence in the early 1920's. This, however, was the third of a series of four such studies of a longitudinal nature. Dearborn and Rothney[2] in their book Predicting the Child's Development give the history of these studies. In a chronological order they were: First Study under the leadership of H. P. Bowditch, Professor of Physiology in the Harvard Medical School in the year 1872; Second Study took place between the years 1910-1920 with W. T. Porter another Harvard Medical

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[1]B. T. Baldwin, "Physical Growth of Children from Birth to Maturity," University of Iowa Studies in Child Welfare (Iowa City: Univ. of Iowa, 1921), Vol. I, No. 1, passim.

[2]Walter F. Dearborn and John W. M. Rothney, Predicting the Child's Development (Cambridge, Mass.: Sci-Art Publishers, 1941), passim.

School physiologist as the leader; Third Study was carried on by the above authors in the Psycho-Educational Clinic of the Harvard Graduate School of Education; Fourth Study began in the early thirties by the Public School of Health with Harold C. Stuart as the director.

The Third Study because of its extent, planned structure, and accuracy and carefulness received international recognition. Many papers and further research has been done using the original data. Shuttleworth[1] used these data for his studies.

Studies regarding the collecting of physical data now began on an international level. Most of these were abstracted in the Child Development Abstracts Vol. 1 to 3.[2,3,4] Most of these studies were carried on by anthropologists or

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[1]F. K. Shuttleworth, "Sexual Maturation and Physical Growth of Girls Age Six to Nineteen," Monographs of the Society for Research in Child Development (Washington, D.C.: 1937) Vol. 2, No. 5, and "The Physical and Mental Growth of Girls and Boys Age Six to Nineteen in Relation to Age at Maximum Growth," (Washington, D.C.: 1939), Vol. 4, No. 3.

[2]W. D. Newsdorf, "Physische Entwicklung der russischen Kinder Johre 1925 Nach den anthropometrischen Untersuchungen," (Physical Development of Russian Children in 1925), Zulsehr Konstitution-slehre, 13 (1) 60-82, 1927. (As abstracted in Child Dev. Abstracts and Bibliography, Washington, D.C.: Committee on Child Dev., 1928, Vol. IV, no. 2, p. 205.)

[3]Morris Steggerda, "Physical Development of Negro-White Hybrids in Jamaica, British West Indies," American Jour. Phys. Anthrop., Vol. 12, No. 1, 121-138, 1929.

[4]Paul Godin, "Remarque a propis de la mesure de la 'taille assi' an cours de la corissance" (Measurement of the Sitting Height During Growth), Revue Anthrop., 36 (1/3):68-69, 1926.(As abstracted in Child Dev. Abstracts and Bibliography Washington,D.C.: Committee on Child Dev.,1928, 2:6:448.)

people in public health. Their objectives were to collect data for purposes of racial and national comparison, assessing the health of children, and evaluating the effect of war or other crises upon children. One piece of research of interest that was done along longitudinal lines, with recognition of the organismic viewpoint, and of a cyclic orientation was done in Montevideo, South America, public schools. A quotation from an abstract of this article delineates a thought provoking fact regarding the growth cycle.

> The type of growth is peculiar in its uniformly ascending character, with a gradual yearly increase in the periods of greater growth, but never shows the sudden ascents that are noticed in children of other countries.[1]

The child development movement was now given an added impetus by the National Research Council which was able to get the Third White House Conference[2] to deal with the topic of growth and development. Section I--Committee A centered on this topic.[3] Apparently the committee became greatly motivated for its work is recorded in two volumes.[4] These

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[1]R. Schiaffino, "School Anthropometry," Bolivia Institute internac. Am. de Protic. Inf., April, 1929, Vol. 2,No.4. (As abstracted in _Child Dev. Abstracts and Bibliography_, Washington, D. C., 1940, Vol. 4, No. 3, p. 337.)

[2]White House Conference on Child Health and Protection, _Addresses and Abstracts of Committee Reports_ (New York: The Century Company, 1930), _passim_.

[3]_Ibid._, pp. 51-66.

[4]White House Conference on Child Health and Protection, _Growth and Development of the Child, Part I: General Consideration; Part II, Anatomy and Physiology_ (New York: The Century Company, 1932 and 1933), pp. 377 and 629.

volumes are concerned with the more technical aspects of child growth and development but Volume I,[1] the parts on prematurity and hyman types, are definitely helpful for the educator, and Volume II[2] has sections devoted to growth and development of the skelton, development of the face, and dentition, and eruption of the teeth.

Somewhat prior to this work many Institutes of Child Welfare sprang up. Mention has been made of the work at Harvard and the University of Iowa. Similar institutes had also begun at the University of Minnesota, the University of California in Berkley, the University of Chicago, Columbia University, the Merrill-Palmer School in Detroit, and Yale. Some of these institutes like the institutes at Iowa and Minnesota received direct financial aid from the Laura Spelman Rockefeller Memorial. The Yale Clinic of Child Development was able to carry on much of its studies of behavior development in infants, the preschool child, and later the school child because of the generous support of funds from the Laura Spelman Rockefeller Memorial, General Education Board, and the Rockefeller Foundation. Gesell's

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[1] Ibid., Vol. I, pp. 53-120.

[2] Ibid., Vol. II, pp. 26-155.

work at this clinic and his writings[1,2,3,4,5] brought child growth and development to the layman.

Gesell's work with infants and their developmental growth initiated other studies of a similar nature. McGraw[6] carried on a study which attempted to evaluate neural maturation as exemplied in the changing reactions of the infant to a pin prick. Her study had both cross-sectional and longitudinal data. She gather group data by getting 2,008 observations on infants from birth to four years and then she supported these findings by longitudinal studies of four individual infants during the first eighteen and twenty-four months of life.

Under the leadership of John E. Anderson, Director, Institute of Child Welfare at the University of Minnesota, a

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[1] Arnold Gesell, _The Mental Growth of the Preschool Child_ (New York: The Macmillan Co., 1925), _passim._

[2] Arnold Gesell, Helen Thompson, _The Psychology of Early Growth_ (New York: The MacMillan Co., 1938), _passim._

[3] Arnold Gesell, Catharine S. Amatrude, Burton M. Castner and Helen Thompson, _Biographies of Child Development_ (New York: Paul B. Hoeber, Inc., 1939), _passim._

[4] Arnold Gesell, _and others_, _The First Five Years of Life_ (New York: Harper and Bros., 1940), _passim._

[5] Arnold Gesell, _Infant Development_ (New York: Harper and Bros., 1952), _passim._

[6] Myrtle B. McGraw, "Neural Maturation as Exemplified in the Changing Reactions of the Infant to Pin Prick," _Child Development_, XII:31-42, March, 1941.

two year longitudinal study on twenty-five infants was effected. Mary Shirley,[1] reported on this study in three volumes.

Ohio State University also attempted some work in the study of infant behavior. Pratt, Nelson, and Sun describe the experimental method,used in their work, as follows:

> This method stresses the control or accurate measurement of the stimulating conditions, and a careful recording of the actual movements that are made.[2]

The study was longitudinal in that the same children were "stimulated" and observed from time to time. At times fifty infants were involved.

In the early "forties" many growth studies began which emphasized the child of school age. There were also some definite "trends" among the child development researchers. Krogman[3] reported on these in a Child Development periodical. These are significant enough to be listed as such:

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[1]Mary M. Shirley, Postural and Locomotor Development, Vol. I; Intellectual Development, Vol. II; Personality Manifestation, Vol. III (Minneapolis, Minnesota: The University of Minnesota Press, 1931, 1932, 1933), pp. 227, 513, 228.

[2]Karl Pratt, Amalie Kranshaar Nelson, and Kuo Hua Sun, The Behavior of the Newborn Infant (Columbus: The Ohio State University Press, 1930), p. 7.

[3]Wilton M. Krogman, "Trend in the Study of Physical Growth in Children," Child Development, XI: III, 279-284, 1940.

> The first trend is that of standardization. . . .
> The second trend is based upon the interpretation of anthropometry from a biological viewpoint. . . .
> The third trend is that of the study of hereditary transmission of physical characters. . . .
> A fourth trend in the study of physical growth is to depend somewhat less upon dimensions and a bit more upon maturation. . . .
> A fifth trend, . . . , is a closer tie-up between physical growth and mental progress. . . .
> I turn, finally, to a sixth trend, namely, the utilization of growth data as the basis of the assessment of well-being. . . .[1]

An example of an attempt at standardization was Todd's[2] work on skeletal maturation. After completing his work he published an atlas of skeletal maturation which contained seventy-five roentgenograms selected as typical of the successive stages in ossification in the hand of boys and girls from three months of age until the date in adolescence when all epiphyses are united. Todd was the director of the Brush Foundation Studies at Cleveland which later was placed under the leadership of Simmons.[3]

In the later years, emphasis appears to be on growth trends or curves. Further, there have been attempts to seek

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[1] *Ibid.*, pp. 279-284.

[2] T. W. Todd, *et al*, *An Atlas of Skeletal Maturation, Part I: The Hand* (St. Louis: C. V. Mosby Company, 1937), *passim*.

[3] Katherine Simmons, "The Brush Foundation Study of Child Growth and Development: II Physical Growth and Development," *Society for Research in Child Development Monographs* (Washington, D.C.: National Research Council, 1944), Vol. IX, No. 1, *passim*.

relationships and common denominators that will describe and predict growth.

Courtis[1,2,3] in his many writings holds that growth is cyclic in nature and takes the mathematical form of the Gompertz formula. Also, that all phases of growth are related, each having an incipiency, a rate, and a maximum and moving in a cyclic nature.

Courtis, in an article published in Growth, describes the cyclic nature of growth when he writes:

> . . . Therefore, it really is appropriate to couple growth and cycles to mean a succession of periods, or pulses, or waves of growth. In growth cycles, it should be noted, the phenomena that are "recurrent" are not phases of development in the organism, but the phases in the process of growth itself.[4]

Olson and Hughes[5] have attempted to discover some of the principles of growth and relate them to the total

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[1]Stuart A. Courtis, "Maturation Units for the Measurement of Growth," School and Society, 30: 683-690, 1929.

[2]Stuart A. Courtis, "Maturation as a Factor in Diagnosis," The 34th Yearbook of the National Society for the Study of Education (Bloomington: Public School Pub. Co., 1935), Chap. X.

[3]Stuart A. Courtis, The Measurement of Growth (Ann Arbor: Brumfield and Brumfield, 1932), passim.

[4]Stuart A. Courtis, "What is a Growth Cycle?," Growth, Vol. 1, No. 2, 1937, p. 156.

[5]W. C. Olson and B. O. Hughes, "Growth of the Child as a Whole," cited in R. G. Barker and J. S. Kounin, and H. H. Wright, Child Behavior and Development (New York: McGraw-Hill Book Co., 1943), passim.

organism, the growing child. Prescott[1] pleads for discovery of normal behavior ranges in descriptive rather than in mathematical terms.

Millard, a student of Courtis and a strong defender of the longitudinal method of collecting data, has carried on three studies[2] that are unique in themselves for their completeness of data and quality and kind of data collected. These studies have collected data over three periods using the same measuring instruments from one testing period to another. Further, the subjects, are average public school children. Millard's recently published book School and Child[3] has the Everett Study as its source.

There have been relatively few attempts to relate longitudinal data on physical growth with longitudinal data on mental achievement. The work of Crampton[4] as was

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[1] D. A. Prescott, Emotion and Educative Process (Washington, D. C.: American Council on Education, 1938), passim.

[2] In the Child Development Laboratory of Michigan State University these studies are known by the titles--The Dearborn Study, the Everett Study, and the Holt Study. (1) Dearborn--Data, longitudinal measures on approximately three hundred children, covering academic, mental, and physical measurements over a ten year period. (2) Everett Studies--Complete individual case studies including anecdotal and observation records on sixty children over a seven year span. (3) Current Studies [Holt Data] comprehensive objective and anecdotal records on three hundred children currently under observation.

[3] C. V. Millard, School and Child, A Case History (East Lansing, Michigan: Michigan State College Press, 1954), passim.

[4] Crampton, op. cit., passim.

previously mentioned is the only study found in the literature until the Harvard Growth Study of 1922.[1]

Millard[2] and his students have made a specific and definite attempt to relate physical and mental growth by interpreting longitudinal data using the Courtis Technique.[3] Studies in this area have been made by Millard[4], Nally[5], Kowitz[6], and Martin.[7]

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[1]Dearborn and Rothney, *op. cit.*, Chap. V, pp. 238-288.

[2]C. V. Millard, Michigan State University, East Lansing, Michigan.

[3]S. A. Courtis, "Maturation Units and How to Use Them," A Manual of Directions for Research Workers in Biological Scienses (Ann Arbor: Edwards Brothers, 1950), *passim*.

[4]C. V. Millard, "The Nature and Character of Pre-Adolescent Growth in Reading Achievement," *Child Development*, II:2:71-114, 1940.

[5]T. P. F. Nally, "The Relationship Between Achieved Growth in Height and the Beginning Growth in Reading" (unpublished Ph. D. thesis, Michigan State University, 1953).

[6]O. T. Kowitz, "An Exploration into the Relationship of Physical Growth Pattern and Classroom Behavior in Elementary School Children" (unpublished Ph. D. thesis, Michigan State University, 1954).

[7]R. E. Martin, "The Educational Implications of an Individual Longitudinal Case Inventory" (unpublished Ph. D. thesis, Michigan State University, 1956).

Dearborn and Rothney[1] studied the relationships between mental and physical growth. They used "maximum growth age" during a two year period as a criterion for selecting their early and late maturers. Their conclusions were:

> No consistently significant differences in achievement were discovered in comparisons of groups of 100 cases each at the extremes of growth in height and weight during the two-year period.[2]

Another study that attempts to categorize early and late maturing boys is that of Stolz and Stolz.[3] They used "rate of growth" as a basis for analysis. "Rate of growth" was calculated from the gain an individual made per tenth of a year. "Early" and "late" growers were compared only in physical characteristics with no attempt at a mental or scholastic comparison.

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[1]Dearborn and Rothney, *op. cit.*, passim.

[2]*Ibid.*, p. 253.

[3]H. R. Stolz and Lois Meek Stolz, *Somatic Development of Adolescent Boys* (New York: The Macmillan Co., 1951), *passim.*

CHAPTER III

DATA AND METHOD

A. The source of data. The data used for this study were taken from the Third[1] Harvard Growth Study. The original data are now in the custody of Michigan State University. These records have been used by many students for papers, master's thesis, and doctorate dissertations. Two extensive monographs by Shuttleworth[2] were written from these data. At the time of his first publication, 1937, Dr. Shuttleworth had this to say about this material:

> It is the considered judgment of the writer that the materials of the Harvard Growth Study represent easily the finest collection of longitudinal records available for the study of physical growth during the adolescent period. Better data, in the sense of more cases and longer records, will probably never

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[1] "Approximately 3500 children who were entering the first grade of three cities of the metropolitan area of Boston were examined. In addition to twelve annually repeated physical measurements, a battery of mental and scholastic tests were administered annually to these same children for as long a time as they remained in school. . . ." W. H. Dearborn and J. W. Rothney, Predicting the Child's Development (Cambridge, Mass.: Aci-Art Publishers, 1941), p.34.

[2] F. K. Shuttleworth, "Sexual Maturation and the Physical Growth of Girls Age Six to Nineteen," Monographs of the for Research in Child Development (Washington, D.C.: National Research Council, 1937), Vol. II, No. 5, p. 247; F. K. Shuttleworth, "The Physical and Mental Growth of Girls and Boys Age Six to Nineteen in Relation to Age at Maximum Growth," Monographs of the Society for Research in Child Development (Washington, D. C.: National Research Council, 1939), Vol. IV, No. 3, p. 291.

> be available. Better data, in the sense of half as many cases followed over as long a period together with either more measurements or more accurate measurements or more supplementary data, will not be available for analysis within a period of at least 15 years.[1]

The original Harvard Growth Study had approximately 3500 cases. However, there were many casualities because of family movements, illnesses, and even deaths. As a result the number of cases was reduced in the Dearborn, Rothney, Shuttleworth report to 1553 school children of which 747 were boys and 806 girls. For the purposes of this study data on height for 368 boys of the 747 were examined. The cases were selected for examination on the basis of maximum number of measurements.

B. Selection of cases. A complete perusal of the data of the 747 boys in the Harvard Report revealed that a considerable number had been measured annually for eleven or twelve years. It was discovered that 70 boys had been measured annually for twelve years with the initial measurement between the ages of 5.0 to 5.99 years. From this group fourteen early maturers and ten late maturers were discovered by the criterion used.[2]

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[1] Shuttleworth, *op. cit.*, Vol. II, No. 5, p. 6.

[2] See page 39 for description of criterion.

In order to obtain a larger number of cases, the remaining cases of the original 747 were catalogued on the basis of eleven annual measurements with the initial measurement taken between the ages of 6.0 to 6.99 years. The resulting selection was 298 cases from which thirty-six early maturers and forty-five late maturers were found.

The two groups totalled fifty early maturers and fifty-five late maturers. The cases chosen are shown in Table I and Table II.

C. Secondary problem and data used. Considerable evidence is available which points out the superiority of the early maturing child over the late maturing one.[1] The question of the validity of the method used for cataloging children on the basis of maturity will be determined by the significance of differences of means of the two groups so designated on the basis of certain other growths and achievements. Growths and achievements so selected were:

1. Weight
2. Dental Age
3. Skeletal Age
4. Mental Age[2]

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[1]Douglas M. Moore, "Developmental Concordance and Discordance During Puberty and Early Adolescence," Society For Research In Child Development, Vol. XVIII, No. 56, 1953, passim.

[2]Mental ages were averaged when two or more were recorded for a single year.

TABLE I

A DESCRIPTION OF EACH OF THE EARLY MATURERS IN TERMS OF NUMBER OF MEASUREMENTS AND TIME OF THE INITIAL MEASUREMENT[1]

1	2	3	1	2	3	1	2	3
41	11	71	1215	12	67	2668	12	70
150	13	65	1315	12	74	2569	12	74
380	12	74	1382	11	72	2611	10	82
534	12	78	1616	13	80	2700	10	79
606	12	75	1948	11	72	2738	12	78
645	12	77	2007	12	75	2762	13	74
762	12	70	2051	11	71	2787	11	77
763	12	80	2098	12	76	2805	10	77
894	12	70	2202	12	67	2831	11	80
968	11	76	2301	13	82	2840	12	81
1093	12	66	2376	12	71	2961	12	78
1127	12	77	2396	12	80	3060	11	82
1159	11	76	2400	10	82	3160	11	76
1197	12	81	2406	11	81	3039	11	76
1239	12	78	2456	12	75	3237	12	76
1248	11	74	2539	11	71	3317	12	81
1270	12	67	2547	12	74			

[1]Columns are numbered as follows:

1 = case number
2 = number of annual measurements
3 = age in months at initial measurement

TABLE II

A DESCRIPTION OF EACH OF THE LATE MATURERS IN TERMS OF NUMBER OF MEASUREMENTS AND TIME OF THE INITIAL MEASUREMENT[1]

1	2	3	1	2	3	1	2	3
166	12	79	893	11	77	2282	11	80
277	11	77	897	12	81	2465	13	75
328	12	72	1030	12	83	2472	12	76
393	12	79	1045	12	75	2525	12	82
428	12	74	1091	12	69	2528	12	72
479	11	77	1180	12	66	2691	11	78
488	12	74	1186	12	76	2723	12	80
508	12	83	1216	12	84	2728	12	78
616	12	73	1224	12	79	2741	12	83
635	10	79	1244	12	75	2811	12	77
648	12	83	1303	12	73	2868	13	73
661	13	77	1650	12	80	3091	11	78
664	12	82	1686	10	82	3189	11	82
702	13	75	1777	12	76	3272	12	71
708	12	78	1874	12	83	3279	12	78
739	11	78	2062	12	75	3291	11	70
755	12	72	2102	12	83	3332	12	66
804	12	75	2149	12	66			
865	11	82	2234	12	68			

[1]Columns are numbered as follows:

1 = case number
2 = number of annual measurements
3 = age in months of initial measurement

5. Reading Achievement[1]

6. Arithmetic Achievement[2]

The mental ages were measured by many different intelligent tests. All the children received at least one individual Stanford Binet and some received as many as seven. The following group tests were given to all, and every child had a mental age measurement every year: Dearborn, Form A. and C.; Otis Primary, Form A; Otis Self-Administering Test of Mental Ability, Form A and B; Haggerty Intelligence Tests; Terman Group Test, Form A and B; Detroit Advanced Intelligence Test, Form V and W; Kuhlman-Anderson Intelligence Test; Revised Army Alpha Examination, Form V and VII.

Reading achievement was measured in the early grades by use of the Haggerty Reading Examination, Sigma 1; Ayers Measurement of Silent Reading-Scale 1, 2, 3; Chapman-Cook Speed of Reading Tests; Chapman Unspeeded Reading-Comprehension Test. To measure reading achievement in junior and senior high the Stanford Achievement Tests--Forms A, V, W; Iowa Silent Reading Test--Forms A and B; and the Shank Tests of Reading Comprehension were given.

The Progress Tests in Arithmetic--Primary, Intermediate, and for Grades Six, Seven, and Eight were given to measure longitudinal growth in arithmetic. In later years

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[1]Reading and arithmetic scores were not included in the Dearborn Volume III so were taken from the original case files.

[2]*Ibid*.

the New Stanford Arithmetic Test--Form A and Y; New Stanford Achievement Test--Form V and W; and the Schorling-Clark-Potter Arithmetic Test was given to measure growth.

The data regarding mental development is not as complete as one would desire of longitudinal data. As was previously mentioned, group mental tests were given every year but different instruments were used. No attempt was made to standardize the scores on these tests but instead they were averaged per year with the thought that the quantity of scores used would smooth out curves and give a quite accurate measurement of mental growth.

As scores for the Stanford-Binet Individual Test, reading tests, and arithmetic tests were not collected every year, Tables III and IV summarize the number of scores which were available on these children, per every year of a thirteen year period.

D. Method. Growth in height appears to follow closely to a straight slant but deviating abruptly on a new rate at approximately the age of adolescence.[1] Because of this phenomenon it was decided to compute a line of best fit for the pre-adolescent years in order to determine the age at which the data eventually departed and thereby to differentiate the cases into early and late growers.

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[1]Stolz and Stolz, *op. cit.*, p. 7.

TABLE III

TOTAL NUMBER OF ANNUAL MEASUREMENTS ON THE EARLY MATURERS WITH TEN DIFFERENT TEST INSTRUMENTS

Time	Mental	Reading						Arithmetic		
	Stanford Binet	Haggerty	Ayres	Chapman-Cook	Stanford	Iowa	Shank	Progress	Stanford	Schorling
72	1							32		
84	18	28						49		
96	8	36	1					48		
108	7	12	29	1				45		
120	12	1	28	33				46		
132	19		34	47	1			38	1	
144	23			14	43			16	50	
156	13				48				48	
168	2				44				39	
180	1				25	20			17	3
192					10	31	3		6	8
204					2	8	26		28	4
216							9		8	1
228							1		1	

TABLE IV

TOTAL NUMBER OF ANNUAL MEASUREMENTS ON THE LATE MATURERS WITH TEN DIFFERENT TEST INSTRUMENTS

Time	Mental	Reading						Arithmetic		
	Stanford Binet	Haggerty	Ayers	Chapman-Cook	Stanford	Iowa	Shank	Progress	Stanford	Shorling
72	3							29		
84	17	21						54		
96	12	47						52		
108	6	17	30					50		
120	9		36	33				53		
132	20		41	53				50		
144	21		21	20	33			17	34	
156	20				53				53	
168	2				46				46	
180	1				32	16			32	5
192					7	40			7	16
204						18	28		26	8
216							18		20	
228							1		1	

The equations used for determining the constants in the equation (commonly known as the regression equation) $y = mx + b$ were as follows:

$$m = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - \sum X^2}$$

$$b = \frac{\sum X^2 \sum Y - \sum X \sum X Y}{n \sum X^2 - \sum X^2}$$

The graph of this rational and integral equation of the first degree having two variables is always a straight line.[1,2]

This method was efficient in that it depicted mathematically the time of an abrupt deviation in the pattern of growth.

Appendices A and B contains all the data which were used to describe the growth patterns of the 105 cases on seven different characteristics.

To describe this method reference is made to Figure 1. The solid, straight line represents Case 2668's height growth if this individual had grown .19257 of an inch every month. However, that is not his real pattern of growth.

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[1]Raymond W. Brink, A First Year of College Mathematics (New York: D. Appleton Century Co., Inc., 1937), passim.

[2]R. S. Burlington, A Handbook of Mathematical Tables and Formulas (Sandusky, Ohio: Handbook Publishing, Inc., 1940), passim.

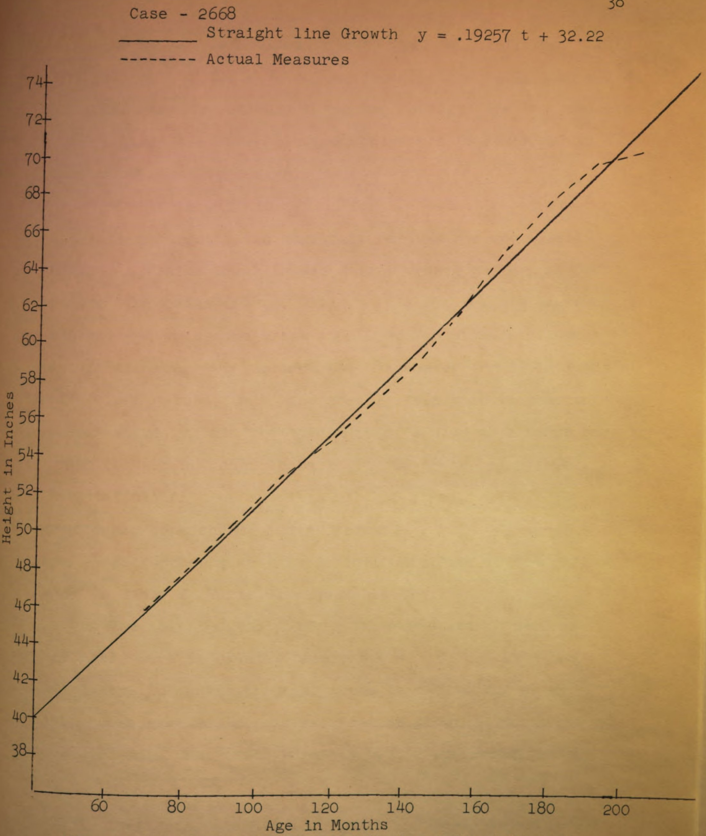

Fig. 1. A Graphic Comparison of Real and Straight Line Growth In Height of Case 2668

His true growth can better be described as cuvilinear. An analysis now of Table V, column four (height deviation) will show that the deviations of the true scores from the computed scores gives the same "picture" only this is described in a number or quantity manner.

Criteria was now set up for the selection of early and late maturers.[1] An early maturer was one who experienced a definite break in his height growth pattern at or before 150 months of age, while a late maturer was one who experienced this same break at 170 months or more of age. A definite break was defined as: "whenever the deviations, of a minus nature, went consistently from year to year to a lesser value, within the tolerance of a plus or a minus one-tenth (.1) of an inch, there would the break be revealed." This definition, for purposes of this study, was effective, practical, consistent, and efficient.

To further make this definition clear, reference is made to Table V, Table VI, and Table VII.

The height deviations in Table V start at zero or the real score is exactly comparable to the computed score. At eighty-two months the real score is two-tenths of an inch above what would be straight-line growth. Following downward into what could possibly be the puberal growth age,

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[1]Criteria determined by trial and error experimentation in selecting cases that were significantly different.

TABLE V

REAL AND COMPUTED HEIGHT MEASURES AND THEIR DEVIATIONS
Case No. 2668

Age	Height	Computed Height[a]	Height Deviation
70	45.7	45.7	+ .0
82	48.2	48.0	+ .2
94	50.5	50.3	+ .2
106	52.7	52.6	+ .1
119	54.7	55.1	- .4
131	57.0	57.4	- .4
142	59.0	59.6	- .6
			______[b]
154	61.8	61.9	- .1
167	65.1	64.4	+ .7
179	67.8	66.7	+1.1
191	69.6	69.0	+ .6
203	70.0	71.3	-1.3

[a]Straight line equation y = .19257 + 32.22

[b]Cycle break

TABLE VI

REAL AND COMPUTED HEIGHT MEASURES AND THEIR DEVIATIONS
Case No. 2528

Age	Height	Computed Height[a]	Height Deviation
72	42.9	43.1	- .2
81	45.0	44.7	+ .3
94	46.8	46.9	- .1
106	49.3	49.0	+ .3
118	51.1	51.1	.0
130	53.5	53.2	+ .3
142	55.4	55.3	+ .1
153	56.9	57.2	- .3
165	59.8	59.3	- .5
177	60.6	61.3	- .7
			———[b]
189	63.3	63.4	- .1
201	66.5	65.5	+1.0

[a]Straight line equation $y = .17366 + 30.61$

[b]Cycle break

TABLE VII

REAL AND COMPUTED HEIGHT MEASURES AND THEIR DEVIATIONS
Case No. 2007

Age	Height	Computed Height[a]	Height Deviation
75	39.8	40.3	- .5
86	43.1	42.3	+ .8
98	44.4	44.6	- .2
110	46.5	46.8	- .3
122	48.3	49.1	- .8
134	50.6	51.3	- .7
			________[b]
146	53.4	53.6	- .2
158	56.8	55.8	+1.0
170	60.0	58.1	+1.9
182	61.6	60.3	+1.3
194	62.4	62.6	- .2
206	62.6	64.8	-2.2

[a]Straight line equation $y = .18726 + 26.23$

[b]Cycle break

one will notice that these deviations go to a minus six-tenths of an inch. Here at 142 months is the cycle break and so by our definition, Case 2668 is an early maturer. An analysis of Table VI will show that Case 2528 is a late maturer for he experienced this cyclic break at 177 months of age.

The definition of a "definite break" also included "within the tolerance of a plus or a minus one-tenth (.1) of an inch." Table VII gives an example of this part of the definition. A minus .7 at 134 months indicates a rise in value and could describe the beginning of the adolescent cycle. However, because of the dropping of hundredths to the nearest tenth in the computations,it was the belief of the writer that this "tolerance of a plus or a minus one-tenth (.1) of an inch" would better describe the growth curves. Therefore, Case 2007 is an early maturer by the reason that he experienced a cyclic break at 134 months.

Appendices A, B, C, and D give this same data on all of the 105 cases which were studied.

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BIBLIOGRAPHY

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Books

Barker, R. G., J. S. Kounin, and H. H. Wright. Child Behavior and Development. New York: McGraw-Hill Book Co., 1943.

Brink, Raymond W. A First Year of College Mathematics. New York: D. Appleton Century Co., Inc., 1937.

Burlington, R. S. Handbook of Mathematical Tables and Formulas. Sandusky, Ohio: Handbook Pub., Inc., 1940.

Carmichael, Leonard, editor. Manual of Child Psychology. New York: John Wiley and Sons, Inc., 1954.

Cattell, Psyche. Dentition as a Measure of Maturation. Cambridge: Howard University Press, 1928.

Courtis, S. A. Maturation Units and How to Use Them--A Manual of Directions for Research Workers in the Biological Sciences. Ann Arbor: Edwards Brothers, 1950.

__________. The Measurement of Growth. Ann Arbor: Brumfield and Brumfield, 1932.

__________. Towards a Science of Education. Ann Arbor: Edwards Brothers, 1951.

Dearborn, Walter F. and J. W. M. Rothney. Predicting the Child's Development. Cambridge, Massachusetts: Sci-Art Publishers, 1941.

Garrison, Karl C. Growth and Development. New York: Longmans, Green, Co., 1952.

Gesell, Arnold. Infant Development. New York: Harper and Bros., 1952.

__________. The Mental Growth of the Preschool Child. New York: The Macmillan Co., 1925.

__________, Catharine S. Amatrude, Burton M. Castner, Helen Thompson. Biographies of Child Development. New York: Paul B. Hoeber, Inc., 1939.

Gesell, Arnold, and Others. The First Five Years of Life. New York: Harper and Bros., 1940.

__________, and Helen Thompson. The Psychology of Early Growth. New York: The Macmillan Co., 1938.

Hurlock, Elizabeth B. Child Development. New York: McGraw-Hill Book Company, 1950.

Martin, William E. and Celia Barns Stendler. Child Development. New York: Harcourt, Brace and Co., 1953.

Millard, C. V. Child Growth and Development in the Elementary School. Boston: D. C. Heath and Company, 1951.

__________. School and Child, A Case History. East Lansing, Michigan: Michigan State College Press, 1954.

Monroe, Walter S., editor. Encyclopedia of Educational Research. New York: The Macmillan Co., 1952.

Olson, Willard C. Child Development. Boston: D. C. Heath and Company, 1949.

Pratt, Karl, Amalie Kranshaar Nelson, and Kuo Hua Sun. The Behavior of the Newborn Infant. Columbus: The Ohio State University Press, 1930.

Prescott, D. A. Emotion and the Educative Process. Washington, D. C.: American Council on Education, 1938.

Pryer, W. Die Siele des Kindes, The Soul of the Child. Leipzig: Greiben, 1882.

Stoltz, H. R. and L. M. Stoltz. The Somatic Development of Adolescent Boys. New York: The Macmillan Company, 1951.

Sully, James. The Teacher's Handbook of Psychology. New York: D. Appleton and Company, 1914.

Terman, Lewis M. The Hygiene of the School Child. Boston: Houghton-Mifflin Company, 1914.

Todd, T. W., et al. An Atlas of Skeletal Maturation, Part I: The Hand. St. Louis: C. V. Mosby Company, 1937.

Watson, E. H. and G. H. Lowrey. Growth and Development of Children. Chicago: The Year Book Publishers, Inc., 1951.

Periodicals

Anderson, J. E. "The Contribution of Child Development to Psychology," Journal of Consulting Psychology, 6: 128-134, May-June, 1942.

Courtis, Stuart A. "Maturation Units for the Measurement of Growth," School and Society, 20: 683-690, 1929.

__________. "What is a Growth Cycle?," Growth, 1:2, 155-174, 1937.

Cowden, Dudley J. "Simplified Methods of Fitting Certain Types of Growth Curves," Journal of American Statistical Association, 42, 1947.

Crampton, C. Ward. "Physiological Age--A Fundamental Principle," American Physical Education Review, 13:3:111-151, 1908.

Jones, Harold E. "Skeletal Maturity as Related to Strength," Child Development, 17, 1946.

Krogman, Wilton M. "Trend in the Study of Physical Growth in Children," Child Development, 11:3, 279-284, 1940.

McGraw, Myrtle B. "Neural Maturation as Exemplified in the Changing Reactions of the Infant to Pin Prick," Child Development, 12: 31-42, March, 1941.

Millard, C. V. "The Nature and Character of Pre-Adolescent Growth in Reading Achievement," Child Development, 2: 2, 71-114, 1940.

Scammon, R. E. "The First Seriation Study of Human Growth," American Journal of Physical Anthropology, 10:329-36, 1927.

Steggerda, Morris. "Physical Development of Negro-White Hybrids in Jamacia, British West Indies," American Journal Physical Anthropology, 12: 1:121-138,1928.

Publications of Learned Organizations

Baldwin, B. T. "Physical Growth of Children from Birth to Maturity," University of Iowa Studies in Child Walfare. Iowa City: University of Iowa, 1921.

Bowditch, H. P. "Growth of Children," Eighth Annual Report, Massachusetts Board of Health. Boston: 1875.

Cattell, P. "Dentition as a Measure of Maturity," Harvard Monographs in Education, No. 9. Cambridge: Harvard University Press, 1928.

Child Development Abstracts and Bibliography. Vol. I through Vol. 23. Washington, D. C.: Committee on Child Development, 1927 until 1949.

Courtis, S. A. "Discipline Under the Growth Conflict," Child Growth in an Era of Conflict, ed. C. V. Millard, Fifteenth Yearbook, Department of Elementary School Principals. Lansing Michigan: Michigan Education Association, 1944.

____________. "Maturation as a Factor in Diagnosis," The 34th Yearbook of the National Society for the Study of Education. Bloomington: Public School Publishing Company, 1935.

Haldone, J. B. S. "A Discussion on the Measurement of Growth and Form: The Accuracy of Growth Curves," Proceedings of the Royal Society of London, Vol. 137. Great Britain: Cambridge University Press, 1950.

Jensen, Kai. "Physical Growth," Review of Educational Research, Vol. 22. Washington, D. C.: American Educational Research Association, 1952.

More, Douglas M. "Developmental Concordance and Discordance During Puberty and Early Adolescence," Monographs of the Society For Research In Child Development, Inc., Vol. XVIII, Serial No. 56, No. 1, 1953.

Shirley, Mary M. Postural and Locomotor Development, Vol. 1; Intellectual Development, Vol. 2; Personality Manifestations, Vol. 3. Minneapolis, Minnesota: The University of Minnesota Press, 1931, 1932, 1933.

Shuttleworth, F. K. "Sexual Maturation and Physical Growth of Girls Age Six to Nineteen," Monographs of the Society For Research inChild Development, Vol. 2, No. 5. Washington, D.C.: 1937.

____________. "Sexual Maturation and the Skeletal Growth of Girls Age Six to Nineteen," Monographs of the Society For Research in Child Development, Vol. 3, No. 5. Washington, D.C.: 1938.

____________, et al. "Harvard Growth Study Data," Monographs of Society For Research in Child Development, Vol. 3, No. 1. Washington, D.C.: 1938.

Shuttleworth, F. K. "The Physical and Mental Growth of Girls and Boys Age Six to Nineteen in Relation to Age at Maximum Growth," Monographs of the Society for Research in Child Development, Vol. 4, No. 3. Washington, D. C., 1939.

__________. "The Cumulative Influences on Intelligence of Socio-Economic Differentials Operating on the Same Children over a Period of Ten Years," Thirty-Ninth Yearbook, National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Pub. Co., 1940.

__________. "The Adolescent Period: A Pictorial Atlas," Monographs of the Society for Research in Child Development, Vol. 14, No. 2. Washington, D.C., 1949.

Simmons, Katharine. "The Brush Foundation Study of Child Growth and Development: II Physical Growth and Development," Society for Research in Child Development, Monographs, Vol. II, No. 1. Washington, D.C.: National Research Council, 1944.

Stuart, Harold C. and Robert Reed. "Certain Technical Aspects of Longitudinal Studies of Child Health and Development," American Journal of Public Health and the Nation's Health, Vol. 41, Part 2. New York: American Public Association, Inc., 1951.

Terman, L. M., et al. "Genetic Studies of Genius,"Mental and Physical Traits of a Thousand Gifted Children, Vol. I. Stanford, California: Stanford University Press, 1925.

White House Conference on Child Health and Protection. Addresses and Abstracts of Committee Reports. New York: The Century Company, 1930.

White House Conference on Child Health and Protection. Part I: General Consideration; Part II, Anatomy and Physiology. New York: The Century Company, 1932-1933.

Unpublished Materials

Kowitz, O. T. "An Exploration into the Relationship of Physical Growth Pattern and Classroom Behavior in Elementary School Children." Unpublished Ph.D. thesis Michigan State University, East Lansing, Michigan, 1954.

Martin, R. E. "The Educational Implications of an Individual Longitudinal Case Inventory." Unpublished Ph. D. thesis, Michigan State University, East Lansing, Michigan, 1956.

Nally, T. P. F. "The Relationship Between Achieved Growth in Height and the Beginning Growth in Reading." Unpublished Ph. D. thesis, Michigan State University, East Lansing, Michigan, 1956.

Rusch, R. R. "The Cyclic Pattern of Height Growth from Birth to Maturity." Unpublished Ph. D. thesis, Michigan State University, East Lansing, Michigan, 1956.

__________. "The Relationship Between Growth in Height and Growth in Weight." Unpublished Master's thesis, Michigan State University, East Lansing, Michigan, 1954.

Udoh, Ekanem (Benson) Akpan. "Relationship of Menarche to Achieved Growth in Height." Unpublished Ph. D thesis, Michigan State University, East Lansing, Michigan, 1955.

APPENDICES

APPENDIX A

STATISTICAL ANALYSIS OF DATA OF EARLY MATURERS

Index: The following symbols explain the tests that were used in the study:

Haggerty Intelligence Tests	H
Ayers Measurement of Silent Reading 1, 2, 3. .	A
Chapman Cook Speed of Reading Tests	Ch-C
Chapman Unspeeded Reading-Comprehension Test .	Ch
Stanford Achievement Tests Forms A, V, W. . .	S
Iowa Silent Reading Tests--Forms A and B. . .	Iowa
Shank Tests of Reading Comprehension	Shank
Schorling-Clark-Potter Arithmetic Test . . .	Sch
Progress	P

Case No. 41

M; 10/23/1917/ NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
71	45.5	45.9	- .4	47.6	0 - 0	-			
84	48.5	48.5	.0	54.0	5 - 2	-	72a		P 2/1
108	52.9	52.9	.0	70.6	10 - 2	-	93a 91b 98c	H 3/2	P 5/2.3
120	55.2	55.1	+ .1	78.3	12 - 0	-	97b 106c	A 3 Ch 8/9	P 6/9.3 P 9/10.8
132	57.3	57.4	- .1	87.3	19 - 0	-	99d 150c	A 8 Ch 21/13	P 36/36.8
144	59.1	59.7	- .6	94.2	26 - 0	-	129d 176c	A 4 S 11-6	S 11-4
156	61.7	61.9	- .2	101.7[a]	27 - 0	-	150e 169f	S 13-9	S 11-10
168	65.4	64.2	+1.2	117.1	28 - 0	-	194e 169f	S 14-8	S 15-8
180	67.8	66.4	+1.4	129.2	28 - 0	-	176h 170g	Iowa 50	
192	68.7	68.7	.0	135.6	28 - 0	-	160h 205g	Iowa 78	Sch. 42
204	69.4	71.0	-1.6	148.0		-	195i 198i 187h	Shank 64	S 13-5

a Cycle break

b Refer to index of tests at beginning of Appendix. These will be used on all following tables.

Additional Data:

1. Stanford Binet-- 10.38 - 122; 11.20 - 134
2. Regression equation-- y = .18846t + 32.52

Case No. 150 M; 12/11/1917; It; R

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
65	40.4	41.7	- 1.3	35.7		58	61a		
77	43.1	43.9	- .8	39.2	4 - 0		74a	H 3/5	P 3/4.3= 7.3
89	45.7	46.2	- .5	45.9	6 - 1	77	83a 94b	H 9/12	P 8/7=15
101	48.0	48.4	- .4	49.4	10 - 0	90	98c 110b	A 4	P 6/8.3= 14.3
113	50.0	50.7	- .7	55.3 a	11 - 1	107	126c 102d	Ch-C 6/8	P 11/11.5= 22.5
125	52.8	52.9	- .1	66.2	12 - 0	124	148c 146d	Cn.9/11 A-7	P 40/40.5
137	56.5	55.2	+ 1.3	75.2	17 - 0	144	162c 157e	S 14-0 168	S 149 12.5
149	60.1	57.4	+ 2.7	91.3	28 - 0	166	179f 187c	S 15-3 183	S 14-1 169
161	62.9	59.7	+ 3.2	101.4	28 - 0	180	188f 184h	S 16-5 197	S 16-9 201
173	64.1	62.0	+ 2.1	112.2	28 - 0	202	205g 192h	S 17-4 208	S -17-8 212
185	64.4	64.2	+ .2	117.7	28 - 0	216	209g 204i	Iowa 121	
197	65.0	66.5	- 1.5	119.1		226	207i 219h	Shanks 66	S 16-10
210	64.7	68.9	- 4.2	122.6		227			

[a]Cycle break
[b]Refer to index

Additional Data: Stanford Binet 11:41-161
Regression equation-- $y = .18783t + 29.46$

Case No. 380 M; 3/12/17; It; R; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
74	43.6	45.1	- 1.5	51.2	0 - 2	60	82a		P 4/4.5
86						71	93a	H 3/5	P 6/6
98	48.5	49.2	- .7	66.4		82	113a 124b	H 15/8	P 10/9.5
110	50.5	51.2	- .7	70.1	11 - 2	93	114c 133b	A -8	P 8/10.5
122	52.6	53.2	- .6	79.4	12 - 4	108	128c 120d	Ch.11/11	P 12/11.8
				a					
134	55.0	55.3	- .3	79.2	17 - 4	136	148c 146d	Ch 15/10 A-8	P 4.4/55.3
146	58.7	57.3	+ 1.4	107.8	26 - 0	154	186c 166e	S 13-2	S 12-10
158	62.2	59.3	+ 2.9	127.0	28 - 0	167	178f 181e	S 14-8	S 13-10
170	64.2	61.4	+ 2.8	142.0	28 - 0	180	183f 171h	S 15-9	S 17-4
182	65.2	63.4	+ 1.8	153.0	28 - 0	200	208g 182h	S 15-11	S 15-11
194	65.6	65.4	+ .2	159.2	28 - 0	216	219g 207i	Iowa 102	S 16 -8
206	65.8	67.4	- 1.6	164.5	28 - 0	218	216i 205h	Shank 61	
219	66.0	69.6	- 3.6	168.7		226			

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet --12.04 - 173
Regression equation-- $y = .16904t + 32.62$

Case No. 534 M; 7/29/1916; M; M; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Arith.
78	44.4	44.4	.0	48.7	2 - 0	76	77A		
88	46.3	46.3	.0	52.5	3 - 3	88	92a		P 5/4.8
100	48.6	48.6	.0	61.3	8 - 3	104	108a 113B	H 16/9	P 10/8
112	50.5	50.9	- .4	70.1	12 - 0	116	120c 119b	A-10	P 12/8.8
124	52.3	53.1	- .8	80.5	12 - 4	130	140c 117d	Ch 11/9	P 15/10.8
136	54.3	55.4	- 1.1	91.9[a]	22 - 0	141	170c 148d	Ch 15/14 A-12	P 40/38.8
148	57.0	57.7	- .7	102.3	24 - 0	156	184c 184e	S 14-10	S 13-3
160	62.2	59.9	+ 2.3	121.7	28 - 0	170	174f 176c	S 14-9	S 13-6
171	64.9	62.0	+ 2.9	135.4	28 - 0	182	176f 195h	S 15-7	S 15-6
184	65.6	64.5	+ 1.1	141.6	28 - 0	198	212g 194h	Iowa 111	
196	66.2	66.8	- .6	148.8	28 - 0	206	213g 198i	Iowa 113	
208	66.4	69.0	- 2.6	151.9		223	219i 232h	Shank 84	S 15-8

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--7.24 - 82; 12.61-159;
Regression equation-- y = .18914t + 29.68

Case No. 606

M; 2/26/1917; It; R; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
75	46.7	47.2	- .5	46.3	7 - 0		73a		P 3/1.5
86	49.1	49.3	- .2	53.4	7 - 4		77a	H 1/3	P 2/2
98	50.9	51.5	- .6	55.6	12 - 0		92a	H 1/0	P 5/2
110	53.5	53.8	- .3	61.3	12 - 0		93b 99b		
122	55.2	56.1	- .9	67.5[a]	12 - 7		96c	Ch 1/0	P 2/2.5
134	58.0	58.4	- .4	72.8	26 - 0		95d 108c	Cn 5/4	P 0/12.3
146	61.6	60.6	+ 1.0	89.1	28 - 0		114d 128c	A -5 S 10-3	S 10-2
158	65.5	62.9	+ 2.6	110.7	28 - 0		115e 116e	S 8-0	
170	67.5	65.2	+ 2.3	124.8	28 - 0		113h	S 11-0	S 11-4
182	68.4	67.5	+ .9	127.2	28 - 0		134g 148h	S 13-4	S 11-8
194	68.8	69.7	- .9	143.3	29 - 0		125g 156i	S 11-6	S 12-0
206	68.9	72.0	- 3.1	142.4			120i 153h	Shank 27	S 11-7

[a]Cycle break

[b]Refer to index

Additional data: Stanford Binet--12.15 - 120

Regression equation-- $y = .18953t + 32.96$

Case No. 645 M; 12/20/1916; J; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
77	44.0	44.2	- .2	45.4	0 - 0	77	91a		P 6/5
88	46.6	46.3	+ .3	50.1	3 - 2	89	102a	H 14/10	P 7/6.8
101	48.8	48.8	.0	54.7	8 - 3	102	126a 115b	H 19/20	P 10/8.3
113	50.7	51.0	- .3	59.1	12 - 2	114	164c 135b	A - 11	P 12/9.5
125	52.7	53.3	- .6	65.7	13 - 8	127	192c 150d	Ch 17/16	P 14/14.3
137	54.7	55.6	- .9	73.4[a]	24 - 0		212c 204d	Ch 22/22 A - 11	P 46/42.8
149	57.2	57.9	- .7	83.8	25 - 0	151	216c 216e	S 16-0	S 15-6
160	61.1	60.0	+ 1.1	99.2	26 - 0	168	222f 239c	S 16-9	S 15-2
172	64.4	62.2	+ 2.2	115.1	27 - 0	180	220f 208h	S 19-2	S 15-0
184	66.4	64.5	+ 1.9	117.5	28 - 0	194	224g 208h	Iowa 150	
196	66.6	66.8	- .2	121.1	28 - 0	209	247g 234i	Iowa 171	
209	66.7	69.3	- 2.6	124.8	-	222	234i 257h	Shank 84	S 16-10

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet 9.27 - 172; 12.42 - 189
Regression equation-- y = .18969t + 29.61

Case No. 762 M, 11/20/1917; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
70	42.2	41.5	+ .7	38.1					
83	44.3	43.9	+ .4	42.1	6 - 4		87a 86b	H 3/1	P 5/3.3
95	46.2	46.1	+ .1	46.7	6 - 4		113a 114b	H 8/6	P 6/7
107	48.1	48.3	- .2	51.6	10 - 2		122c 118b	A -5	P 7/4.5
119	50.2	50.5	- .3	56.9	17 - 0		146c 111D	Ch 3/7 A 5	P 10/10.3
132	51.9	52.9	- 1.0	63.1	21 - 0		158c 116d	Ch 13/7 A 6	P 14/46.8
143	53.8	55.0	- 1.2	69.0[a]	25 - 0		178c 156e	S 10 - 11	S 12 - 8
155	56.5	57.2	- .7	79.6	28 - 0		156f 144e	12 -3	11 - 10
167	60.3	59.4	+ .9	99.9	28 - 0		160f 174h	S 13-3 Iowa 51	13 - 0
179	63.4	61.6	+ 1.8	114.9	28 - 0		186g 178h	Iowa - 71	Sch.58
191	64.6	63.8	+ .8	124.4			202g 189i	Shank 55	
203	64.7	66.0	- 1.3	125.0			204i 224h		15 - 6

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--10.31-131; 11.12-144;12.13-146
Regression equation-- $y = .18364t + 28.69$

Case No. 763

M; 5/24/1916; It; M; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
80	46.6	48.2	- 1.6	51.2	4 - 2		72a		P 2/3
90	49.0	49.9	- .9	56.7	4 - 4		89a		P 6/5.8
103	51.2	52.2	- 1.0	63.1	10 - 0			H 10/10	P 7/6.8
114	53.7	54.2	- .5	70.3	11 - 3		124c 126b	A - 6	P 10/9.5
126	55.9	56.3	- .4	81.8	14 - 3		128c 113d	Ch 9/7	P 11/12
137	59.3	58.2	+ 1.1	95.0[a]	26 - 0		150c 143d	Ch 10/11 A8	P 12/24.3
150	63.9	60.5	+ 3.4	122.8	28 - 0		172c 148e	S 11-3	S 12-0
162	66.2	62.7	+ 3.5	140.5	28 - 0		166f 158e	S 15 - 2	S 13-10
174	66.9	64.8	+ 2.1	150.8	28 - 0		178f 188h	S 15 - 2	S 13 -0
186	67.0	66.9	+ .1	151.7	28 - 0		170g 173n		S 12-3
198	67.1	69.0	- 1.9	149.9	28 - 0		180g 192i 201i 191h	Iowa 70 Shank 38	Sch. 35 S 13-9
210	67.3	71.1	- 3.8	159.6					

[a]Cycle break

[b]Refer to index

Additional data: Stanford Binet--7.38 - 94; 12.80 - 1.54
Regression equation-- $y = .17679t + 34.02$

Case No. 894

M; 12/10/1917/ It; B;

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
70	44.1	44.4	- .3	47.2	0 - 0		60a		P 2/1
82	46.5	46.5	.0	52.9	1 - 2		67a	H 0/0	P 1/1.3
94	48.8	48.7	+ .1	58.4	6 - 2		87a 93b 84c	H 4/0	P 7/3.5
106	50.8	50.9	- .1	65.7	10 - 0				
118	52.9	53.0	- .1	73.0	12 - 0		108c 93d	Ch 7/7 A - 8	P 6/6.5
130	55.0	55.2	- .2	83.3	13 - 0		106c 123d	Ch 8/5 A - 7	P 7/25
142	57.0	57.4	- .4	88.9[a]	19 - 0		118c 125e	S 10-8	S 11-3
154	59.5	59.6	- .1	102.5	21 - 0		140f 144e	S 11-7	S 12-1
166	63.2	61.7	+ 1.5	121.1	27 - 0		137f 163h	S 12-7	S 11-11
178	65.4	63.9	+ 1.5	135.6	28 - 0		171g 181h	S 12-8	S 12-10
190	66.0	66.1	- .1	138.3	28 - 0		159g 171i	Iowa 51	
202	66.4	68.2	- 1.8	145.1			174i 180h	Shank 28	S 15-2

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--7.28-76; 10.83-110
Regression equation y= .18089t + 31.7

Case No. 968 M; 9/16/1916; NE; M; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b]	
								Read.	Arith.
76	45.6	46.4	- .8	49.8	3 - 0	78	72a		P 3/1.8
86	47.4	48.3	- .9	56.0		90	92a		P 6/5.3
110	52.2	52.9	- .7	69.0	11 - 1	108	102c 114b	 A -6	
122	54.2	55.2	- 1.0	77.2[a]	11 - 3	126	128e 122d	Ch 9/10	P 13/11.8
135	57.4	57.7	- .3	93.1	17 - 0	147	156c 154d	Ch 16/15 A - 11	P 70/52.3
146	62.3	59.8	+ 2.5	110.3	24 - 0	176	194c 192e	S 16-0	S 14-5
158	65.6	62.1	+ 3.7	123.7	27 - 0	191	196f 203e	S 16-6	S 16 -8
170	66.8	64.4	+ 2.4	130.5	28 - 0	198	202f 208h	S 17-11	
182	67.3	66.7	+ .6	140.2	29 - 0	223	213g 200h		
194	67.6	69.0	- 1.4	156.1	28 - 0	226	225g 222i	Iowa 136	Sch 77
206	67.7	71.3	- 3.6	146.4		227	228i 225h	Shank 92	S 18-5

a Cycle break
[b]Refer to Index

Additional data: Stanford Binet--7.06-88; 12.45-162;
Regression equation--y=.18938t + 31.20

Case No. 1093 M; 11/15/1917; It; R; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
66	40.7	41.2	- .5	29.3	0 - 0	66	65a		
77	42.5	43.1	- .6	44.3	4 - 0		76a		P 2/1.5
90	45.1	45.3	- .2	50.3	6 - 0	89	78a 80b	H 5/0	P 5/6
114	48.9	49.3	- .4	60.4	11 - 0	112	94c	Ch 7/2	P 8/5.3
126	50.9	51.3	- .4	65.5	14 - 0	125	104c 99d	Ch 11/1 A - 6	P 0.20.5
138	52.9	53.3	- .4	74.1[a]	18 - 0	139	130c 110e	S. 10-1	S. 9-11
149	56.3	55.2	+ 1.1	88.6	25 - 0	156	142f 120e	S 10-8	S 10-5
162	59.8	57.4	+ 2.4	106.9	27 - 0	168	136f 131h	S 10-8	S 10-1
174	61.7	59.4	+ 2.3	121.1	28 - 0	192	126g 142h	S 11-1	S 10-11
186	62.1	61.4	+ .7	130.3	28 - 0	202	154g 156i	Shank50 S 11-0	S 11-4
198	62.6	63.4	- .8	135.2		216	177i 180h		S 11-11
211	62.5	65.6	- 3.1	137.6		227			

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet--11.52-106
Regression equation-- y =.16837t + 30.11

Case No. 1127 M; 8/27/1916; NE; M; II

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
77	50.0	51.3	- 1.3	62.0	3 - 0	89	113a		P 9/7.8
87	52.6	53.2	- .6	67.3	4 - 4	101	135a		P 9/10
100	55.4	55.6	- .2	78.3	6 - 4	113	152	H 20/20	
111	57.8	57.7	+ .1	87.3	12 - 0	124	172c 147b	A 15	
123	60.0	59.9	- .1	101.2	12 - 8	136	202c 204d	Ch 19/20	P 16/15.3
135	62.1	62.2	- .1	103.4[a]	26 - 0	149	216c 216d	Ch 24/21 A -15	P 84/63.8
147	65.6	64.4	+ 1.2	126.8	28 - 0	161	212c 235e	S 16-10	S 10-10
159	68.4	66.7	+ 1.7	140.0	28 - 0	174	223f 239e	S 18-7	S 18-0
171	71.1	68.9	+ 2.2	159.6	28 - 0	184	227f 224h		
183	72.2	71.2	+ 1.0	163.4	28 - 0	199	252g 252h		
195	72.6	73.5	- .9	169.3	28 - 0	221	261g 246i	Iowa 194	
208	72.7	75.9	- 3.2	174.4		227			

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet--8.58-152; 9.56-177; 10.53-203; 11.57-233; 12.42-240

Regression equation-- $y = .20788t + 34.39$

Case No. 1159 M; 1/15/1917; J; R; Iv

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
76	46.6	46.8	- .2	47.2	0 - 2	71	97a		P 4/5.3
87	49.1	49.0	+ .1	52.0	4 - 2		101a	H 18/17	P 6/8.8
100	51.8	51.6	+ .2	59.8	6 - 5	94	133a 122b	H 18/14	P 13/11
112	53.7	54.0	- .3	67.3	13 - 0	107	142c 128b		P 11/12
124	55.9	56.4	- .5	78.9	13 - 1	120	168c 171d	A-11 Ch. 17/17	P 14/14
148	60.7	61.2	- .5	92.4	25 - 0	145	178c 197e	S 16-6	S 15 -7
159	65.3	63.5	+ 1.8 [a]	120.0	27 - 0	172	209f 228e	S 16-5	S 16-3
172	68.5	66.1	+ 2.4	135.6	28 - 0	184	199f 219h	S 16-9	S 17-6
184	69.5	68.5	+ 1.0	143.5	28 - 0	198	230g 209h	Iowa 126	Sch 74
196	70.0	70.9	- .9	143.5	28 - 0	211	225g 222i	Iowa 144	
208	70.2	73.3	- 3.1	149.9		224	228i 239h	Shank 70	S 16-2

[a]cycle break
[b]Refer to Index

Additional data: Stanford Binet--12.32-197
Regression equation-- y = .20127t + 31.46

Case No. 1197 M; 5/8/1916; NE; M; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achivement[b] Read.	Achivement[b] Arith.
81	48.3	49.7	- 1.4	58.2	1 - 0	98	76a		P 4/1.8
90	50.5	51.3	- .8	64.4	2 - 4	110	87a		P 5/4.3
103	53.2	53.5	- .3	72.5	8 - 2	121	104a 102b	H 3/6	P 7/3.8
114	55.3	55.4	- .1	83.3	11 - 1	133	108b	H 17/10	
127	57.6	57.6	.0	91.7	12 - 0	146	120c 95d	Ch 0/1	P 9/9.8
138	59.4	59.5	- .1	103.6	15 - 0	158	142c 101d	Ch. 2/1 A -2	P 0/17.8
150	63.0	61.5	+ 1.5	[a] 119.3	26 - 0	170	150c 123e	S 10-3	S 11-11
162	66.5	63.5	+ 3.0	143.3	26 - 0	182	138f 138e	S 11-2	S 11-1
174	68.1	65.6	+ 2.5	162.7	28 - 0	196	140f 140h	11 - 8	11 - 7
186	68.1	67.6	+ .5	169.6		209	141g 166h	S 12-3	S 13-0
199	68.6	69.9	- 1.3	184.6	30 - 0	227	174g 171i	Iowa 39	Sch. 33
212	68.6	72.1	- 3.5	189.9		227	159i 164h		S 14-4

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet-- 7.40 - 86; 12.50 - 128; Regression equation-- y =.17036 + 35.95

Case No. 1215

M; 3/3/1918; NE; B; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erutped Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
67	45.2	44.7	+ .5	44.1	0 - 0		68a		P 1/5
80	47.6	47.4	+ .2	48.1	0 - 2		88a 100b	H 15/0	P 6/4
92	49.7	49.8	- .1	55.8	6 - 1		99a 109b	H 12/13	P 4/6.8
103	52.1	52.0	+ .1	62.2	6 - 4		118c 119b		P 5/8.8
116	54.3	54.6	- .3	67.0	13 - 0		148c 120d	A -9 Ch 12/14	P 12/12.3
128	56.3	57.0	- .7	76.1	16 - 0		166e 164d	A -9 Ch 17/11	P 26/42.3
140	58.4	59.4	- 1.0	80.9	21 - 0		184c 183e	A- 10 S 15-10	S 12-6
152	61.2	61.8	- .6	91.5	27 - 0		190f 216e	S 15-5	S 13-0
164	64.9	64.2	+ .7	111.1	28 - 0		194f 187h		
176	68.1	66.6	+ 1.5	123.3	28 - 0		208g 185h		
188	69.6	69.0	+ .6	125.7	28 - 0		213g 186i		
199	70.3	71.2	- .9	136.5			201i 199h	Iowa 99 Shank 49	S 15 -4

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet-- 7.03-100; 10.02-145; 10.54-163
Regression equation-- $y = .20066t + 31.30$

Case No. 1239 M; 11/5/1916; It; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b]	
								Read.	Arith.
78	43.6	44.3	- .7	40.4	0 - 0		80a		P 4/2.5
90	46.2	46.6	- .4	45.6	6 - 0		89a	H 5/5	P 4/6.3
102	48.5	48.9	- .4	52.9	7 - 4		100a 107b	H 9/9	P 9/11.3
114	51.1	51.1	.0	58.4	11 - 4		98c 115b	A - 7	P 10/8
126	53.0	53.4	- .4	66.8	15 - 2		106c 98d	Ch 8/6	P 10/10.8
138	55.3	55.7	- .4	74.3 [a]	23 - 0		126c 120d	Ch 15/5 A 10	P 18/23
150	58.5	58.0	+ .5	91.9	27 - 0		146c 141e	S 106	S 11-1
162	62.5	60.3	+ 2.2	110.5	28 - 0		152f 160e	S 11-6	S11 -4
174	65.0	62.5	+ 3.5	122.6	28 - 0		153f 157h	S 13 - 0	12 -6
186	65.9	64.8	+ 1.1	135.4	28 - 0		172g 159h	S 12-4	S 11-8
198	66.1	67.1	- 1.0	142.2	28 - 0		181g 186i	Iowa 59	
210	66.4	69.4	- 3.0	142.9			192i 184h	Shank 52	S 12-3

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--12.39-117
Regression equation-- $y = .19022t + 29.45$

Case No. 1248

M; 12/15/1916; NE; M

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
74	45.7	46.5	- .8	45.4	0 - 0	72	72a		P 3/5.5
83	47.8	48.2	- .4	49.0	1 - 4	88	120a		P 8/5.8
96	50.2	50.6	- .4	54.2	6 - 4	102	165a 129b	H 20/19	P 10/9
107	52.6	52.7	- .1	63.9	10 - 2	119			
120	54.6	55.2	- .6	69.2	14 - 3	136	182c 168d	Ch 17/16	P 14/13
131	56.9	57.3	- .4	a 77.2	19 - 0	150	216c 181d	Ch 25/19 A 15	P 70/40
143	60.5	59.5	+ 1.0	91.5	22 - 0	165	212c 220e	S 16-3	S 16-7
155	64.6	61.8	+ 2.8	111.6	28 - 0	179	217f 233e	S 18-5	18 - 0
167	66.7	64.1	+ 2.6	125.5	28 - 0	194	216f 227h	Iowa 163	
191	67.6	68.6	- 1.0	136.9	28 - 0	216	264g 252i	Iowa 165	
203	68.1	70.9	- 2.8	138.5		227	252i 270h	Shank 94	S 18-5

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--6.87-97; 8.4-131; 11.29-188; 12.13-202

Regression equation-- $y = .18915t + 32.48$

Case No. 1270 M; 3/12/1918; NE; B; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
67	45.7	45.9	- .2	48.1	4 - 0		68a		P 3/1
79	48.3	48.1	+ .2	54.9	4 - 2		80a 91b	H 1/0	P 2/2.3
91	50.3	50.3	.0	60.6	6 - 3		88a 101b	H 10/5	P 5/4.8
103	52.6	52.6	.0	67.5	10 - 5		102c 120b	A -4	P 6/6.8
115	54.3	54.8	- .5	74.3	16 - 0		124c 104 d	Ch 4/8 A -5	P 3/8
127	56.6	57.0	- .4	86.7	24 - 0		130c 111d	Ch 9/8 A 3	P 6/21
139	58.5	59.2	- .7	96.4[a]	27 - 0		150c 128e	S 11-3	S 10-5
151	61.6	61.4	+ .2	108.3	28 - 0		149f 151e	S 11-10	S 13-10
163	65.5	63.7	+ 1.8	128.3	28 - 0		161f 139h	S 13-0	S 15-8
175	67.4	65.9	+ 1.5	152.3	28 - 0		145g 156h	S 13 - 7	S 13 -3
187	68.3	68.1	+ .2	154.4	29 - 0		161g 183i	Iowa 42	
199	68.3	70.4	- 2.1	155.0			193h	Shank 31	S 15-6

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet-- 6.99 - 80; 10.76-121
Regression equation $y = .18548t + 33.45$

Case No. 1315

M; 11/26/1916; NE; M; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
74	46.3	46.9	- .6	53.4	4 - 0		65a		P 3/1.5
84	48.5	48.7	- .2	58.2	4 - 3		85a		P 7/4.3
96	50.8	50.8	.0	63.7	9 - 1		97a	H 10/2	P 1/3.3
108	52.6	53.0	- .4	68.4	11 - 1		99b 122c		P 7/4.3
132	56.2	57.3	- 1.1	82.2[a]			106b 144c	A 10 Ch 14/14	
144	58.6	59.4	- .8	87.5	26 - 0		134d 150c	A -8 S 14-10	S 10-9
155	62.8	61.4	+ 1.4	108.0	28 - 0		164e 167f	S 15-0	S 11-2
168	66.4	63.7	+ 2.7	124.4	28 - 0		187e 180f		
182	68.2	66.2	+ 2.0	138.0			145h 165g		
192	68.9	68.0	+ .9	144.9	28 - 0		154h 199g		
204	69.4	70.1	- .7	148.2			183i 207i	Shank 73	S 12-11
219	69.5	72.8	- 3.3	155.2			184h 194h	Shank 92	

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet 6.87-80; 12.53-154
Regression equation-- $y = .17828t + 33.73$

Case No. 1382 M; 10/8/1917; NE; B; II

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
72	47.4	47.4	.0	49.2	5 - 3		82a		P 2/2.3
84	49.7	49.8	- .1	54.5	8 - 4		100a 111b	H 5/6 H 15/7	P 5/4.3
96							128c		
108	54.4	54.7	- .3	67.0	19 - 2		152b	A - 5	P 7/6.8
120	56.8	67.1	- .3	76.3	24 - 0		148c 111d	Ch 6/8 A -6	P 11/12.5
132	59.1	59.5	- .4	84.7	26 - 0		172c 146d	Ch 7/14 A -8	P 36/33.3
144	61.5	61.9	- .4	95.7 ———a	28 - 0		176c		
156	64.8	64.3	+ .5	108.0	28 - 0		156e 167f 180e	S 12-1 S 13-6	S 13-10 S 13-1
168	68.6	66.8	+ 1.8	128.8	28 - 0		173f 181h	S 14-7	S 13-4
181	70.7	69.4	+ 1.3	143.0	28 - 0		202g 200h	Iowa 68	
192	71.3	71.6	- .3	149.5			223g 204i	Iowa 94	
204	72.2	74.0	- 1.8	155.5			219i 218h	Shank 65	S 16-10

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--7.41-109; 11.15--156
Regression equation-- y = .20181t + 32.86

Case No. 1616 M; 5/31/16; SE; M; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
80	49.7	50.8	- 1.1	69.2	6 - 0	100	67a		P 1/1
89	51.1	52.1	- 1.0	77.4	10 - 2	111	70a		P 2/2
102	53.7	54.1	- .4	89.7	12 - 1	120	97a 97b	H 9/8	P 3/4.8
114	55.5	55.9	- .4	98.8[a]	13 - 4	130	96c 114b		P 6/8
126	57.6	57.6	.0	117.3	23 - 1	143	116c 98d	A -3 Ch 13/8	P 8/4.3
138	59.8	59.4	+ .4	136.5	28 - 0	155	152c 129d	Ch 11/13 A-3	P 0/20
150	62.0	61.2	+ .8	149.3	28 - 0	168	160c 155e	S 13-2	S 11-6
162	64.8	63.0	+ 1.8	160.5	28 - 0	180	146f 167e	S 13-3	S 11-4
173	67.2	64.7	+ 2.5	152.4	28 - 0	192	143f 142h	S 14-11	S 12-3
186	68.1	66.6	+ 1.5	165.2	28 - 0	201	154g 168h	S 14-8	S 12-6
198	68.8	68.4	+ .4	168.7	28 - 0	209	188g 174i	Iowa 76	Sch 46
210	69.1	70.2	- 1.1	171.5	28 - 0	225	199i 183h	Shank 54	S 13-7
225	69.1	72.4	- 3.3	183.2		227			S 13-5

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet-- 8.65-97; 10.76-117;13.03-154;
Regression equation-- y = .14941t + 38.82

Case No. 1948 M; 2/6/1917; NE; M; I

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
72	46.6	47.6	- 1.0	49.8	4 - 0	78	90a 98		P 3/4
81	49.2	49.4	- .2	54.5	4 - 0	89	106 113a		P 6/5.5
94	52.1	51.9	+ .2	60.9	6 - 0	102	123a 125b	H 18/12	P 9/8.5
105	54.4	54.0	+ .4	67.0	8 - 2	113	146c 127b		P 11/10.5
118	56.7	56.5	+ .2	71.7	10 - 2	126	170c 152d	Ch 16/15	
130	58.8	58.9	- .1	78.9 [a]	12 - 0	138	188c 197d	Ch 21/18 A-13	P 36/44.5
141	61.1	61.0	+ .1	88.6	13 - 0	149	204c 210e	S 15-10	S 12-8
153	63.4	63.3	+ .1	96.6	23 - 0	160	205f 210e	S 17-5	S 16-11
165	66.8	65.6	+ 1.2	114.0	28 - 0	171	209f 215h	S. 18-8	S 17-5
201	73.4	72.6	+ .8	146.9		204	240i 261h	Shanks 96	S 17-2
216	73.8	75.5	- 1.7	150.4		219	240i		

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet-- 6.06-98; 6.97-106;7.96-108; 9.09-138;11.96-180
Regression equation-- $y = .19373t + 33.67$

Case No. 2007 M; 2/23/1917; It; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
75	39.8	40.3	- .5	37.7	4 - 2	67	67a		P 3/2.5
86	43.1	42.3	+ .8	43.0	9 - 0	78	79a	H 8/0	P 6/7.8
98	44.4	44.6	- .2	47.4	12 - 0	90	100a 102b	H 13/12	P 7/7.3
110	46.5	46.8	- .3	50.3	12 - 0	101	110c 125b	A -4	P 10/11.8
122	48.3	49.1	- .8	56.9	12 - 5	111	126a 122d	Ch 10/6	P 14/13.8
134	50.6	51.3	- .7	63.5[a]	23 - 0	125	152c 146d	Ch 12/9	P 84/66.3
146	53.4	53.6	- .2	73.2	27 - 0	145	168c 175e	S 12-8	S 12-1
158	56.8	55.8	+ 1.0	88.0	28 - 0	164	167f 185e	S 14-2	S 16-9
170	60.0	58.1	+ 1.9	101.9	28 - 0	178	171f 196h	S 14-8	S 17-1
182	61.6	60.3	+ 1.3	109.8	28 - 0	191	206g 205h	Iowa 98	
194	62.4	62.6	- .2	112.5	28 - 0	209	225g 210i	Iowa 113	
206	62.6	64.8	- 2.2	118.8		222	219i 248h	Shank 31	S 17-4

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet -- 11.99-142
Regression equation-- $y = .18726t + 26.23$

Case No. 2051 M; 11/14/1917; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
71	44.9	44.6	+ .3	43.0			63a		P 2/.8
83	47.4	47.0	+ .4	46.5	5 - 0		75a 96b	H 0/1	P 1/2.3
95	49.8	49.4	+ .4	52.3	8 - 2		96a 104b	H 10/5	P 4/2.8
107				57.6	10 - 0		102c		P 4/6.8
119	54.1	54.2	- .1	61.5	14 - 0		121b 144c	A - 4 Ch 9/9	P 10/11.5
131	55.9	56.6	- .7	66.8	16 - 0		126d 136c	A - 9 Ch 15/11	P 20/36.5
143	58.1	59.0	- .9	75.6	21 - 0		143d 146c	A -9 S 11-11	S 11-11
			———	a					
155	60.7	61.4	- .7	84.5	25 - 0		158e 148f	S 14-7	S 13-9
167	63.7	63.8	- .1	93.9	26 - 0		174e 181f	S 15-4	S 14-0
179	67.1	66.2	+ .9	112.9	27 - 0		184h 197g	Iowa 105	
191	69.4	68.6	+ .8	127.2	27 - 0		193h 220g	Iowa 129	
203	71.0	71.1	- .1	135.8			201i 219i 218h	Shank 82	S 16-6

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--7.34-93; 10.33-134; 10.94-133
Regression equation-- y = .20036t + 30.38

Case No. 2098 M; 2/3 1917; NE; R; II

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
76	44.8	45.6	- .8	47.2	4 - 2		85a		P 6/3.8
87	47.2	47.5	- .3	56.2	6 - 0		97a	H 14/8	P 8/6.5
99	48.8	49.6	- .8	69.5	10 - 1		124a 123b	H 15/18	P 5/9.3
111	51.9	51.6	+ .3	81.8	12 - 0		140c 143b	A -13	P 11/10.8
123	53.6	53.6	.0	87.5	12 - 1		196c 137d	Ch 14/17	P 12/11.3
135	55.7	55.7	.0	103.4 a	18 - 0		180c 188d	Ch 24/21 A - 13	P 50/47
147	57.9	57.7	+ .2	119.7	25 - 0		222c 222e	S 16-4	S 12-8
159	61.8	59.8	+ 2.0	137.3	28 - 0		211f 230e	S 16-10	S 13-8
171	64.3	61.8	+ 2.5	145.8	28 - 0		209c 212h	S 17-6	S 15-8
183	64.8	63.9	+ .9	152.1	28 - 0		204b 257h	Iowa 149	
195	64.8	65.9	- 1.1	153.0	28 - 0		263g 231i	Iowa 160	
207	65.1	67.9	- 2.8	155.2			243i 258h	Shank 44	S 15-9

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--12.14-172
Regression equation-- $y = .17023t + 32.71$

Case No. 2202 M; 3/17/1918; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
67	40.9	40.7	+ .2	39.2	0 - 1		65a		P 1/1
79	43.3	43.0	+ .3	43.4	4 - 0		92a 80b	H. 9/4	P 3/.3
91	45.2	45.4	- .2	47.4	4 - 6		100a 96b	H 9/10	P 7/4.8
103	47.4	47.7	- .3	52.0	12 - 0		96c 113b	 A -9	P 6/7
115	49.7	50.1	- .4	58.2	13 - 0		100c 107d	Ch. 9/5 A -8	P 7.7.5
127	51.5	52.4	- .9	64.4	14 - 0		114c 134d	Ch 25/9 A 10	P 6/22
139	54.2	54.8	- .6	[a] 73.0	23 - 0		140c 168e	S 11-7	S 10-2
151	57.5	57.1	+ .4	83.3	28 - 0		145f 165e	S 11-6	S 11-1
163	61.1	59.4	+ .7	93.9	28 - 0		154f 155h	S 12-5	S 11-3
175	63.3	61.8	+ 1.5	109.4	28 - 0		171g 172h	S 12-10	
187	64.3	64.1	+ .2	116.4	28 - 0		166g 189i	Iowa 103	Sch 22
199	64.6	66.5	- .9	121.9			204i 187h	Shank 71	S 11-7

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet-- 7.01-84; 9.98-114; 10.81-118
Regression equation-- $y = .19551t + 27.58$

Case No. 2301 M; 3/26/1916/ NE; M; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b]	
								Read.	Arith.
82	49.4	50.8	- 1.4	56.0	8 - 0	83	76a		P 5/4
92	51.1	52.4	- 1.3	61.3	8 - 3	94	87a		P 6/5.5
104	53.8	54.3	- .5	68.1	10 - 3	106	102a 113b	H 5/6	P 6/6.3
116	55.9	56.2	- .3	73.0	12 - 1	119	100c 121b		P 6/5
128	57.9	58.0	- .1	80.9 [a]	15 - 7	131	130c 94d	Ch 0/1	P 12/9.3
140	60.0	59.9	+ .1	91.1	27 - 0	144	144c 108d	Ch 2/6 A -2	P 0/28.3
152	63.4	61.8	+ 1.6	105.2	28 - 0	158	166c 129e	S 10-0	S 11-3
163	66.3	63.5	+ 2.8	123.0	28 - 0	177	134f 140e	S 10-11	S 11-4
176	68.3	65.6	+ 2.7	134.1	28 - 0	198	137f 136h	S 11-3	S 11-5
188	69.1	67.4	+ 1.7	136.7	28 - 0	216	144g 162h	S 11-4	S 13-1
200	69.4	69.3	+ .1	143.3	28 - 0	227	164g 159i	S 11-7	S 12-8
212	69.7	71.2	- 1.5	147.1		227	174i 185h	Shank 27	S 15-6
227	69.7	73.5	- 3.8	150.2		227	190h	Shank 32	

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--7.61-96; 12.57-158
Regression equation-- $y = .15643t + 38.02$

Case No. 2376 M; 11/6/1917; N.E.; III; B

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
71	44.9	44.4	+ .5	45.2	0 - 0	-	73a		P 3/2.5
84	47.7	47.1	+ .6	52.9	1 - 3	-	92a 89b	H 1/0	P 6/3.5
96	49.2	49.6	- .4	54.9	6 - 4	-	115a 112b	H 11/12	P 5/6.5
107	51.5	51.9	- .4	56.2	10 - 2	-	108c 116b	A-6	P 11/7.8
120	53.7	54.6	- .9	69.0[a]	16 - 0	-	112c 108D	Ch 7/9 A-5	-
131	56.4	56.9	- .5	79.2	18 - 0	-	140c 152d	Ch 13/12 A-4	P 13/10.8
143	58.9	59.4	- .5	90.6	22 - 0	-	156c 164f	S 11-7 13-9	S 139 P 6/36.8
155	62.2	61.9	+ .3	104.3	28 - 0	-	143f 160e	S 157 13-1	S 137 11-5
168	66.1	64.7	+ 1.4	126.1	28 - 0	-	159f 169h	S 16-9 14-1	S 12.9
179	68.6	67.0	+ 1.6	149.5	28 - 0	-	186g 184h 157		Sch 44
191	69.8	69.5	+ .3	159.2	28 - 0	-	222g 192i	Iowa 92	Sch 52
203	70.1	72.0	- 1.9	168.2		-	213i 191h	Shank 63 Iowa 89	S 16-5

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--8.42-118; 10.35-145; 15.28-157.
Regression equation-- y= .20861 t + 29.61

Case No. 2396

M; 5/14/1916; N.E.; M; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b]	
								Read.	Arith.
80	47.3	48.1	- .8	52.3	1 - 0	84	86a		P 5/2.3
90	49.2	49.9	- .7	58.0	5 - 1	96	94 94a		P 8/5.5
103	51.6	52.1	- .5	65.5	6 - 2	108		H 13/10	P 8/8.8
114	54.1	54.0	+ .1	20.8	10 - 1	120	116c		P 11/9
127	55.8	56.3	- .5	80.7 a	13 - 2	131	125b 136c	A - 6 Ch 3/6	P 13/12.3
138	57.9	58.2	- .3	90.2	17 - 0	144	116d 146c	Ch 9/8	P 20/30.3
150	60.6	60.3	+ .3	99.4	21 - 0	157	116d 164c	A-7 S	S
163	64.8	62.5	+ 2.3	118.0	26 - 0	--	161e 165f	11-2 S	13-8 S
174	67.8	64.5	+ 3.3	133.4	28 - 0	--	158e 194f	11-9 S	15-9 S
199	69.8	68.8	+ 1.0	149.9	28 - 0	210	175h 195g	13-3 Iowa	16-4
212	70.0	71.0	- 1.0	158.8	-	227	192i 195i	41 Iowa	
225	70.2	73.3	- 3.1	159.9	-	227		86	

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--7.03-94; 12.73-161
Regression equation-- $y = .17347\, t + 34.27$

Case No. 2400 M; 3/31/1916; N; M/ III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
82	50.7	51.3	- .6	60.6	2 - 5	83	72 65a		P 2/.8
92	52.8	53.3	- .5	68.8	8 - 2	96	79a	A-4	P 4/1.5
105	55.6	56.0	- .4	77.6	10 - 1	109	85a 94b	H 4/2	P 5/3.3
116	57.8	58.3	- .5	84.5[a]	12 - 0	126	94c 90b		P 5/5
128	60.9	60.8	+ .1	99.7	17 - 3	144	98c 89d	Ch 4/3	P 8/8
140	64.8	63.3	+ 1.5	114.2	20 - 0	162	100c 95d	Ch 7/3 A-5	P 0/7.3
152	68.0	65.8	+ 2.2	131.0	24 - 0	180	110c 119E	S 10-7	S 10-9
164	69.8	68.3	+ 1.5	141.6	26 - 0	198	114F 117e	S 11-2	S 10-9
175	70.2	70.6	- .4	144.4	26 - 0	209			
188	70.4	73.3	- 2.9	145.1	-	221	136H		

[a]Cycle break
[b]Refer to index

Additional data: Stanford Binet--7.20-72; 12.82-117
Regression equation-- .20734t + 34.27

Case No. 2406 M; 8/6/1916; NE; R

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
81	46.1	47.0	- .9	45.9	3 - 3	71			
105	50.8	51.2	- .4	60.4	10 - 1	94	102a 95b	H 10/0	P 6/7
117	52.6	53.3	- .7	63.9	13 - 0	106	104c 121b	 A - 0	P 10/10.3
129	54.5	55.4	- .9	75.6[a]	14 - 2	118	134c 96d	Ch 1/9	P 11/11.5
141	57.1	57.5	- .4	91.9	23 - 0	134	146c 111d	Ch 4/6 A -1	P -54/25.3
153	61.7	59.6	+ 2.1	100.1	28 - 0	172	144c 115e	S 10-7	S 11-4
165	64.8	61.7	+ 3.1	111.8	28 - 0	183	149f 149e	S 11-3	S 12-0
177	65.8	63.8	+ 2.0	123.9	28 - 0	198	143f 152h	S 9 - 7	S 13 - 8
189	66.4	65.9	+ .5	133.4	28 - 0	210	161g 160h	S 12-1	S 15 -3
201	67.1	68.1	- 1.0	138.5	-	-	182g 177i	S 13-0	S 13-11
213	67.0	70.2	- 3.2	140.2	-	227			

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet--12.72 - 127
Regression equation -- $y = .17555\ t + 32.77$

Case No. 2456 M; 7/7/1917; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
75	45.6	45.9	- .3	40.8	2 - 3	-	70a		P 3/1.3
87	48.1	48.2	- .1	45.6	8 - 2	-	85a 96b	H 1/0	P 3/2.8
99	50.4	50.6	- .2	49.0	10 - 2	-	95a 108b	H 4/0	P 5/2.3
111	52.3	53.0	- .7	54.0	12 - 1		104c 124b	A 3	P 6/4.8
123	54.6	55.4	- .8	61.3	19 - 0		116c 95d	Ch 5/6 A - 5	P 10/9.5
135	57.1	57.8	- .7	66.8	26 - 0		126c 131d	Ch 13/9 A 7	P36/28.8
147	60.5	60.2	+ .3	[a]80.7	28 - 0		160c 161e	S 11-8	S 12-2
159	65.1	62.5	+ 2.6	96.6	28 - 0		159f 166e	S 12-3	S 14-3
171	67.6	64.9	+ 2.7	109.4	28 - 0		162f 160h	S 13-10	S 12-3
183	68.6	67.3	+ 1.3	114.4	28 - 0		180g 163h	S 14-4	S 15-0
195	68.8	69.7	- .9	127.9	28 - 0		196g 186i	Iowa 81	
207	68.9	72.1	- 3.2	117.5	-		192i 210h	Shank 60	S 15-11

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet--11.45 - 124
Regression equation-- .19854 t + 30.97

Case No. 2539 M; 12/1/1917; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
71	46.3	46.5	- .2	52.3	4 - 4	-	89a		P 2/1.8
84	49.4	49.2	+ .2	56.4	10 - 1		103a 107b	H 15/9	P 7/5.8
96	51.9	51.8	+ .1	63.7	12 - 4		124c 116b	H 16/10	P 8/7
107	54.3	54.1	+ .2	71.9	19 - 1		136c 127b	 A-11	P 8/12
120	56.7	56.8	- .1	80.3	25 - 0		168c 150d	Ch 17/13 A-13	P 14/13.8
132	58.7	59.4	- .7	87.5	28 - 0		200c 216d	Ch 18/18 A-16	P 84/68.8
144	61.2	61.9	- .7 [a]	95.5	28 - 0		204c 216e	S 16-1	S 17-2
156	65.0	64.4	+ .6	117.1	28 - 0		196f 222e	S 17 - 1	S 17 - 0
168	68.3	66.9	+ 1.4	139.4	28 - 0		209f 218h		
180	70.0	69.5	+ .5	150.2	29 - 0		238g 232h	Iowa 152	
192	70.7	72.0	- 1.3	153.2	29 - 0		251g 240i	Iowa 152	

[a] Cycle break
[b] Refer to Index

Additional data: Stanford Binet--7.36 - 104; 10.37 - 159; 11.19-175;
Regression equation-- y = .21062t + 31.55

Case No. 2547 M; 3/31/1917; J; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
74	49.9	51.3	- 1.4	61.7	2 - 0	95			p 4/3.3
85	52.4	53.5	- 1.1	70.8	6 - 4	107		H 12/9	P 8/6
97	55.5	55.8	- .3	79.4	12 - 0	120	113a 102a	H 11/13	P 8/12.3
109	58.0	58.2	- .2	86.9	12 - 0	132	114b 112c		P 11/10.3
121	60.4	60.6	- .2	100.0	13 - 3	146	114b 124c	A - 5 Ch 8/7	P 15/13
133	63.1	62.9	+ .2	[a] 116.2	20 - 0	160	119d 138c	Ch 13/13 A -5	
145	67.5	65.3	+ 2.2	126.1	25 - 0	175	143d 170c	S 12-8	S 14-0
157	71.0	67.7	+ 3.3	150.6	28 - 0	190	138e 178f	S 14 - 4	S 15 - 6
169	72.3	70.0	+ 2.3	162.9	28 - 0	202	159e 179f	S 14 - 11	S 15 - 6
181	73.1	72.4	+ .7	169.3	28 - 0	216	189h 216g	Iowa 105	
193	73.0	74.8	- 1.8	171.8	28 - 0	227	198h 217g	Iowa 79	
205	73.4	77.1	- 3.7	176.8	-	227	210i 225i 227h	Shank 56	S 16/10

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 12.19 - 162
Regression equation-- .19717t + 36.71

Case No. 2569 M; 8/19/17; NE; B; V

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
74	43.1	43.3	- .2	42.3	0 - 0	-	69a		P 2/.8
86	45.5	45.4	+ .1	41.0	0 - 3	-	86a 83b	H 2/1	P 3/2
98	47.4	47.5	- .1	51.2	4 - 4	-	82a 96b	H 4/7	P 5/5
110	49.3	49.6	- .3	58.0	7 - 2		106c 111b	 A - 4	P 5/7.8
122	51.2	51.7	- .5	62.8	13 - 0		114c 105d	Ch 3/8 A - 3	P 7/10.3
134	53.0	53.9	- .9	65.5	16 - 0		144c 128d	Ch 8/8 A -4	P 8/20
146	55.9	56.0	- .1[a]	76.7	21 - 0		148c 129e	S 11 - 3	S 11 - 1
158	59.8	58.1	+ 1.7	97.5	26 - 0		145f 155e	S 11 - 11	S 11 - 4
170	62.4	60.2	+ 2.2	112.5	28 - 0		155f 170h	S 12 - 10	 14 - 5
182	63.5	62.3	+ 1.2	116.9	28 - 0		175g 180h	Iowa 44	
194	63.7	64.4	- .7	121.3	28 - 0		184g 195i	Iowa 74	Sch 51
206	64.1	66.5	- 2.4	127.4	-		192i 192h	Shank 55	Sch 55

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 11.33-134
Regression equation-- .17531t + 30.36

Case No. 2611 M; 7/16/16; IT; R; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
82	45.2	45.3	- .1	47.6	6 - 0	-	72a		P 2/1
93	47.9	47.3	+ .6	59.8	6 - 4	-	83a		P 1/2.8
106	49.6	49.7	- .1	63.3	12 - 0	-	88a 94b	H 6/0	P 6/5.5
118	51.5	51.8	- .3	68.8	14 - 5		85c 114b	A - 4	P 6/9.3
130	53.3	54.0	- .7	78.7	21 - 1		104c 99d	CH 5/8	P 7/7.3
141	55.0	56.0	- 1.0	88.2	26 - 0		112c	Ch 4/2 A - 6	P 8/23.8
153	58.7	58.1	+ .6	[a]104.3	28 - 0		116c 117e	S 11 - 4	S 12 - 0
165	62.0	60.3	+ 1.7	118.8	28 - 0		139f 129e		
177	63.0	62.5	+ .5	131.0	28 - 0		142f 161h	S 10 - 10	S 14 - 0
190	63.6	64.8	- 1.2	146.0	28 - 0		173g 163h	S 11 - 0	S 13 - 3

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 12.86-102
Regression equation-- $y = .18069t + 30.50$

Case No. 2668 M; 12/1/1917; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
70	45.7	45.7	.0	48.7	0 - 0	-			P 2/1.3
82	48.2	48.0	+ .2	56.4	0 - 2	-	73a 82a	H 3/0	P 5/3
94	50.5	50.3	+ .2	60.4	1 - 5	-	104b 84a	H 13/10	P 5/4.8
106	52.7	52.6	+ .1	65.7	8 - 2		127b 116c		P 8/9.3
119	54.7	55.1	- .4	75.4	12 - 0		130b 122c	A - 9 Ch 9/8	P 8/10.8
131	57.0	57.4	- .4	87.8	18 - 0		117d 138c	A - 13 Ch 18/12	P 24/43.5
142	59.0	59.6	- .6	99.2	20 - 0		146d 166c	A - 12 S	S
154	61.8	61.9	- .1	[a] 110.9	25 - 0		174e 166f	14 - 1 S	12 - 7 S
167	65.1	64.4	+ .7	129.7	28 - 0		172e 177f	14 - 1 S	12 - 4 S
179	67.8	66.7	+ 1.1	142.9	28 - 0		172h 224g	15 - 7 Iowa	15 - 8
191	69.6	69.0	+ .6	148.6	28 - 0		198h 220g	113 Iowa	
203	70.0	71.3	- 1.3	154.8			195i 204i 196h	124 Shank 66	S 15 - 8

[a]Cycle Break
[b]Refer to Index

Additional data: Stanford Binet
7.27-96; 8.35-112; 11.01-136
Regression equation-- $y = .19257t + 32.22$

Case No. 2700

M; 10/24/16; It; R;

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Arith.
79	41.3	40.6	+ .7	41.7	1 - 0	-	82a		P 5/1.8
90	43.1	42.5	+ .6	46.3	4 - 1	-	89a	H 2/0	P 4/4
102	44.9	44.6	+ .3	50.9	6 - 2		110a 105b	H 13/12	P 4/5.5
114	46.5	46.7	- .2	52.9	8 - 2		102c 122b		P 4/6.3
126	48.1	48.8	- .7	57.3	11 - 0		134c 96d	A -3 Ch 4/3	P 8/8.8
138	49.7	50.9	- 1.2	61.7	14 - 0		130c 113d	Ch 5/3 A - 10	P 14/23.3
150	51.4	53.0	- 1.6	69.5	17 - 0		154c 137e	S 12 - 1	S 11- 6
162	55.3	55.1	+ .2 —[a]	86.4	21 - 0		151f 154e	S 12 - 1	S 10 - 9
174	58.4	57.2	+ 1.2	95.9	26 - 0		150f 175h	S 12 - 7	S 12 - 3
186	60.0	59.3	+ .7	106.9	27 - 0		165g 167h	S 12 - 6	S 11-10

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 12.58-135
Regression equation-- .17440t + 26.83

Case No. 2738 M; 7/1/16; It; M; II

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
78	44.8	45.4	- .6	49.8	4 - 0	-	71a		P 3/1
88	47.0	47.2	- .2	54.5	6 - 0	-	91a		P 5/4
100	49.4	49.4	.0	58.2	8 - 2	-	102a	H 10/7	P 8/7.8
113	51.2	51.8	- .6	67.7	15 - 0		102b 98c		P 8/8.3
125	53.4	54.0	- .6	75.4	16 - 3		116b 100c 101d	A -3	P 8/12
136	55.6	56.0	- .4	[a] 84.5	28 - 0		126 c	Ch 8/5	P 14/55
149	58.9	58.4	+ .5	95.3	28 - 0		125d 144c	A -5 S	S
160	62.7	60.5	+ 2.2	119.5	28 - 0		135e 149f	11 - 8 S	11 - 11 S
172	65.2	62.7	+ 2.5	134.9	28 - 0		154e 155f	12 - 1 S	13 - 9 S
185	65.7	65.1	+ .6	143.3	30 - 0		150h 161g	13 - 1 Iowa	14 - 2
197	66.5	67.3	- .8	152.1	30 - 0		152h 181g	45 Iowa	
209	66.8	- 2.7	152.1				168i 198i 186h	63 Shank 53	S 15-2

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet--6.95-78; 12.66-141
Regression equation-- .18424T + 30.98

Case No. 2762 M; 3/28/17; It; R; V

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
74	44.4	45.2	- .8	43.9	0 - 0	88	74a		P 3/.8
85	46.5	47.2	- .7	49.6	4 - 2	101	82a	H 3/6	P 4/1.5
97	48.9	49.3	- .4	55.8	10 - 0	114	83a 101b	H 5/0	P 7/6.5
109	51.1	51.5	- .4	60.6	11 - 1	125	96c 114b	A - 6	P 11/9.3
121	53.1	53.7	- .6	66.4	12 - 0	137	122c 110d	Ch 6/8	P 10/10.5
133	55.1	55.9	- .8	75.6	15 - 0	152	142c 101d	Ch 9/6 A -6	
145	59.9	58.0	+ 1.9	[a] 84.9	26 - 0	165	140c 141e	S 10 - 8	S 14 - 11
157	61.7	60.2	+ 1.5	102.1	28 - 0	178	142f 145e	S 10 - 6	S 15 - 3
169	65.4	62.4	+ 3.0	123.5	28 - 0	189	147f 166H	S 11 - 10	S 15 - 10
181	67.0	64.6	+ 2.4	133.0	28 - 0	201	168g 162h	S 11 - 10	S 17 - 0
193	65.5	66.8	- 1.3	138.3	28 - 0	212	174g 186i	Iowa 53	
205	68.2	68.9	- .7	136.5	-	224	186i 199h		S 16-8
218	68.2	71.3	- 3.1	140.2	-	225	-		

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet--11.88 - 127
Regression equation-- .18143T + 31.74

Case No. 2787 M; 12/9/16; NE; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
77	46.9	46.3	+ .6	51.8	10 - 0	-	73a		P 3/3.5
89	49.5	48.9	+ .6	60.2	10 - 2	-	89a	H 6/3	P 6/6.8
101	51.7	51.5	+ .2	66.8	12 - 0		102a 108b	H 8/10	P 4/6.3
113	53.4	54.1	- .7	71.4	14 - 3		94c 114b	 A -6	P 7/7.8
125	56.0	56.7	- .7	80.5	20 - 1		120c 111d	CH 9/7	P -10/10.3
137	58.3	59.3	- 1.0	88.4	25 - 0		124c 117d	Ch 11/7 A 9	
149	60.8	61.9	- 1.1	104.5	28 - 0		142c 142e	S 11 - 11	S 11 - 4
161	64.8	64.4	+ .4	119.3	28 - 0		153f 152e	S 12 - 1	S 13 - 3
173	68.4	67.0	+ 1.4[a]	140.5	28 - 0		155e 181h	S 12 - 11	S 14 - 1
185	70.7	69.6	+ 1.1	151.3	28 - 0		169g 181h	S 12 - 11	S 13 - 7
197	71.4	72.2	- .8	162.7	28 - 0		174g 172i	Iowa 58	Sch 48

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 12.17 - 125
Regression equation -- .21589T + 29.69

Case No. 2805 M; 12/13/16;It;R;III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
77	42.1	41.4	+ .7	41.5	0 - 0	66	77a		P 4/3.8
88	44.4	43.6	+ .8	48.7	4 - 0	78	86a	H 3/3	P 6/4.5
101	46.5	46.2	+ .3	52.9	6 - 0	91	100a 101b	H 11/4	P 9/6.5
113	48.2	48.6	- .4	56.7	8 - 5	107	100c 128b	 A - 1	P 6/7.3
125	49.8	51.0	- 1.2	65.3	13 - 4	118	144c 104d	Ch 4/6	P -12/9
137	52.0	53.4	- 1.4	76.7	20 - 0	131	140c 116d	Ch 8/10 A - 5	P 36/21.5
148	54.4	55.6	- 1.2	86.0[a]	23 - 0	146	164c 152e	S 11-8	S 13-10
161	59.3	58.2	+ 1.1	107.0	28 - 0	172	156f 154e	S 12-4	S 15-0
173	61.9	60.6	+ 1.3	129.9	28 - 0	188	159f 172h	S 13 -4	S 14 -5
184	62.8	62.8	.0	133.2	28 - 0	199	183g 180h	S 13 - 11	S 13 - 7

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 12.36 - 149
Regression equation -- .19928 T + 26.09

Case No. 2831 M; 9/22/16; J; R; II

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
80	46.1	46.4	- .3	57.3	7 - 0	89	82a		P 2/4.5
91	48.5	48.4	+ .1	63.5	10 - 1	102	93a	H 6/6	P 8/8.3
103	50.9	50.6	+ .3	70.1	12 - 0	115	90a 97b	H 6/11	P 9/9.3
115	52.5	52.8	- .3	77.0	16 - 0	126	124c 117b	 A - 3	P 13/10.3
128	54.5	55.1	- .6	[a]87.1	19 - 4	133	144c 131d	Ch 11/13	P -15/13.3
139	56.7	57.1	- .4	99.2	25 - 0	143	166c 154d	Ch 14/15 A - 7	P 36/58
163	61.7	61.5	+ .2	128.3	26 - 0	161	187f 174e	S 14 - 4	S 15 - 10
175	65.2	63.7	+ 1.5	146.0	28 - 0	174	183f 209h	S 15 - 11	S 15 - 4
187	67.3	65.9	+ 1.4	147.7	28 - 0	191	 193h	Iowa 83	
199	68.1	68.1	.0	146.6	28 - 0	209	190g 195i	Iowa 89	
212	68.5	70.4	- 1.9	153.5	-	222	222i 225h	Shank 58	S 17 - 11

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 9.51-131; 12.63-171
Regression equation-- .18221 t + 31.81

Case No. 2840 M; 4/29/16; NE; M; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
81	46.9	47.9	- 1.0	52.5	3 - 1	78	90a	H 0/0	
91	48.8	49.6	- .8	59.1	6 - 4	92	101a		P 6/5.8
104	51.1	51.7	- .6	67.0	10 - 1	110	113a	H 14/12	P 10/8.3
115	53.2	53.5	- .3	78.5	12 - 0	124	127b 136c		P 10/9.3
127	55.4	55.4	- .1	[a]93.3	12 - 1	138	133b 140c	A 11 Ch 16/12	P - 11/12
139	57.6	57.5	+ .1	107.4	19 - 0	154	139d 170c	Ch 17/15	P 36/28.3
151	61.8	59.5	+ 2.3	121.1	24 - 0	168	152d 184c	A - 12 S	S
163	63.9	61.4	+ 2.5	129.2	27 - 0	182	177e 176f	14 - 9 S	14 - 7 S
174	65.2	63.2	+ 2.0	137.2	28 - 0	202	194e 195f	16 - 6 S 207	15 - 8 S
187	65.7	65.4	+ .3	144.0	-	211	182h 192g	16 - 0 Iowa	16 - 0
199	65.9	67.4	- 1.5	159.2	28 - 0	224	201h 219g	103 Iowa	
211	66.4	69.3	- 2.9	144.2	-	227	204i 216i 227h	108 Shank 73	S 16-3

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet -- 7.41-90; 8.81-106; 12.11-150; 12.76-197; 14.08-207

Regression equation: .16466T + 34.59

Case No. 2961 M; 11/1/16; It; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
78	44.9	44.8	+ .1	46.7	1 - 1	87	80a		P 4/2.3
90	46.7	46.9	- .2	52.0	2 - 2	98	94a	H 10/0	P 2/6
102	48.7	49.0	- .3	58.9	6 - 0	111	98a 116b	H 12/8	P 7/8.5
114	50.9	51.0	- .2	62.8	8 - 4	124	114c 122b		P 7/8.5
126	52.8	53.1	- .5	66.4	12 - 1	136	136c 117d	A -7 Ch 13/9	P -12/9.8
138	54.7	55.2	- .5	75.6	16 - 0	144	156c 144d	Ch 15/11 A -8	P 38/20.3
150	56.7	57.3	- .6[a]	81.8	19 - 0	157	190c 176e	S 14 - 11	S 14 - 3
162	60.4	59.4	+ 1.0	104.5	24 - 0	168	166f 183e	S 15-5	S 12-8
174	63.6	61.5	+ 2.1	126.6	28 - 0	182	184f 171h	S 15 - 11	S 13 - 2
186	64.8	63.5	+ 1.3	134.4	28 - 0	198	173h	Iowa 20	
198	65.4	65.6	- .2	138.9	28 - 0	219	193g 198i	Iowa 81	
210	65.5	67.7	- 2.2	140.5	-	227	204i 182h	Shank 60	S 13 - 7

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet: 12.45-172
Regression equation-- .17364T + 31.25

Case No. 3060 M; 4/10/16; NE; M; I

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
82	45.9	46.7	- .8	47.6	6 - 1	65			P 7/4.8
91	48.3	48.6	- .3	52.0	8 - 4	87	98		P 6/6
104	50.4	51.2	- .8	62.0	12 - 1	105	100A 134a	H 16/20	P 12/10
115	52.5	53.4	- .9	73.4	13 - 1	123	131b 162c		P 12/12
[a]									
128	55.6	56.0	- .4	82.9	14 - 8	143	145b 188c	A - 11 Ch 14/14	P -15/15
139	59.8	58.3	+ 1.5	93.3	26 - 0	161	144d 202c	Ch 14/15	P 52/53
152	63.6	60.9	+ 2.7	100.3	27 - 0	180	181d 214c	A - 10 S	S
163	65.6	63.1	+ 2.5	109.6	28 - 0	194	201e 214f	15-4 S	14-1
175	66.4	65.5	+ .9	113.1	28 - 0	210	239e 225f	15 - 10 Iowa	16 - 7
188	66.9	68.2	- 1.3	123.7	28 - 0	222	216h 191g	157 Iowa	
199	67.4	70.4	- 3.0	121.0	28 - 0	227	193h 262g 246i	168 Shank 95	

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet-- 7.54 - 98; 8.79 - 123; 9.92-158; 11.98-197; 12.67-210.
Regressionequation-- .20206T + 30.18

Case No. 3039 M; 6/13/17; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
76	44.0	43.7	+ .3	44.8	0 - 0	-	75a		P 2/1.5
88	46.4	46.1	+ .3	49.4	3 - 3	-	107 108b	H 4/2	P 8/4.3
100	48.4	48.4	.0	52.9	6 - 4	-	137a 130b	H 17/13	P 10/7.3
112	50.7	50.8	- .1	59.5	10 - 2		146c 135b	 A - 5	P 12/18.8
124	52.7	53.1	- .4	66.2	12 - 0		160c 117d	CH 11/9 A - 10	P -13/13.4
136	54.7	55.5	- .8	71.0	12 - 0		182c 184d	Ch 15/13 A - 13	P 36/43.5
148	56.7	57.8	- 1.1	[a] 79.6	13 - 0		194c 212e	S 14 - 9	S 14 - 7
160	60.7	60.2	+ .5	95.7	19 - 0		183f 204e	 14 - 6	 13 - 8
172	64.2	62.6	+ 1.6	115.1	28 - 0		195f 215h		
184	65.5	64.9	+ .6	125.9	28 - 0		220g 218h	Iowa 125	
196	66.3	67.3	- 1.0	131.0	28 - 0		231g 210i	Iowa 123	Sch 51

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet--7.73-113; 10.73-153; 11.58-172.
Regression equation-- .19641T + 28.77

Case No. 3160 M; 2/5/17; NE; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
76	45.9	45.6	+ .3	43.2	5 - 1	68	82a		P 6/4
87	48.4	47.9	+ .5	50.1	6 - 2	79	97a	H 11/4	P 9/6.5
99	50.4	50.5	- .1	55.1	10 - 3	93	116a	H 7/6	P 6/8.3
							109b		
111	52.9	53.1	- .2	58.4	12 - 4	106	116c		P 11/7.8
							133b	A - 10	
123	55.2	55.6	- .4	87.8	20 - 3	118	130c	CH 6/8	P - 9/11.5
							116d		
135	57.4	58.2	- .8	74.1	28 - 0	131	136c	Ch 7/8	P 24/29.5
							123d	A - 8	
147	59.8	60.8	- 1.0	79.8	28 - 0	144	140c	S	S
			[a]				158e	11 - 9	11 - 8
159	63.9	63.4	+ 5	97.7	28 - 0	157	157f		
							166e	12 - 9	12 -2
171	67.3	66.0	+ 1.3	113.3	28 - 0	171	173f		
							175h	12 - 11	12 - 5
183	69.3	68.5	+ 8	118.8	28 - 0	190	194g	S	S
							176h	14 - 4	14 - 4
195	70.2	71.1	- .9	130.1	28 - 0	199	199g	Iowa	Sch
							1921	49	43

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 12.21- 145
Regression equation-- .21476T + 29.23

Case No. 3237 M; 5/25/17; NE; B;

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
76	44.0	43.9	+ .1	48.3	0 - 0		61a		P 3/.8
89	46.3	46.3	.0	56.2	4 - 0		86a 86b	H 7/1	P 6/2.0
101	48.4	48.4	.0	62.4	4 - 4		103a		P 6/4
113	50.3	50.5	- .2	69.0	8 - 4			A - 6	
125	52.4	52.7	- .3	77.4	14 - 0		110c 104d	Ch 3/5 A - 6	P -12/11.3
137	54.1	54.8	- .7	[a] 86.9	14 - 0		118c 131d	Ch 10/12 A -7	P 28/41.8
149	56.5	57.0	- .5	98.1	22 - 0		148c	S	
161	59.8	59.1	+ .7	103.9	27 - 0		177e 157f	12 - 7 S	13 - 1 S
173	62.6	61.3	+ 1.3	126.1	28 - 0		177e 169f	13 - 6 S	14 - 8 S
185	64.8	63.4	+ 1.4	146.9	28 - 0		181h 190g 214h	13 - 7 Iowa 68	15 - 2
197	65.7	65.6	+ .1	150.8	28 - 0				
209	65.9	67.7	- 1.8	152.1			222i	Shank 45	

[a] Cycle break
[b] Refer to Index

Additional data: Stanford Binet 10.78-115; 11.36-118.
Regression equation-- .17901T + 30.32

Case No. 3317 M; 12/20/16; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
81	45.8	45.7	+ .1	50.7	0 - 4		83a		P 3/1.5
94	48.0	48.1	- .1	56.4	6 - 4		90a 104b	H 2/1	P 5/4.3
106	50.1	50.2	- .1	62.4	8 - 0		190a 121b		P 3/4.5
118	51.8	52.4	- .6	67.9			102c 118b		P 4/7
130	53.7	54.6	- .9	76.3	18 - 0		126c 98d	Ch 2/5 A - 4	P -10/9.3
142	55.8	56.7	- .9 [a]	82.7	23 - 0		152c 111d	Ch 5/8 A - 4	P 6/28
154	58.9	58.9	.0	96.4	25 - 0		162c 118e	S 10 - 5	S 11 - 4
166	63.1	61.1	+ 2.0	115.3	28 - 0		144f 159e	S 11 - 1	S 11 - 5
178	65.7	63.2	+ 2.5	126.8	27 - 0		153f 151h	S 12 - 3	S 11 - 9
190	66.3	65.4	+ .9	137.6	28 - 0		177g 169h	S 14 - 6	S 12 - 7
202	67.1	67.5	- .4	143.8	28 - 0		192g 189i		S 15 - 0
214	67.2	69.7	- 2.5	148.0	-		201i 197h	Shank 47	Sch 50

[a] Cycle break

[b] Refer to Index

Additional data: Stanford Binet-11.24-114; 11.96-127; 13.20-149; Regression equation-- .18049T + 31.09

APPENDIX B

STATISTICAL ANALYSIS OF DATA OF LATE MATURERS

Case No. 166 M; 10/9/16; NE; R; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teegh	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
79	44.9	44.8	+ .1	45.9	0 - 2	58			
91	47.2	46.9	+ .3	50.3	4 - 2	72	100a	H 12/5	P 5/6.3
103	49.4	49.0	+ .4	54.7	8 - 1	84	106a 107b	H 17/9	P 9/8
115	51.2	51.1	+ .1	62.0	11 - 3	-	106c 114b	A -11	P 7/8
127	53.1	53.2	- .1	68.1	15 - 0	107	144c 113d	Ch 17/8	P - 8/8.3
139	55.0	55.3	- .3	74.7	17 - 0	118	142c 132d	Ch 17/12 A - 9	P 28/29.3
151	56.9	57.4	- .5	85.8	23 - 0	129	162c 154e	S 14 - 5	S 11 - 10
163	58.6	59.4	- .8	95.7	25 - 0	142	171f	S 16 - 0	S 12 - 1
175	60.5	61.5	- 1.0	108.9[a]	25 - 0	155	185f 176h	S 14 - 3	S 13 - 3
187	63.5	63.6	- .1	121.1	26 - 0	169	185g 193h	Iowa 133	Sch 26
199	66.8	65.7	+ 1.1	144.9	28 - 0	182	217g 204i	Iowa 162	Sch 47
211	68.5	67.8	+ .7	146.9	-	198	231i 218h	Shank 42	S 13 -5

[a] Cycle break
[b] Refer to Index

Additional data: Stanford Binet 12.36-160
Regression equation -- .1747T + 30.97

Case No. 277 M; 8/18/16; NE; M; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b]	
								Read	Arith.
77	41.2	41.8	- .6	40.6	0 - 0	-	57a		P 4/2.5
100	44.8	44.7	+ .1	47.6	6 - 2		86a 117b	H 6/11	P 6/6.5
111	46.5	46.1	+ .4	53.1	10 - 0		96c 106	A - 4	
123	48.0	47.7	+ .3	56.2	14 - 2		108c 102d	Ch 4/5	P 3/8.3
135	49.5	49.2	+ .3	55.8	18 - 0		128c 128d	Ch 13/7 A - 8	P 26/12.8
147	51.1	50.8	+ .3	65.0	21 - 0		136c 136e	S 10 - 9	S 10 - 7
159	52.3	52.3	.0	68.8	25 - 0		140f 160e	S 11 - 2	S 11 - 2
171	53.4	53.8	- .4	73.6	-		142h	S 12 - 4	S 10 -6
183	54.9	55.4	- .5 ____[a]	82.2	-		153g 171h	S 12 - 4	S 11 - 9
195	56.6	56.9	- .3	89.1	27 - 0		129g 168i		
208	59.0	58.6	+ .4	99.0			183i 172h	Shank 50	S 11-11

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 8.43-92; 9.57-106.
Regression equation-- .12804T + 31.93.

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b]	
								Read	Arith.
72	47.7	48.0	- .3	44.8	0 - 0	-	72a		P 3/.8
84	50.3	50.1	+ .2	49.6	0 - 2	-	92a	H 8/6	P 4/3.8
							87b		
96	52.5	52.3	+ .2	55.6	4 - 2	-	107a	H 18/12	P 8/6
							112b		
108	54.8	54.4	+ .4	60.9	9 - 2		112c		P 9/8.8
							131b	A - 12	
120	56.7	56.6	+ .1	66.6	13 - 0		144c	Ch 10/17	P - 9/11
							120d	A - 10	
132	59.1	58.7	+ .4	73.0	14 - 0		176c	Ch 14/13	P 24/46.3
							159d	A 13	
144	60.7	60.9	- .2	82.5	14 - 0		174c	S	S
							201e	16 - 5	12 - 5
156	62.8	63.0	- .2	89.1	21 - 0		193f	S	S
							216e	11 - 6	13 - 6
168	64.3	65.2	- .9	100.5	24 - 0		210f		
							193h		
180	66.4	67.3	- .9	[a] 118.6	27 - 0		218g	Iowa	
							216h	129	
192	69.6	69.5	+ .1	132.7	27 - 0		238g	Iowa	
							228i	162	
205	73.0	71.8	+ 1.2	138.7			246i	Shank	S
							244h	89	16 - 8

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 10.41-142; 11.20-160.
Regression equation-- .17917T + 35.08

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
79	43.3	42.7	+ .6	39.7	0 - 0		76a		P 3/1.8
89	44.8	44.4	+ .4	43.4	0 - 4		86a		P 3/2.3
102	46.9	46.7	+ .2	48.1	-		99a		P 7/7.3
							110b		
113	48.5	48.6	- .1	50.1	13 - 0		108c		P 11/8.8
							119b	A - 8	
125	50.7	50.6	+ .1	56.7	13 - 0		124c	Ch 11/8	P -11/8
							104d		
137	52.2	52.7	- 5	62.6	17 - 0		144c	Ch 13/10	P 8/26.8
							150d	A - 8	
149	53.7	54.7	- 1.0	65.0	22 - 0		162c	S	S
							171e	12 - 5	11 - 5
161	55.9	56.8	- .9	70.8	24 - 0		159f	S	S
							178e	12 - 10	12 - 8
173	57.9	58.8	- .9	77.0	27 - 0		167f	S	S
			——— [a]				168h	15 - 0	12 - 7
185	61.3	60.9	+ .4	90.4	-		173g	S	S
							165h	15 - 2	14 - 8
197	64.3	62.9	+ 1.4	114.2	28 - 0		212g		
							192i		
209	65.3	65.0	+ .3	127.4	-		195i	Shank	
							212h	65	

[a] Cycle break

[b] Refer to Index

Additional data: Stanford Binet 7.29 - 88; 8.62-113; 9.72-123; 12.96-157.
Regression equation-- .1712/T +29.21

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
74	46.1	46.4	- .3	49.4					P 2/2.5
86	48.5	48.3	+ .2	50.9	4 - 2		90b		
							77a		
98	50.6	50.2	+ .4	59.1	6 - 4		88a	H 11/8	P 8/4.5
							105b		
110	52.6	52.2	+ .4	64.4	8 - 7		110c		P 7/5.5
							113b	A -4	
122	54.4	54.1	+ .3		16 - 0		126c	Ch 12/10	P - 12/9.5
							105d	A - 10	
134	56.3	56.1	+ .2	75.0	18 - 0		144c	Ch 12/11	P 6/23.8
							141d	A - 6	
146	57.8	58.0	- .2	78.7	24 - 0		154c	S	S
							148e	10 - 10	11 - 10
158	59.3	59.9	- .6	86.7	26 - 0		153f	S	S
							168e	12 - 8	12 - 0
170	61.0	61.9	- .9	91.7	25 - 0		160f	S	
							160h	13 - 7	12 - 3
182	62.6	63.8	- 1.2	97.7	26 - 0		161g	Iowa	
			——[a]				171h	55	
194	65.9	65.7	+ .2	115.5	28 - 0		179g	Iowa	Sch
							192i	64	22
206	69.3	67.7	+ 1.6	131.2	-		192i	Shank	S
							167h	50	13 -5

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet -- 7.57-92; 11.31-132.
Regression equation-- .16142 T + 34.43

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
77	43.6	43.9	- .3	43.2	1 - 0	66	74a		P 4/8
87	45.7	45.6	+ .1	48.1	6 - 0	78	80a		P 3/2
99	47.8	47.5	+ .3	52.9	10 - 0	90	83a 93b	H 4/0	P 2/1.5
111	49.8	49.4	+ .4	56.7	10 - 1	103	90c 117h	A 0	P 3/3.5
123	51.9	51.3	+ .6	60.2	12 - 3	115		Ch 1/1	P 5/4.5
135	53.2	53.3	- .1	68.1	15 - 0	127	102c	Ch 4/2 A - 0	P 6/10.3
147	54.8	55.2	- .4	71.7	19 - 0	139	132c 103e	S 9 - 3	S 9 - 1
159	56.2	57.1	- .9	78.9	24 - 0	150	139f 121e	S 9 - 7	S 9 - 8
170	58.1	58.9	- .8	[a]85.1	26 - 0		140h		
183	60.7	61.0	- .3	95.7	28 - 0		132g 152h		
195	64.3	62.9	+ 1.4	114.2	28 - 0	182	149g 135i		

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 7.17-70; 9.54-96; 12.39-125.
Regression equation-- .16075 T + 31.57

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
74	42.7	43.6	- .9	39.9	1 - 0	67	74a		P 6/2.5
83	44.6	44.8	- .2	45.0	3 - 0	78	103a		P 7/4.5
96	46.8	46.6	+ .2	49.0	6 - 3	89	116a 113b	H 16/18	P 9/6.8
107	48.5	48.1	+ .4	56.7	9 - 1	98	104c 119b	A 11	P 11/10
120	50.4	49.9	+ .5	61.5	10 - 2	104	122c 125d	Ch 18/11	P -11/11.5
132	51.9	51.5	+ .4	68.8	13 - 0	108	136c 143d	Ch 19/7 A - 7	P 24/39.3
143	53.4	53.0	+ .4	72.5	15 - 0	116	176c 166e	S 14 - 4	S 13 - 8
155	55.0	54.7	+ .3	77.8	21 - 0	125	175f 174e	S 15 - 1	S 15 - 0
167	56.1	56.3	- .2	82.2	26 - 0	135	176f 177h	S 15 - 9	S 16 - 4
179	57.5	58.0	- .5	91.1	27 - 0	148	215g 202h	Iowa 80	
191	59.0	59.6	- .6	95.3 [a]	28 - 0	161	229g 198i	Iowa 106	
203	61.6	61.3	+ .3	111.6		175	207i 212h	Shank 65	S 16-10

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 8.17-98; 11.46-133; 12.15-141.
Regression equation-- .13738T + 33.40

M; 10/24/16; It; B; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b]	
								Read	Arith.
83	44.4	44.3	+ .1	46.7	8 - 2		76a		P 4/1.8
96	46.5	46.5	.0	51.6	10 - 4		88a 90b	H 4/3	P 4/4.8
108	49.1	48.6	+ .5	60.9	15 - 3		85a 97b	H 9/10	P 5/5.3
120	50.7	50.7	.0	65.5	19 - 2		102c 103b	A - 2	P 3/6.8
132	53.1	52.8	+ .3	70.6	24 - 0		130c 102d	Ch 8/5 A -9	P -10/10.8
144	54.9	53.9	.0	77.2	27 - 0		138c 119d	Ch 8/7 A - 6	P 20/26.3
156	56.6	57.0	- .4	87.1	28 - 0		158c 144e	S 11 - 2	S 13 - 5
168	58.5	59.1	- .6	92.6	28 - 0		154f 172e	S 11 - 11	S 13 - 1
180	60.2	61.2	- 1.0	100.3 [a]	28 - 0		161f 177h	S 13 - 0	S 15 - 9
192	63.1	63.3	- .2	113.6	28 - 0		196g 185h	Iowa 76	
204	66.3	65.4	+ .9	129.9	28 - 0		220g 189i	Iowa 71	Sch 62
216	67.9	67.5	+ .4	138.5	-		201i 183h	Shank 55	S 16 - 10

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 9.54-106; 11.96-114; 13.36-150;
Regression equation:-- .17428T + 29.81

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
73	43.8	43.9	- .1	49.4	4 - 0		73a		P 3/2
85	46.1	45.8	+ .3	54.7	4 - 6		77a	H 10/0	P 4/3.8
97	47.8	47.7	+ .1	60.0	8 - 5		92a 93b		P 8/6.3
109	49.8	49.6	+ .2	65.5	14 - 3		99b	A - 7	P 10/8.3
121	51.9	51.6	+ .3	72.3	22 - 0		96c 95d	Ch 14/9 A 10	P -11/12.3
133	53.5	53.5	.0	75.9	26 - 0		108c 114d	Ch 18/18 A - 8	P 14/47.3
145	55.0	55.4	- .4	82.9	27 - 0		128c 115e	S 14 - 3	S 13 - 4
157	56.7	57.3	- .6	90.8	28 - 0		116e	S 16 - 2	S 14 - 9
169	58.5	59.2	- .7	97.5	28 - 0		113h	S 16 - 2	S 16 - 3
181	60.6	61.2	- .6	[a]106.3	28 - 0		134g 148h	Iowa 116	Sch 42
193	63.9	63.1	+ .7	124.4	29 - 0		125g 156i	Iowa 155	
205	65.7	65.0	+ .7	134.0	-		120i 153h	Shank 78	S 16 - 6

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 7.52-92; 11.06-140; 12.49-162.
Regression equation-- .16029 T + 32.16

Case No. 635 M; 3/10/18; NE; B; V

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read	Achievement[b] Arith.
67							67a		P 2/1
79	46.1	46.0	+ .1	48.7	0 - 1		89a 102b	H 4/3	P 5/1.5
91	48.5	48.0	+ .5	52.9	4 - 0		95a 110b	H 10/11	P 7/4.8
103	50.2	50.1	+ .1	58.0	10 - 0				
115				62.2	12 - 0		118c 131d	Ch 17/15 A - 10	P 14/14.3
127	54.3	54.3	.0	67.9	12 - 0		160c 146d	Ch 16/13 A - 12	P -40/59
139	56.1	56.3	- .2	75.2	19 - 0		192c 201e	S 16 - 6	S 15 - 9
151	57.9	58.4	- .5	81.8	21 - 0		195f 239e	S 16 - 1	S 16 - 3
163	59.8	60.5	- .7	88.2	25 - 0		208f 196h		
175	61.9	62.6	- .7	95.7	27 - 0		219g 206h	Iowa 130	
188	65.3	64.8	+ .5	[a] 114.9	-		236g 213i	Iowa 157	Sch 65
199	67.6	66.7	+ .9	131.4	-		231i 255h	Shank 84	S 18-8

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 7.01-100; 8.08-129; 9.99-156; 10.84-164.
Regression equation-- .17269T + 32.33

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
83	46.0	46.6	- .6	47.6	6 - 0	77	100 96a		P 5/6.8
93	47.9	48.1	- .2	49.6	6 - 4	87	120a		P 10/10.3
106	50.2	50.0	+ .2	54.5	11 - 3	101	144a 136b	H 17/19	P 12/11.5
117	52.0	51.7	+ .3	58.2	15 - 3	113	156c 123b	A - 17	
129	54.0	53.4	+ .6	62.2	18 - 4	125	190c 148d	Ch 22/13	P - 14/14.3
141	55.6	55.2	+ .4	65.9	25 - 0	131	204c 174d	Ch 28/16 A - 13	P 66/69.3
153	57.4	57.0	+ .4	68.8	27 - 0	139	200c 220e	S 15 - 9	S 16 - 2
165	58.3	58.8	- .5	73.2	28 - 0	150	201f 204e	S 17.3	S 17 - 6
177	60.1	60.6	- .5	79.2	28 - 0	156	205f 217h		
189	61.9	62.4	- .5 [a]	87.8	-	166	236g 224h	Iowa 110	
201	64.2	64.2	.0	97.0	28 - 0	179	249g 228i	Iowa 164	
213	66.5	66.0	+ .5	102.3	-	187	252i 230h	Shank 91	S 17 - 8

[a] Cycle break
[b] Refer to Index

Additional data: Stanford Binet -- 7.28-100; 12.97-202.
Regression equation-- .14960 T + 34.15

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
77	45.9	46.3	- .4	46.1	0 - 0	78	64a		P 5/2.5
87	47.9	47.9	.0	48.5	4 - 0	89	87a		P 6/3.3
100	50.1	50.0	+ .1	54.2	4 - 2	102	105a	H 11/10	P 7/4.3
							102b		
111	52.0	51.7	+ .3	57.6	8 - 2	114	124c		P 8/6.8
							127b	A - 6	
124	54.0	53.8	+ .2	62.8	10 - 2	125	142c	Ch 6/7	P -10/9
							114d		
135	55.7	55.6	+ .1	68.8	14 - 0	132	156c	Ch 10/8	P 26/23.3
							123d	A - 4	
147	57.7	57.5	+ .2	71.9	18 - 0	145	174c	S	S
							153e	11 - 11	12 - 0
159	59.6	59.5	+ .1	76.5	26 - 0	156	156f	S	S
							178e	12 - 7	12 - 0
171	61.0	61.4	- .4	83.3	27 - 0	161	169f	S	
							151h	15 - 1	12 - 8
183	62.6	63.3	- .7	88.2 [a]	28 - 0	168	180g	S	S
							182h	15 - 11	13 - 1
195	65.1	65.3	- .2	105.0	28 - 0	171	206g	Iowa	Sch
							189i	60	66
207	68.2	67.2	+ 1.0	114.9	-	180	204i	Shank	S
							217h	48	14 - 10
222	69.3	69.6	- .3		-	207	219i	Shank	S
							240h	60	17 - 0

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet--6.32-80; 7.49-83; 12.49-165.
Regression equation-- .16092 T + 33.88

Case No. 664 M; 3/25/16; NE; M; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
82	46.5	47.1	- .6	46.5	4 - 0		79a		P 3/1.8
92	48.5	48.8	- .3	51.6	4 - 2		89a		P 6/5.5
104	51.3	51.0	+ .3	56.4	8 - 2		107a 118b	H 11/11	P 8/7.3
116	53.6	53.1	+ .5	62.6	8 - 5		112c 116b	A - 4	P 10/7.8
128	55.4	55.3	+ .1	68.1	12 - 7		152c 117d	Ch 10/13	P -10/103
140	57.6	57.4	+ .2	75.9	23 - 0		158c 144d	Ch 13/12 A - 9	P`8/37.3
152	60.0	59.5	+ .5	79.8	27 - 0		166c 175e	S 12 - 3	S 11 - 2
164	61.8	61.7	+ .1	84.7	28 - 0		166f 184e	S 13 - 8	S 13 - 7
176	63.2	63.8	- .6	93.3	28 - 0		185f 179h	S 15 - 8	S 13 -2
188	65.7	65.9	- .2	[a]102.3	28 - 0		189g 187h	Iowa 76	
200	68.6	68.1	+ .5	121.3	28 - 0		209g 183i	Iowa 69	
212	69.8	70.2	- .4	132.3			198i 205h		

[a]Cycle Break

[b]Refer to Index

Additional data: Stanford Binet-- 7.58-86; 12.96-163.
Regression equation-- .17812T + 32.46

Case No. 702 M; 3/5/17; NE; R; V

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
75	45.0	44.6	+ .4	42.1	1 - 0	61	74a		P 3/1.8
86	46.7	46.5	+ .2	45.4	4 - 2	72	81a	H 0/0	P 4/1.5
98	48.6	48.6	.0	50.7	8 - 2	83	103a	H 2/4	P 5/4.3
110	50.8	50.7	+ .1	57.6	-	90	107b 98c	A - 2	P 7/5.5
122	52.9	52.7	+ .2	61.7	15 - 1	97	116b 104c	Ch 1/1	P -7/8.8
134	54.6	54.8	- .2	68.6	10 - 0	107	92d 120c	Ch 5/3 A - 1	P 0/10.3
146	56.7	56.9	- .2	72.8	18 - 0	119	98d 136c	S	S
158	58.4	59.0	- .6	81.4	23 - 0	127	104e	10 - 2 S	10 - 0 S
170	60.5	61.0	- .5	86.9	27 - 0	141	132e 131f	9 - 8 S	11 - 2 S
182	62.4	63.1	- .7	92.6	28 - 0	152	133h 151g	10 - 1 S	12 - 8 S
194	65.0	65.2	- .2 [a]	103.2	28 - 0	165	145h 167g	12 - 3 S	12 - 6 S
206	68.1	67.2	+ .9	119.1	-	178	168i 177i	12 - .10 Shank	12 - 9 S
219	70.1	69.5	+ .6	130.3	-	191	181h	42	13-3

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet--12.14-115.
Regression equation-- .17266T + 31.67

Case No. 708 M; 4/5/17; NE; B;

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
78	42.8	42.8	.0	36.6	0 - 0		73a		P 2/1.5
90	45.0	44.8	+ .2	39.9	0 -2		102a 100b	H 2/0	P 7/2.5
102	47.1	46.8	+ .3	44.3	8 - 0		102a 101b	H 9/0	P 6/5
114	49.2	48.8	+ .4	47.8	8 - 2		110c 118b	 A - 3	P 9/6.3
126	50.9	50.8	+ .1	54.0	16 - 0		120c 102d	Ch 3/3 A - 6	P -7/7
138	53.0	52.9	+ .1	56.2	20 - 0		150c 128d	Ch 7/10 A - 4	P 22/17.8
150	54.4	54.9	- .5	63.1	22 - 0		162c 136e	S 11 - 9	S 11 - 10
162	56.1	56.9	- .8	67.7	25 - 0		152f 153e	S 11 - 6	S 11 - 9
174	57.7	58.9	- 1.2 [a]	73.6	27 - 0		161f 164h	S 12 - 3	S 11 - 7
186	60.7	60.9	- .2	84.7	26 - 0		185g 168h	Iowa 60	Sch 50
198	63.7	62.9	+ .8	99.2	27 - 0		201g 195i	Iowa 55	
210	65.6	64.9	+ .7	115.3	-		204i 195h	Shank 51	S 15 -4

[a]Cycle Break
[b]Refer to Index

Additional data: Stanford Binet-- 7.93-84; 11.69-125.
Regression equation-- .16718 T + 29.78

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
78	42.8	42.8	.0	42.1	2 - 0	61	83a		P 5/3
90	44.7	44.6	+ .1	46.7	4 - 2	77	97a	H 10/2	P 8/2.3
102	46.7	46.4	+ .3	48.3	8 - 4	87	96a	H 14/12	P 11/10
							123b		
114	48.4	48.2	+ .2	53.8	12 - 2	101	104c		P 11/9.8
							130b	A - 7	
126	50.3	50.0	+ .3	60.6	13 - 2	111	116c		P -13/11.8
							111d	Ch 13/6	
138							142c	Ch 15/8	P 36/46
							134d	A -5	
150	53.5	53.6	- .1	70.6	24 - 0	135	146c	S	S
							162e	12 - 3	13 - 5
162	55.1	55.4	- .3	78.3	28 - 0	143	153f	S	S
							166e	13 - 5	16 - 8
174	56.2	57.2	- 1.0	84.7	28 - 0	148	169f	S	S
							168h	14 - 11	16 - 2
186	58.0	59.1	- 1.1 [a]	90.8	28 - 0	156	198g		Sch
							190h		47
198	60.8	60.9	- .1	101.4	28 - 0	165	191g	Iowa	Sch
							192i	60	50
210	64.4	62.7	+ 1.7	116.4	-	178	189i	Shank	S
							206h	36	14 - 6

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet-- 12.4-151.
Regression equation-- .15054T + 31.05

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
72	42.0	42.3	- .3	39.2			61a		P 3/1
84	44.6	44.4	+ .2	43.7	2 - 3		78a	H 0/2	P 5/2.3
							83b		
96	46.7	46.5	+ .2	47.6	9 - 1		98a	H 7/4	P 3/1.8
							107b		
108	48.9	48.7	+ .1	52.3	12 - 0		94c		P 7/6.8
							111b	A - 6	
121	51.0	51.0	.0	58.7	14 - 0		124c	Ch 17/3	P -8/6.3
							93d	A -12	
129	53.2	52.4	+ .8	63.7	-		150c	Ch 26/?	P 0/21.3
							126d	A - 10	
144	54.8	55.0	- .2	70.1	23 - 0		148c	S	S
							167e	11 - 7	11 - 2
156	56.8	57.2	- .4	76.5	24 - 0		145f	S	S
							181e	13 -10	12 - 10
168	58.2	59.3	- 1.1	81.1	26 - 0		158f	S	
							167h	14 - 7	13 - 0
180	60.3	61.4	- 1.1	89.5	28 - 0		198g	S	S
			———[a]				195h	13 - 3	14 - 10
192	64.2	63.6	+ .6	105.8	28 - 0		204g	Iowa	
							204i	108	
205	66.9	65.9	+ 1.0	120.0	-		204i	Shank	S
							205h	69	15 - 2

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 10.97-125
Regression equation -- .17738T + 29.50

Case No. 804 M; 1/29/17; It; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
75	39.8	39.6	+ .2	41.0	4 - 0		57a		P 1/.3
87	41.9	41.5	+ .4	44.5	4 - 0		77a	H 3/3	P 3/2.3
99	43.9	43.4	+ .5	47.2	6 - 4		73a 77b	H 5/0	P 5/1.8
111	45.6	45.4	+ .2	53.4	10 - 1		84f 87b		P 4/2.8
123	47.1	47.3	- .2	56.0	10 - 5		100c 93d	A - 3 Ch 0/3	P -5/2.8
135	48.9	49.2	- .3	61.3	19 - 0				
147	50.4	51.1	- .7	65.5	25 - 0		102c	S	S
159	52.2	53.0	- .8	71.0	28 - 0		100e 112e	9 - 9 S	10 - 1 S
171	54.0	54.9	- .9 [a]	78.7	28 - 0		118f	10-4 S	10-2 S
183	56.7	56.9	- .2	87.3	28 - 0		124h 131g	10 - 3 S	10 - 5 S
195	59.8	58.8	+ 1.0	96.6	28 - 0		135h 126g	10 - 6 S	10 - 11
207	61.5	60.7	+ .8	120.6			144i	11 - 4	10 - 10

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet -- 12.29-112
Regression equation -- .15973T + 27.63

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
82	41.9	42.6	- .7	44.3	0 - 0		77a		P 1/2.8
94	44.5	44.5	.0	48.1	0 - 1		83a	H 3/4	P 4/5.3
106	46.2	46.3	- .1	52.3	6 - 0		98a		P 7/9
118	48.3	48.2	+ .1	58.4	-		93b 100c	H 8/5	P 9/8.3
130	50.5	50.1	+ .4	64.8	13 - 1		114b 112c	A - 4 Ch 4/8	P -10/10.5
142	52.4	52.0	+ .4	79.6	20 - 0		110d 124c	Ch 9/13	P 20/29.5
154	54.6	53.8	+ .8	86.4	21 - 0		122d 144c	A - 9 S	S
166	56.0	55.7	+ .3	89.7	26 - 0		151e 156f	12 - 1 S	11 - 9 S
178	57.4	57.6	- .2	97.0	28 - 0		166e 158f	12 - 5 S	14 - 1 S
190	58.8	59.5	- .7	107.4[a]	28 - 0		167h 178g	12 - 5 Iowa	13 - 4
202	61.1	61.3	- .2	116.0	28 - 0		184h 192g 192i	54 Iowa 69	

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 12.94 - 150.
Regression equation -- .15628 T + 29.78

Case No. 893 M; 5/19/17; SE; B; IV

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
77	41.5	41.6	- .1	46.1	0 - 2		83a		P 5/2
89	43.7	43.4	+ .3	42.1	6 - 0		101a 107b	H 14/1Q	P 5/4.3
101	45.7	45.3	+ .2	45.4	6 - 4		99a 125b	H 17/14	P 7/7.3
113	47.4	47.1	+ .3	50.3	10 - 1		132c 129b	 A - 8	P 7/10.8
125	48.8	48.9	- .1	55.6	14 - 0		136c 131d	Ch 12/7 A-13	P -10/13
137	50.6	50.7	- .1	59.1	24 - 0		174c 166d	Ch 14/5 A - 8	P 24/43
149	52.3	52.5	- .2	64.4	26 - 0		186c 157e	S 12 - 1	S 12 - 11
161	53.7	54.4	- .7	69.2	28 - 0		171f 184e	S 14 - 11	S 12 - 11
173	55.2	56.2	- 1.0	[a]76.7	28 - 0		157f 181h	Iowa 115	
185	57.6	58.0	- .4	87.8	28 - 0		214g 197h	Iowa 123	Sch 49
197	61.5	59.8	+ 1.7	106.1	28 - 0		222g 204i		

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 7.80-101; 10.82-133; 12.03-164.
Regression equation-- .15167T + 29.95

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
81	45.8	45.9	- .1	46.5	2 - 0	78			p 2/2.8
90	47.7	47.6	+ .1	49.4	6 - 0	89	88 81a		P 9/4.5
103	50.3	50.0	+ .3	53.4	8 - 3	102	108a 96b	H 10/0	
115	52.6	52.2	+ .4	59.8	11 - 1	114	114c 114b	A - 8	P 10/8
126	54.4	54.2	+ .2	63.9	14 - 1	125	134c 102d	Ch 11/5	P 12/10.3
138	56.4	56.4	.0	68.4	17 - 0	137	146c 146d	Ch 15/6 A - 10	P 26/39.3
150	58.2	58.5	- .3	73.2	24 - 0	-	146c 141e	S 12 - 2	S 11 - 1
162	59.6	60.7	- 1.1	80.9	27 - 0	145	157f 166e	S 12 - 11	S 11 - 4
174	61.9	62.9	- 1.0	87.8 [a]	28 - 0	156	174f 161h	S 14 - 5	S 12 - 8
186	65.6	65.1	+ .5	102.5	28 - 0	169	174g 168h	Iowa 58	
198	68.1	67.3	+ .8	115.8	28 - 0	180	177g 192I	Iowa 87	Sch 33
210	69.8	69.5	+ .3		-	193	189i 172h		S 13 -5

[a]Cycle break

Additional data: Stanford Binet-- 7.44-88; 12.80-146.

Case No. 1030 M; 6/20/16; NE; R; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
83	42.0	41.6	+ .4	38.8	5 - 2	61	89a		P 5/5
94	44.0	43.4	+ .6	43.4	6 - 4	72	122a	H 12/10	P 8/9
107	46.1	45.7	+ .4	48.7	15 - 2	84	136a 111b	H 10/16	P 10/10.5
119	48.0	47.7	+ .3	53.4	18 - 2	95	152c 130b	 A-10	P 13/12.5
131	49.7	49.8	- .1	57.3	20 - 3	107	184c 137d	Ch 9/7	P +2/11.8
142	51.1	51.6	- .5	61.7	27 - 0	120	192c 177d	Ch 15/9 A-13	P 36/49
154	52.4	53.7	- 1.3	66.2	-	132	202c 197e	S 15 - 8	S 16 - 10
166	54.5	55.8	- 1.3	72.5	28 - 0	145	193f 195e	S 16-3	S 17-1
178	56.6	57.8	- 1.2	[a]83.1	28 - 0	157	209f 240h	S 17-3	S 16-9
190	60.3	59.9	+ .4	101.9	28 - 0	173	226g 212h	Iowa 129	
202	63.6	61.9	+ 1.7	120.8	28 - 0	186	249g 237i	Iowa 171	
215	64.7	64.1	+ .6	130.1	-	197	240i 246h	Shank 73	S 17 - 11

[a]Cycle break Additional data: Stanford Binet--12.88-189

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
75	45.8	46.7	- .9	47.4	0 - 0		64a		P 2/.5
88	48.6	48.8	- .2	52.0	0 - 5		85a	H11/8	P 5/3.8
							106b		
100	51.1	50.8	+ .3	58.2	8 - 2		112a	H 16/13	P 5/7.3
							120b		
112	53.5	52.8	+ .7	66.8	12 - 0		116c		P 10/8.3
							122b	A-4	
124	55.6	54.8	+ .8	72.5	13 - 0		124c	Ch 5/10	P -6/11.5
							110d	A - 7	
136	57.3	56.8	+ .5	78.9	16 - 0		162c	Ch 18/13	P 14/35.3
							134d	A-6	
148	59.0	58.8	+ .2	84.0	19 - 0		168c	S	S
							167e	12 - 7	12 - 1
160	60.6	60.8	- .2	91.7	24 - 0		169f	S	S
							179e	13 - 5	13 - 9
172	62.0	62.8	- .8	101.0	26 - 0		180f	S	S
							170h	14 - 11	15 - 0
184	63.8	64.8	- 1.0	107.8	27 - 0		193g	Iowa	Sch
			———	a			182h	73	39
196	66.3	66.8	- .5	126.3	27 - 0		219g	Iowa	Sch
							183i	86	56
208	69.9	68.8	+ 1.1	146.9			207i	Shank	
							199h	57	

[a]Cycle break   Additional data: Stanford Binet-- 7.70-98; 8.79-110; 11.59-138.

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
69	41.9	42.0	- .1	40.4	0 - 0		69a		P 0/.8
82	44.1	44.1	.0	46.5	4 - 1		86a 80b	H 1/0	P 2/.5
93	45.9	45.8	+ .1	51.6	6 - 3		102a 106b	H 8/4	P 7/6
105	47.9	47.7	+ .2	56.7	9 - 1		100c 111b	 A-2	P 9/9.3
118	50.1	49.8	+ .3	63.5	10 - 0		118c 95d	Ch 0/5 A-2	P -10/11
129	51.9	51.6	+ .3	70.1	12 - 0		138c 102d	Ch 11/8 A-3	P 40/46.8
141	53.5	53.5	.0	73.6	16 - 0		166c 129e	S 9 - 10	S 15 - 0
153	54.9	55.4	- .5	78.3	28 - 0		153f 140e	S 10 - 11	S 13 - 6
166	56.7	57.4	- .7	87.5	28 - 0		162f 178h	S 11 - 11	S 15 - 8
177	58.6	59.2	- .6	[a]103.2	28 - 0		176g 198h	Iowa 47	
189	61.5	61.1	+ .4	113.3	28 - 0		205g 195i	Iowa 37	
201	63.5	63.0	+ .5	131.2	-		195i 208h	Shank 39	S 18 - 11

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
66	41.5	41.8	- .3	38.4	0 - 0		59a		P 1/1.5
79	43.5	43.6	- .1	42.1	0 - 0		73a	H 2/2	P 1/1.8
							82b		
90	45.4	45.2	+ .2	47.8	4 - 2		77a	H 1/0	P 6/5
							84b		
102	47.0	46.9	+ .1	51.8	7 - 4		86c		P 2/3.8
							98b	A - 1	
115	49.1	48.7	+ .4	55.1	12 - 0		98c	Ch 3/3	P 7/6.5
							104d	A - 4	
127	50.6	50.4	+ .2	59.8	17 - 0		100c	Ch 5/8	P 14/25
							120d	A -5	
139	52.1	52.1	.0	63.7	21 - 0		132c	S	S
							121e	9 - 9	11 - 3
151	53.5	53.8	- .3	70.1	25 - 0		148F	S	S
							142e	11 - 2	11 - 5
163	55.4	55.4	.0	74.5	26 - 0		138f	S	S
							152h	12 - 2	11 - 5
175	57.0	57.1	- .1	81.6	27 - 0		160g	S	S
							159h	12 - 2	12 - 3
187	58.4	58.8	- .4 [a]	87.5	28 - 0		160g	Iowa	Sch
							183i	48	34
199	60.9	60.5	+ .4	97.0	-		180i	Shank	S
							168h	48	13-9

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
76	43.0	42.6	+ .4	41.5	2 - 2	-	75a		P 5/3.5
88	45.3	44.8	+ .5	45.4	4 - 5	-	98a 105b	H 11/9	P 7/6.8
100	47.5	47.0	+ .5	51.2	10 - 0		95a 114b	H 20/16	P 7/9.3
112	49.3	49.2	+ .1	57.1	10 - 2		112c 128b	A - 9	P 9/9.5
124	51.5	51.4	+ .1	60.9	12 - 1		130c 146d	Ch 15/11	P 12/11.3
136	52.8	53.5	- .7	66.4	20 - 0		140c 157e	Ch 19/18 A-10	P 66/52.5
148	54.9	55.7	- .8	73.6	23 - 0		157f 169e	S 16-7	S 14 -6
160	57.0	57.9	- .9	78.7	28 - 0		170f 170h	S 15 -1	S 14 - 7
172	58.5	60.1	- 1.6 ____[a]	85.1	28 - 0		199g 180h	S 16 - 2	S 15 - 4
184	62.1	62.3	- .2	104.5	28 - 0		220g 186i	Iowa 82	
196	66.1	64.5	+ 1.6	123.3	28 - 0		198i 198h	Iowa 121	
208	67.6	66.6	+ 1.0	138.7				Shank 77	

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
84	47.1	47.2	- .1	56.0	8 - 0	82	77a		P 3/1.8
95	49.0	49.0	.0	58.9	10 - 4	90	76a	H 3/5	P 2/.8
108	51.3	51.1	+ .2	64.4	15 - 3	100	83a 92b		P 4/8
119	53.4	53.0	+ .4	79.9	20 - 3	108	96c 95b		P 8/8.5
132	55.2	55.1	+ .1	77.0	23 - 0	120	120c 105d	Ch 4/6	P 8/11.5
143	57.0	56.9	+ .1	74.7	28 - 0	129	144c 108d	Ch 9/6 A - 1	P 26/46.5
155	58.6	58.9	- .3	89.1	28 - 0	140	136c 127e	S 11-10	S 14-0
167	60.3	60.8	- .5	88.4	28 - 0	151	139f 168e	S 11 - 6	S 13 - 1
179	62.2	62.8	- .6	105.8	28 - 0	162	153f 154h	S 12 - 11'	S 12 - 6
192	64.6	65.0	- .4	116.6[a]	28 - 0	172	178g 162h	Iowa 62	Sch 42
204	67.7	66.9	+ .8	138.9	28 - 0	182	176g 165i	Iowa 51	Sch .36
216	69.2	68.9	+ .3	150.8	-	193	165i 180h	Shank 47	S 15 - 6

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
79	45.9	45.9	.0	50.9	4 - 1		76a		P 4/1.5
91	48.3	48.0	+ .3	57.8	6 - 5		91a 102b	H 9/0	P 5/3.8
103	50.5	50.1	+ .4	53.6	13 - 1		116a 110b	H 12/6	P 7/7.5
115	52.8	52.3	+ .5	69.9	13 - 2		110c 122b	 A-6	P 10/7.3
127	54.4	54.4	.0	77.2	24 - 0		148c 111d	Ch 12/4 A-8	P 13/11.5
139	56.4	56.5	- .1	85.3	28 - 0		150c 148d	Ch 15/10 A -8	P 14/23
151	58.0	58.7	- .7	94.6	28 - 0		182c 169e	S 11-7	S 12-10
163	59.9	60.8	- .9	98.1	28 - 0		140f 169e	S 12 - 8	S 12 - 4
175	61.4	62.9	- 1.5	[a]111.4	28 - 0		170f 176h	S 14 - 5	S 13 - 0
187	65.1	65.0	+ .1	131.4	28 - 0		215g 208h	Iowa 86	
199	68.5	67.2	+ 1.3	152.6	30 - 0		220g 210i	Iowa 84	
211	69.8	69.3	+ .5	163.4	-		213i 234h	Shank 63	S 15 - 4

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b]	
								Read.	Arith.
75	46.3	46.4	- .1	50.5	0 - 0	65	-	-	-
86	48.1	48.4	- .3	57.8	4 - 0	72	78a	H 3/3́	P 2/2.8
99	51.3	50.7	+ .6	64.2	5 - 0	83	83a 88b	H 10/5	P 5/5
111	53.3	52.8	+ .5	72.5	8 - 3	88	86c 91b	A - 7	P 5/5.5
123	55.2	54.9	+ .3	73.2	12 - 0	120	-		
135	57.0	57.1	- .1	-	13 - 0	114	130c 96d	Ch 12/12 A - 7	P 0/6
147	59.1	59.2	- .1	89.5	21 - 0	126	118c 133e	S 11 - 9	S 11 - 8
159	60.9	61.4	- .5	103.4	28 - 0	137	148f 123e	S 12 - 11	S 12 - 1
171	62.4	63.5	- .9	106.9	27 - 0	150	159f 152h		
183	64.6	65.6	- 1.0	120.0 a	28 - 0	160	158g 160h	S 14 - 1	S 11 - 9
195	68.0	67.8	+ .2	133.2	28 - 0	173	155g 165i	Iowa 53	Sch 27
207	71.4	69.9	+ 1.5	154.4	-	184	171i 165h	Shank 51	S 10 - 7

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
73	45.2	46.0	- .8	44.8	4 - 2	60	64a		P 0/.3
85	47.6	48.0	- .4	50.3	6 - 3	72	74a	H 1/1	P 1/2.3
97	50.2	50.0	+ .2	55.8	11 - 2	88	83a		P 2/2.8
109	52.5	52.0	+ .5	64.4	12 - 3	101	92c 98b	A -5	P 9/6.8
121	54.6	54.1	+ .5	71.9	19 - 3	114	90c	Ch 3/4	P -4/8.8
133	56.7	56.1	+ .6	85.1	24 - 0	137	116c 141d	Ch 15/13 A - 4	P 14/28.5
145	58.3	58.1	+ .2	82.7	27 - 0	-	122c 102e	S 10 - 6	S 10 - 10
156	60.5	59.9	+ .6	95.7	28 - 0	146	128f 123e	S 9 - 4	S 11 - 4
169	61.8	62.1	- .3	92.2	27 - 0	155	135f 136h	S H - 0	S 11 - 9
181	63.2	64.1	- .9	[a]105.0	28 - 0	162	136h	S 10 - 5	S 12 - 8
193	66.2	66.2	.0	120.2	28 - 0	175	154g 138i	S 11 - 10	S 13 - 0
205	68.1	68.2	- .1	128.3	-	189	159i 151h	Shank 25	S 11 - 8

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
80	43.8	44.4	- .6	39.5	6 - 0				
93	46.3	46.5	- .2	45.9	8 - 1		86a	H 9/3	P 4/2.5
							94b		
105	48.0	48.4	- .4	55.6	12 - 1		133a	H 12/8	P 7/5.8
							123b		
117	50.8	50.3	+ .5	65.3	13 - 1		110c		P 8/6.8
							123b	A-10	
129	52.8	52.2	+ .6	69.5	22 - 0		118a	Ch 8/10	P -11/8.3
							105d	A-7	
141	54.8	54.1	+ .7	81.8	26 - 0		140c	Ch 12/12	,P 0/28.8
							150d	A - 7	
153	56.5	56.0	+ .5	89.7	28 - 0		144c	S	S
							140e	12 - 1	11 - 7
165	57.8	57.9	- .1	96.6	28 - 0		158f	S	S
							165e	13 - 0	13 - 4
177	59.2	59.8	- .6	106.9	28 - 0		166f	S	
							178h	12 - 9	14 - 4
189	60.8	61.7	- .9	109.1	28 - 0		191g	Iowa	Sch
							190h	67	59
201	63.9	63.6	+ .3	[a] 133.2	28 - 0		201g	Iowa	
							195i	99	
213	65.7	65.5	+ .2	133.2	-		207i	Shank	S
							212h	56	15 -8

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
82	43.5	43.2	+ .3	39.5	6 - 0		64		P 1/.8
91				42.1	6 - 4	77	81a		P 5/2.3
104	47.2	46.8	+ .4	46.3	8 - 4	89	92a 95b	H 10/17	P 6/6
116	49.0	48.7	+ .3	48.7	12 - 4	102	104c	A - 9	
128	50.4	50.6	- .2	53.4	14 - 9	113	128c 128d	A -8	P 9/7.5
140	52.3	52.5	- .2	60.2	25 - 0	125	164c 137d	Ch 15/10 A - 8	
151	53.8	54.3	- .5	63.9	27 - 0	138	154c 146e	S 13 - 0	S 12 - 3
164	55.6	56.4	- .8	67.9	28 - 0	148	168f 185e	S 15 - 5	S 14 - 0
175	57.1	58.2	- 1.1 [a]	75.6	28 - 0	160	168f 180h		
187	61.1	60.1	+ 1.0	91.1	28 - 0	172	187g 183h		
200	63.0	62.2	+ .8	103.9	28 - 0	183	217g 195i		

[a]Cycle break

Additional data: Stanford Binet -- 7.17-64; 12.81-133.

Regression equation [illegible]

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
76	42.0	42.6	- .6			76	58a-70		P 2/.8
85	43.7	43.8	- .1	44.1			82a		P 2/2.5
98	45.6	45.5	+ .1	49.4	8 - 4	98	115a	H 12/10	P 6/6
							108b-92		
122	49.2	48.7	+ .5	57.8	-	126	126c	Ch 8/10	P 11/11.3
							125d		
134	50.7	50.3	+ .4	59.5	17 - 0	136	158c	Ch 14/19	P 36/46.8
							197d	A-11	
146	52.1	51.9	+ .2	63.3	22 - 0	144	192c-181	S	S
							204e	16-3	12 -2
157	53.7	53.3	+ .4	67.0	26 - 0	149	183f	S	S
							210e		14 - 8
170	55.0	55.0	.0	70.1	27 - 0	155	212f	S	S
							199h	17 - 2	14 - 9
182	56.0	56.6	- .6	73.2	28 - 0	160	223g	S	S
							218h	18-5	16-3
194	57.6	58.2	- .6	[a]79.6	28 - 0	167	245g	Iowa	
							216i	161	
206	59.4	59.8	- .4	85.1	-	173	240i	Shank	S
							244h	86	17-6
221	62.5	61.8	+ .7	99.7	-	179	243i	Shank	S
							255h	85	18 - 5

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
83	44.1	44.0	+ .1	47.8	-	78	76a		P 4/2.3
93	46.0	45.6	+ .4	52.5	10 - 0	89	97a-78	H 10/3	P 6/2.5
105	48.2	47.6	+ .6	56.0	10 - 1	102	101a 112b	H 13/9	P 7/6.5
117	50.0	49.6	+ .4	60.6	11 - 2	116	96c 119b	 A - 6	P 9/10.3
129	51.6	51.5	+ .1	66.8	12 - 4	127	122c 107d	Ch 9/8	P 11/11.5
141	53.0	53.5	- .5	71.2	18 - 0	139	134c 114d	Ch 10/8 A - 6	P 12/39.8
153	54.5	55.5	- 1.0	72.3	22 - 0	150	144c-151 150e	S 14-9	S 12-6
165	56.5	57.4	- .9	80.0	25 - 0	161	157f 178e	S 12 - 7	S 14 - 6
177	58.0	59.4	- 1.4	90.2	25 - 0	167	156f 160h	S 14 - 0	S 13 - 3
189	61.6	61.4	+ .2 [a]	109.4	28 - 0	174	177g 184h	Iowa 70	
201	64.5	63.3	+ 1.2	129.0	28 - 0	181	177g 180i	Iowa 68	Sch 35
213	66.1	65.3	+ .8	136.3	-	197	189i 186h	Shank 44	S 14 - 8

Case No. 2002 M; 7/22/17; NE; B; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
75	46.2	46.3	- .1	46.7	0 - 3		67a		P 2/1.3
87	47.9	48.3	- .4	49.6	6 - 3		86a 86b	H 3/1	P 3/1.8
99	50.7	50.4	+ .3	58.0	10 - 2		94a 110b	H 8/2	P 6/4.5
111	52.9	52.4	+ .5	63.5	12 - 3		94c 114b	 A - 6	P 7/5
123	55.1	54.5	+ .6	70.0	17 - 0		110c 93d	CH 14/7 A-6	P 8/5.3
135	56.7	56.5	+ .2	72.8	21 - 0		116c-115 123d	Ch 15/11 A-7	P 12/27.3
147	58.3	58.6	- .3	79.6	23 - 0		126c 144e	S 11 - 0	S 11 - 8
159	59.9	60.6	- .7	86.7	27 - 0		153f 157e	S 12 - 0	S 12 - 4
171	61.9	62.6	- .7	93.3	28 - 0		152f 167h	S 13 - 4	S 12 - 6
183	64.1	64.7	- .6	[a]103.9	28 - 0		176g 173h	S 14 - 4	S 14 - 10
195	67.4	66.7	+ .7	116.0	28 - 0		199g 183i	Iowa 71	
207	69.3	68.8	+ .5	127.4	-		192i 184h	Shank 58	

[a]Cycle break

Additional data: Stanford Binet -- 11.22-115.

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
83	46.8	46.6	+ .2	50.3	6 - 0		85a		P 4/3.3
95	48.8	48.7	+ .1	54.7	8 - 4		100a	H 8/4.	P 8/7.5
107	51.1	50.7	+ .4	59.1	12 - 0		110a 112b	H 8/4	P 8/8.3
119	53.2	52.7	+ .5	65.3	12 - 0		128c-144 128b		P 7/11.3
131	54.8	54.7	+ .1	69.2	13 - 2		148c 108d	A - 6 Ch 10/6	P 10/11.3
143	56.1	56.8	- .7	75.4	28 - 0		154c 137d	Ch 16/9 A - 5	P 36/35.3
155	58.3	58.8	- .5	82.5	28 - 0		182c-168 151e	S 12 - 11	S 14 - 0
167	59.8	60.8	- 1.0	90.8	28 - 0		170f 180e		
179	61.9	62.8	- .9	[a]101.0	28 - 0		162f 180h		
191	65.3	64.9	+ .4	118.2	28 - 0		180g 188h		
203	68.0	66.9	+ 1.1	136.0	28 - 0		205g 210i		
215	69.2	68.9	+ .3	142.2	-		204i 205h	Shank 27	S 15 - 2

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
66	42.0	41.8	+ .2	39.5			68a		P 2/1
79	44.3	44.0	+ .3	44.1	0 - 0		83a 90b	H 8/4	P 4/2.8
91	46.2	46.0	+ .2	47.4	2 - 3		90a 101b	H 14/8	P 4/8.3
102	48.3	47.9	+ .4	49.6	7 - 0		122c 118b	 A - 5	P 10/9
115	50.2	50.1	+ .1	54.9	12 - 0		130c-141 116d	Ch 9/11 A - 12	P 8/11.5
127	51.9	52.1	- .2	61.1	16 - 0		148c-177 150d	Ch 25/12 A-10	P 30/26.3
139	53.9	54.1	- .2	66.4	20 - 0		160c 167e	S 13 - 3	S 11 - 10
151	55.6	56.1	- .5	71.4	22 - 0		176f 171e	S 15 - 5	S 13 - 6
163	56.9	58.2	- 1.3	77.2	26 - 0		172f 175h	S 15 - 9	 13 - 3
175	59.0	60.2	- 1.2	[a]86.0	28 - 0		209g 176h	Iowa 80	
187	62.4	62.2	+ .2	98.6	28 - 0		204g 204i	Iowa 97	Sch 44
199	66.3	64.2	+ 2.1	115.3	-		207i 223h	Shank 68	S 14 - 10

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
68	43.4	43.2	+ .2	40.8	0 - 0		65a		P 0/1.3
80	45.7	45.2	+ .5	45.6	1 - 3		76a	H 3/0	P 2/2.5
							76b		
92	47.4	47.2	+ .2	48.7	8 - 1		85a	H 2/0	P 4/4
							102b		
104	49.3	49.2	+ .1	54.5	11 - 1		100c		P 7/8
							112b	A - 5	
116	51.1	51.1	.0	57.3	-		114c	Ch 8/8	P 11/9.5
							101d	A - 8	
128	53.1	53.1	.0	64.8	12 - 0		144c	Ch 13/9	P 14/21.3
							126d	A - 7	
140	54.7	55.1	- .4	69.2	15 - 0		130c-124	S	S
							132e	11 - 2	11 - 11
152	56.5	57.1	- .6	74.5	21 - 0		150f	S	S
							153e	12 - 3	12 - 1
164	57.8	59.1	- 1.2	79.8	26 - 0		153f	S	S
							159h	11 - 4	12 - 11
176	60.0	61.1	- 1.1 ___[a]	88.4	28 - 0		169g	Iowa	
							180h	51	
188	63.6	63.1	+ .5	103.6	28 - 0		194g	Iowa	
							201i	85	
200	67.0	65.1	+ 1.9	123.3			186i	Shank	S
							171h	66	12 - 10

[a]Cycle break Additional data: Stanford Binet--11.72-124.

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
80	48.9	49.2	- .3	75.4	2 - 3			H 9/10	P 5/7
92	51.1	51.3	- .2	58.9	10 - 0		115a 116b	H 19/11	P 3/9.3
104	53.7	53.3	+ .4	64.4	8 - 4		110c 126b	 A - 6	P 10/8
116	55.9	55.4	+ .4	70.8	12 - 2		144c 134d	Ch 11/9	P 10/11.5
128	57.7	57.5	+ .2	75.0	20 - 0		152c 161d	Ch 15/9 A - 7	P 26/33.5
140	59.8	59.6	+ .2	85.1	23 - 0		180c-153 176e	S 13 - 9	S 12 - 3
152	61.7	61.6	+ .1	90.0	25 - 0		159f 198e	S 14 - 8	S 15 - 10
164	63.0	63.7	- .7	99.2	27 - 0		167f 182h	S 15 - 5	S 15 - 0
176	64.6	65.8	- 1.2	[a] 107.4	28 - 0		184g 209h	Iowa 79	Sch 26
188	67.9	67.9	.0	126.1	28 - 0		220g 207i	Iowa 99	
201	71.1	70.1	+ 1.0	145.5	-		222i 231h		S 15 - 2

[a] Cycle break
[b] Refer to Index

Additional data: Stanford Binet-- 11.78-153.
Regression equation-- .17294 T + 35.35

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
75	46.7	47.1	- .4	49.6	-	66	70a		p 3/1.5
84	48.6	48.5	+ .1	57.3	4 - 3	77	85a-96		P 4/2.5
97	51.1	50.7	+ .4	64.4	6 - 4	90	105a 125b	H 16/7	P 6/5.3
109	53.2	52.6	+ .6	70.6	11 - 1	102	112c 123b	A - 3	P 10/8.3
121	55.0	54.6	+ .4	75.9	12 - 0	113	154c 125d	Ch 10/16	P 10/12
133	56.4	56.6	- .2	83.3	18 - 0	125	146c 146d	Ch 11/12 A -9	P 14/32.8
145	58.3	58.5	- .2	90.0	23 - 0	138	186c-177 194e	S 15 - 3	S 12 - 7
156	59.5	60.3	- .8	92.8	27 - 0	149	191f 200e	S 15 - 6	S 14 - 1
169	61.7	62.5	- .8	104.3	28 - 0	157	204f 141a-178		
181	63.7	64.4	- .7	118.0[a]	28 - 0	165	222g 200h		
193	67.2	66.4	+ .8	139.4	28 - 0	179	220g 207i		
205	69.3	68.4	+ .9	156.6	-	188	240i 232h		
220	70.7	70.8	- .1	166.5	-	201	252i 233h	Shank 91	S 17 - 2

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
76	42.8	43.2	- .5	39.9	4 - 0		60a		P 3/1.8
89	45.1	45.1	.0	44.3	4 - 2		81a-98	H 4/2	P 3/1.8
							85b		
101	47.0	46.9	+ .1	49.8	6 - 6		103a		P 10/6
							108b	H 12/6	
113	49.0	48.7	+ .3	54.0	12 - 1		108c		P 10/9.3
							102b	A - 3	
125	51.1	50.5	+ .6	58.7	16 - 0		104c	Ch 0/6	P 11/12.8
							110d	A - 7	
137	52.6	52.2	+ .4	62.4	25 - 0		144c-127	Ch 7/13	P 26/46
							137d	A - 7	
149	54.0	54.0	.0	68.4	28 - 0		168c	S	S
							154e	13 - 0	14 - 0
161	55.7	55.8	- .1	75.2	28 - 0		164f	S	S
							168e	13 - 9	15 - 2
173	56.9	57.6	- .7	80.5	28 - 0		173f	S	S
							170h	14 - 4	16 - 0
185	58.3	59.3	- 1.0 [a]	86.2	28 - 0		176g	Iowa	
							179h	57	
197	60.7	61.1	- .4	98.1	28 - 0		203g	Iowa	
							195i	74	
209	64.2	62.9	+ 1.3	110.7	-		207i	Shank	S
							194h	46	17 - 6

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet-- 7.83-98; 11.54-127.
Regression equation-- .14803 T + 31.96

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement [b] Read.	Arith.
82	43.4	42.9	+ .5	42.6	0 - 1	68	86a		P 3/3.5
93	45.2	44.8	+ .4	48.1	8 - 1	79	96a	H 5/4	P 4/5.3
106	47.3	47.1	+ .2	51.6	10 - 2	91	132a 118b	H 18/18	P 10/9
118	49.4	49.2	+ .2	56.0	10 - 3	106	126c 128b		P 12/9
130	51.3	51.4	- .1	61.3	-	119	-	A - 6 Ch 7/9	P 14/12.8
141	52.8	53.3	- .5	69.7	14 - 0	133	148c 122d	Ch 11/14 A - 8	P 78/55.3
154	55.1	55.6	- .5	75.0	19 - 0	147	136c-169 177e	S 12 - 6	S 16 - 0
165	56.8	57.6	- .8	84.2	23 - 0	-	169f 169e	S 13 - 3	S 15 - 4
177	58.7	59.7	- 1.0 [a]	91.7	27 - 0	158	180f 195h	S 15 - 0	S 15 - 10
189	61.4	61.8	- .4	99.4	28 - 0	171	175g 192h	Iowa 77	
202	65.1	64.1	+ 1.0	118.8	28 - 0	184	194g 186i	Iowa 95	
214	67.4	66.3	+ 1.1	127.2	-	195	168i 199h	Shank 19	S 14-10

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 12.75-169.
Regression equation -- .17724 T + 28.33

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
72	42.9	43.1	- .2	38.6	2 - 0	55	83a-98		
81	45.0	44.7	+ .3	41.2	2 - 4	71	87a-100		P 2/3
94	46.8	46.9	- .1	46.3	6 - 4	82	117a-108 110b	H 12/12	P 8/7.3
106	49.3	49.0	+ .3	49.8	10 - 2	94	-126		
118	51.1	51.1	.0	54.7	12 - 2	107	142c 110d	Ch 8/10	P 11/9.8
130	53.5	53.2	+ .3	59.8	19 - 0	120	130c-142 122d	Ch 9/9 A - 9	P 14/3.8
142	55.4	55.3	+ .1	66.6	24 - 0	134	178c-151 168e	S 12 - 0	S 11 - 10
153	56.9	57.2	- .3	71.2	28 - 0	143	162f 180e	S 11 - 9	S 12 - 11
165	58.8	59.3	- .5	77.6	28 - 0	156	188f 180h	S 14 - 2	S 12 - 11
177	60.6	61.3	- .7 [a]	84.2	28 - 0	165	186g 186h	Iowa 83	
189	63.3	63.4	- .1	97.0	28 - 0	174	234g-195 195i	Iowa 102	
201	66.5	65.5	+ 1.0	115.5	-	185	207i 202h	Shank 63	

[a] Cycle break

[b] Refer to Indes

Additional data: Stanford Binet--6.26-98; 7.00-100; 7.96-108; 9.09-126; 11.17-142; 11.99-151; 15.32-195.

Regression equation-- .17366 T + 30.61

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
78	43.5	43.9	- .4	49.8	4 - 0		66a		P 5/1.5
88	45.4	45.4	.0	54.2	10 - 0		95a-76		P 2/1.8
100	47.7	47.3	+ .4	61.7	12 - 0		97a	H 7/1	P 6/5.3
							101b		
113	49.4	49.3	+ .1	67.3			94c	A - 1	P 5/5.3
							108b		
124							104c	Ch 2/3	P 10/10
							99d		
137	53.3	53.1	+ .2	89.1	26 - 0		116c	Ch 6/8	P 0/21.3
							99d	A - 3	
148	54.9	54.8	+ .1	95.0	28 - 0		132c		
							133e		
160	56.5	56.6	- .1	103.9	28 - 0		149f-136	S	S
							142e	11 - 0	12 - 11
172	58.1	58.5	- .4	115.8	28 - 0		139f	S	S
							136h	12 - 0	13 - 7
184	60.0	60.4	- .4	123.0	28 - 0		146g	S	S
				[a]			150h	10 - 9	11 - 7
196	62.9	62.3	+ .6	124.1	28 - 0		151g	S	S
							150i	11 - 9	13 - 3
208	64.0	64.1	- .1	131.9	-		162i	Shank	S
							159h	11	15 - 4

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet-- 7.21-76; 12.92-136.
Regression equation-- .15583 T + 31.71

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
80	43.6	43.5	+ .1	44.8	1 - 3		62a		P 2/.5
92	46.1	45.6	+ .5	49.2	6 - 0		80a	H 1/2	P 3/4
							90b		
104	48.0	47.8	+ .2	54.5	10 - 1		88a	H 7/4	
							106b		
116	50.2	49.9	+ .3	60.0	10 - 3		100c		P 4/6.8
							98b	A - 4	
128	52.1	52.0	+ .1	65.9	17 - 0		104c	Ch 3/1	P 9/10.5
							104d	A - 6	
140	54.0	54.2	- .2	69.5	17 - 0		122c-108	Ch 7/10	P 14/37.5
							125d	A - 6	
152	55.9	56.3	- .4	76.7	24 - 0		148c	S	S
							135e	10 - 11	12 - 1
164	57.6	58.5	- .9	85.8	27 - 0		165f	S	S
							157e	11 - 8	12 - 4
176	59.2	60.6	- 1.4 [a]	90.4	28 - 0		155f	S	S
							167h	12 - 2	13 - 8
188	62.2	62.7	- .5	109.1	28 - 0		166g	Iowa	Sch
							170h	43	32
200	65.8	64.9	+ .9	123.0	28 - 0		-	Iowa	S
							-	48	8 - 6
212	68.3	67.0	+ 1.3	138.0	-		195i	Shank	
							187h	13	

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 11.64-108.
Regression equation -- .17824 T + 29.23

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
78	46.1	45.9	+ .2	42.6	0 - 0		61a		P 1/.5
90	48.3	47.8	+ .5	46.5	5 - 1		89a	H 2/0	P2/1.8
							76b		
102	50.2	49.7	+ .5	50.3	8 - 2		90a	H 14/7	P 6/5
							89b		
114	51.8	51.7	+ .1	53.6	10 - 2		96c		P 6/6.5
							114b	A - 0	
126	53.3	53.6	- .3	56.2	12 - 0		108c	Ch 1/5	P 3/4.3
							99d	A - 3	
138	55.4	55.5	- .1	61.5	17 - 0		152c-183	Ch 11/11	P 26/17.8
							119d	A - 0	
150	56.7	57.4	- .7	65.3	22 - 0		162c	S	S
							139e	11 - 1	10 - 6
162	58.3	59.3	- 1.0	73.4	27 - 0		143f	S	S
							159e	11 - 3	11 - 5
174	60.1	61.2	- 1.1 [a]	79.4	27 - 0		155f	S	S
							148h	12 - 5	13 - 1
187	63.5	63.3	+ .2	91.9	28 - 0		167g	S	S
							171h	12 - 11	12 - 4
198	66.1	65.0	+ 1.1	99.7	28 - 0		154g	Iowa	Sch
							165i	29	23
210	67.5	66.9	+ .6	110.0	-		168i	Shank	S
							176h	48	13 - 3

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet--11.66-133;
Regression equation-- .15891 T + 33.54

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
83	41.7	41.9	- .2	40.6	1 - 4		69a		P 1/3
96	43.9	43.7	+ .2	45.2	6 - 4		91		
108	45.7	45.4	+ .3	46.5	10 - 1		87a	H 3/0	P 5/3.3
							94b		
120	47.5	47.0	+ .5	51.2	11 - 1		88c		P 3/3.5
							89b	A - 1	
132	48.9	48.7	+ .2	55.6	18 - 0		92c	Ch 3/1	P 3/3
							92d	A - 5	
144	50.4	50.4	.0	59.5	20 - 0		96c	Ch 5/4	P 14/21.8
							102d	A - 3	
156	51.8	52.0	- .2	66.6	22 - 0		112c-115	S	S
							116e	9 - 8	11 - 1
168	53.2	53.7	- .5	69.2	27 - 0		132f	S	S
							130e	9 - 4	10 - 8
180	54.5	55.3	- .8	77.4	27 - 0		133f	S	S
							124h	9 - 11	10 - 9
192	55.9	57.0	- 1.1 [a]	82.9	27 - 0		120g	S	S
							130h	10 - 0	10 - 7
204	58.8	58.6	+ .2	93.7	28 - 0		113g	S	S
							147i	10 - 6	10 - 7
216	61.8	60.3	+ 1.5	108.9	-				

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet-- 8.42-91; 13.01-115.
Regression equation-- .13822 T + 30.45

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
77	44.3	44.4	- .1	42.3	4 - 2		73a		P 2/0
89	46.6	46.4	+ .2	47.4	6 - 4		85a 95b	H 5/1	P 3/1
101	48.8	48.3	+ .5	51.8	12 - 0		96a 106b	H 10/7	P 7/4.8
113	50.5	50.2	+ .3	56.2	14 - 1		122c 114b	 A - 6	P 7/8.5
125	52.4	52.1	+ .3	62.8	22 - 0		114c 105d	Ch 9/9 A - 9	P 10/9.5
137	53.9	54.0	- .1	65.0	28 - 0		144c-134 139d	Ch 14/12 A - 8	P 10/27
149	55.5	56.0	- .5	69.9	28 - 0		154c 155e	S 13 - 2	S 11 - 8
161	57.1	57.9	- .8	76.7	27 - 0		154f 169e	S 13 - 5	S 12 - 5
173	58.7	59.8	- 1.1	84.5	28 - 0		152f 156h	S 14 -11	S 13 - 4
185	61.3	61.7	- .4[a]	94.6	28 - 0		169g 165h	Iowa 71	Sch 41
197	64.4	63.6	+ .8	108.7	28 - 0		171g 186i	Iowa 100	
209	66.5	65.5	+ 1.0	122.2	-		198i 170h	Shank 61	S 14 - 6

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet -- 11.57-134.
Regression equation -- .15984 T + 32.14

Case No. 2868 M; 12/24/16; NE; M; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
73	44.8	45.6	- .8	45.0	1 - 0	64	72a		P 2/3
83	46.9	47.4	- .5	50.1	-	78	86a		P 5/3.8
95	49.6	49.5	+ .1	54.5	8 - 0	90	97a 105b	H 7/3	P 8/6.8
107	52.1	51.7	+ .4	61.3	13 - 2	102	98c 111b	 A-2	P 10/7.5
119	54.6	53.8	+ .8	66.6	17 - 1	120	116c 105d	Ch 5/5	P 8/5
131	56.6	56.0	+ .6	72.3	22 - 0	128	164c 129d	Ch 8/10 A - 6	P 6/33
143	58.7	58.1	+ .6	76.7	27 - 0	136	168c 138e	S 11 - 2	S 12 - 7
155	60.6	60.2	+ .4	82.9	28 - 0	144	149e-143 151c	S 12 - 3	S 12 - 0
167	62.0	62.4	- .4	91.7	28 - 0	156	150f 157H	S 13 - 0	S 12 - 2
179	63.4	64.5	- 1.1	125.2	28 - 0	166	172g 184h	S 14 - 10	S 14 - 1
191	66.0	66.6	- .6	[a] 109.8	28 - 0	174	202g 201i	Iowa 80	Sch 41
203	69.3	68.8	+ .5	130.8	-	187	192i 183h	Shank 40	S 13 - 7
218	71.4	71.4	.0	145.1	-	198	210i 193h	Shank 54	S 14 - 6

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet--12.46-143.
Regression equation -- .17796 T + 32.64

Case No. 3091 M; 3/21/17; NE; B;

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
78	45.6	45.2	+ .4	45.2	0 - 2				
91	47.8	47.1	+ .7	53.6	4 - 2		88a-100	H 2/0	P 3/3.5
							88b		
115	50.6	50.8	- .2	60.9	10 - 2		88c		P 6/5.3
							99b	A - 1	
127	52.6	52.6	.0	68.6	15 - 0		100c-108	Ch 2/2	P 9/8
							104d	A - 4	
139	54.2	54.5	- .3	73.9	13 - 0		114c-131	Ch 10/8	P 6/10.8
								A - 1	
151	55.9	56.3	- .4	80.0	19 - 0		126c-136	S	S
							130e	9 - 11	10 - 9
163	57.2	58.1	- .9	86.0	28 - 0		143f	S	S
							133e	10 - 1	11 - 2
175	59.1	59.9	- .8 [a]	92.8	28 - 0		137f	S	S
							143h	11 - 0	11 - 2
187	61.3	61.8	- .5	101.9	28 - 0		132g	S	S
							168h	11 - 2	11 - 4
199	64.6	63.6	+ 1.0	119.7	28 - 0		137g	Iowa	Sch
							153i	41	17
211	66.4	65.4	+ 1.0	133.6	-		171i	Shank	S
							169h	30	11 - 9

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet-- 7.99-100; 10.98-108; 12.19-131; 12.79-136.

Regression equation -- .15225T + 33.29

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
82	45.3	45.2	- .1	46.1	4 - 0	63	80a		P 4/5.8
92	47.4	47.1	+ .3	49.8	6 - 0	74	110a		P 9/9
104	49.3	49.1	+ .2	54.9	10 - 1	88	107a 127b	H 15/18	P 12/11.8
116	51.4	51.1	+ .3	60.2	13 - 2	101	124c 139b	 A - 11	P 13/11.5
128	53.4	53.1	+ .3	65.3	14 - 3	114	150c 154d	Ch 12/14	P 15/12.8
140	55.1	55.1	.0	70.8	22 - 0	126	186c 171d	Ch 17/17 A - 7	P 62/50.3
152	56.4	57.1	- .7	76.3	27 - 0	137	196c 185e	S 15 - 7	S 17 - 8
163	58.0	59.0	- 1.0	82.9	28 - 0	148	188f-194 191e	S 15 - 11	S 17 - 1
176	60.2	61.1	- .9	91.3	28 - 0	161	208f 198h	Iowa 114	
[a]									
188	63.3	63.2	+ .1	107.4	28 - 0	172	213g 219h	Iowa 148	
200	66.6	65.2	+ 1.4	121.3	28 - 0	183	237g 234i		

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet--13.51-194.
Regression equation-- .16747 T + 31.67

Case No. 3272 M; 11/11/17; NE; B; V

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
71	43.6	43.9	- .3	38.6	0 - 0		61a		P 2/1
83	45.8	45.8	.0	54.2	0 - 1		88a-90 110b	H 4/4	P 3/2.5
95	47.9	47.8	+ .1	48.3	2 - 5		90a 102b	H 9/14	P 8/7
107	50.2	49.8	+ .4	51.2	8 - 4		108c 113b	 A - 8	P 9/7.8
119	52.2	51.8	+ .4	56.0	12 - 0		128c 116d	Ch 18/9 A - 11	P 12/11.3
131	54.0	53.8	+ .2	59.5	13 - 0		164c-146 134d	Ch 20/11	P 52/49
143	55.6	55.8	- .2	64.4	18 - 0		166c 176e	S 14 - 7	S 14 - 3
155	57.6	57.8	- .2	69.2	-		180f 212e	S 15 - 1	S 14 - 8
167	59.3	59.8	- .5	80.0	24 - 0		182f 177h		
179	60.9	61.7	- .8[a]	79.2	27 - 0		208g 198h		
191	63.6	63.7	- .1	92.4	28 - 0		231g 213i	Iowa 136	Sch 57
203	66.7	65.7	+ 1.0	105.4	-		219i 193h	Shank 80	S 15 - 9

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 7.35-90; 10.97-146.
Regression equation-- .16568 T + 32.09

Case No. 3279 M; 6/8/16; NE; M; III

Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
78	44.9	45.2	- .3	44.1	2 - 0	50	62a		
89	46.9	47.0	- .1	47.2	6 - 0	64	86a-82		P 3/4
101	49.3	48.9	+ .4	49.6	6 - 5	77	97a 94b	H 7/8	P 8/4.5
114	51.2	51.0	+ .1	57.8	11 - 3	89	96c 114b	A - 4	P 7/8.8
125	53.1	52.8	+ .3	63.5	14 - 1	102		Ch 6/8	P 10/8.8
137	55.3	54.7	+ .6	67.3	22 - 0	111	102d 120c 123d	Ch 10/9 A - 5	P 20/35.3
149	56.7	56.6	+ .1	71.0	28 - 0	120	136c-138 137e	S 11 - 8	S 12 - 3
161	58.0	58.6	- .6	76.5	28 - 0	133	156f 150e	S 12 - 0	S 13 - 5
173	60.0	60.5	- .5	82.2	28 - 0	144	168f 164h	S 12 - 8	S 13 - 3
186	61.5	62.6	- 1.1	90.8	28 - 0	156	178g 163h	Iowa 73	
197	64.1	64.4	- .3 ——[a]	101.9	28 - 0	168	215g 186i	Iowa 87	Sch 30
209	67.7	66.3	+ 1.4	125.5	-	181	201i 219h	Shank 52	S 13 - 9

[a]Cycle break

[b]Refer to Index

Additional data: Stanford Binet -- 7.00-82; 12.66 - 138.
Regression equation-- .16092 T + 32.67

Case No. 3291 M; 12/1/17; NE; B;

Age	Height	Computed Height	Height Deviation	Weight	No. of Perm. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
70	43.7	43.7	.0	40.8	0 - 1		64a		P 2/1.5
94	48.5	48.1	+ .4	50.1	4 - 6		93a	H 7/5	P 6/2.8
							101b		
106	50.4	50.2	+ .2	56.2	10 - 3		124c		P 11/7.8
							109b	A - 7	
119	52.8	52.6	+ .2	61.5	19 - 0		142c115	CH 9/9	P 12/7.3
							113d	A - 11	
130	54.5	54.6	- .1	66.6	24 - 0		140c-132	Ch 16/12	P 20/23.3
							139d	A - 11	
142	56.7	56.8	- .1	75.6	28 - 0		154c	S	S
							159e	13 - 8	11 - 3
154	58.4	58.9	- .5	82.7	28 - 0		163f		
							176e		
167	60.5	61.3	- .8	90.4	28 - 0		171f		
							167h		
179	62.6	63.5	- .9[a]	99.4	28 - 0		187g	S	S
							191h	16 - 5	15 - 8
190	66.1	65.5	+ .6	116	28 - 0		203g		
							210i		
203	68.8	67.8	+ 1.0	131.9			216i		
							206h		

[a]Cycle break
[b]Refer to Index

Additional data: Stanford Binet-- 10.41-115; 10.91-132.
Regression equation-- .18139 T + 31.01

Case No. 3332 M; 3/28/1918; It; B;

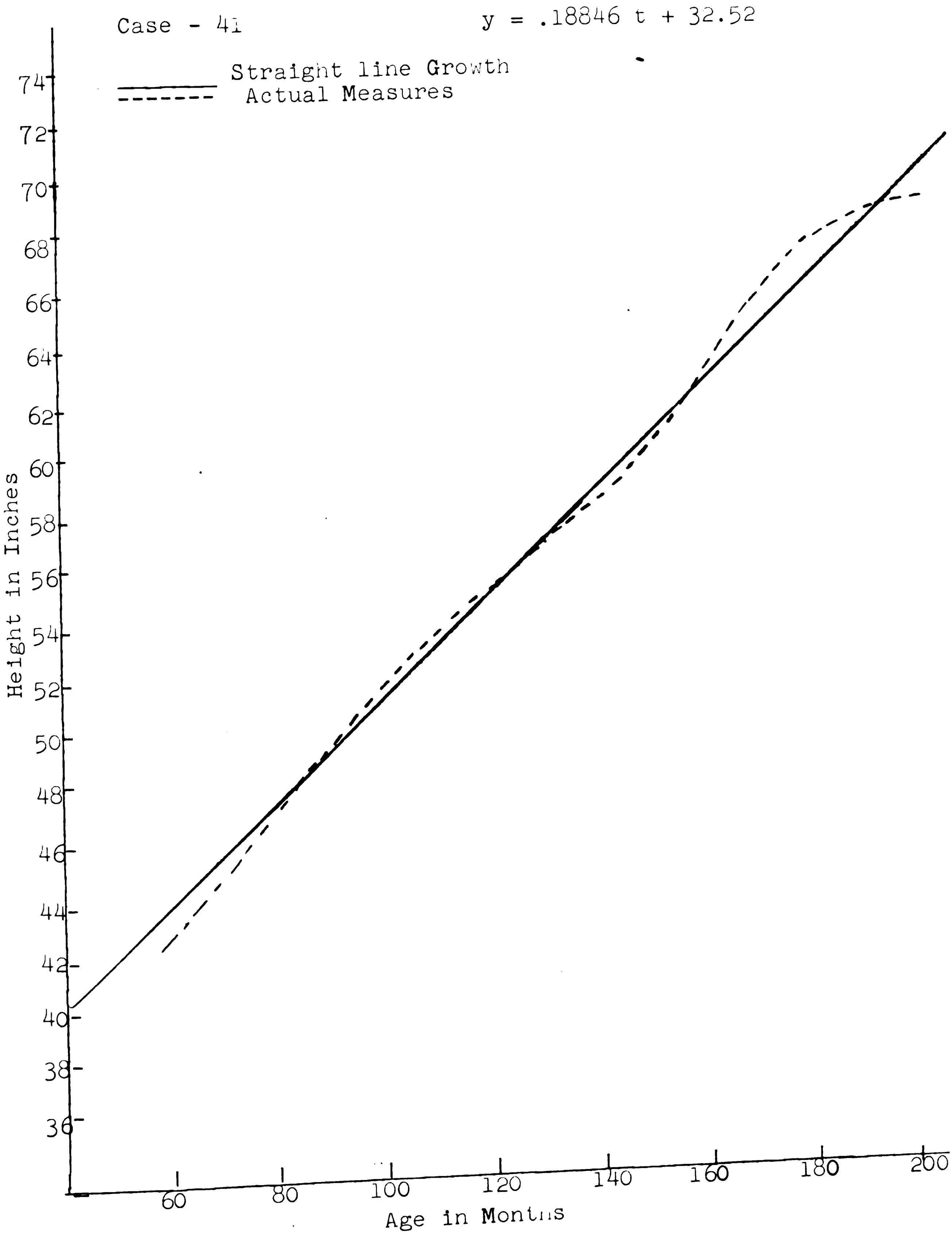
Age	Height	Computed Height	Height Deviation	Weight	No. of Prem. Erupted Teeth	Skeleton Age	Mental Age	Achievement[b] Read.	Achievement[b] Arith.
66	41.4	41.5	- .1	39.5	0 - 0		61a		P 0/.3
78	43.2	43.1	+ .1	42.6	0 - 2		72a 74b	H 2/0	P 3/1.5
91	44.8	44.9	- .1	57.3	6 - 2		73a 96b	H 6/2	P 5/2
102	46.6	46.5	+ .1	50.7	8 - 2		84c 98b	 A - 2	P 1/3.5
115	48.5	48.3	+ .2	55.8	12 - 0		108c 101d	Ch 3/0 A - 2	P 6/9.5
127	50.0	49.9	+ .1	58.9	12 - 0		122c 117d-120	Ch 3/4 A - 3	P 6/24.5
139	51.7	51.6	+ .1	63.9	15 - 0		154c 131e	S 11 - 2	S 12 - 5
151	53.2	53.3	- .1	66.2	21 - 0		156f 176e	S 12 - 3	S 15 - 2
163	54.6	54.9	- .3	73.0	27 - 0		167f 151h	 13 - 2	 14 - 2
175	56.4	56.6	- .2	78.5	28 - 0		169g 183h	 14 - 6	 14 - 1
187	57.6	58.3	- .7 [a]	84.9	28 - 0		190g 186i	Iowa 64	
199	60.8	59.9	+ .9	103.6	-		189i 184h	Shank 27	S 14 - 4

[a]Cycle break
[b]Refer to Index

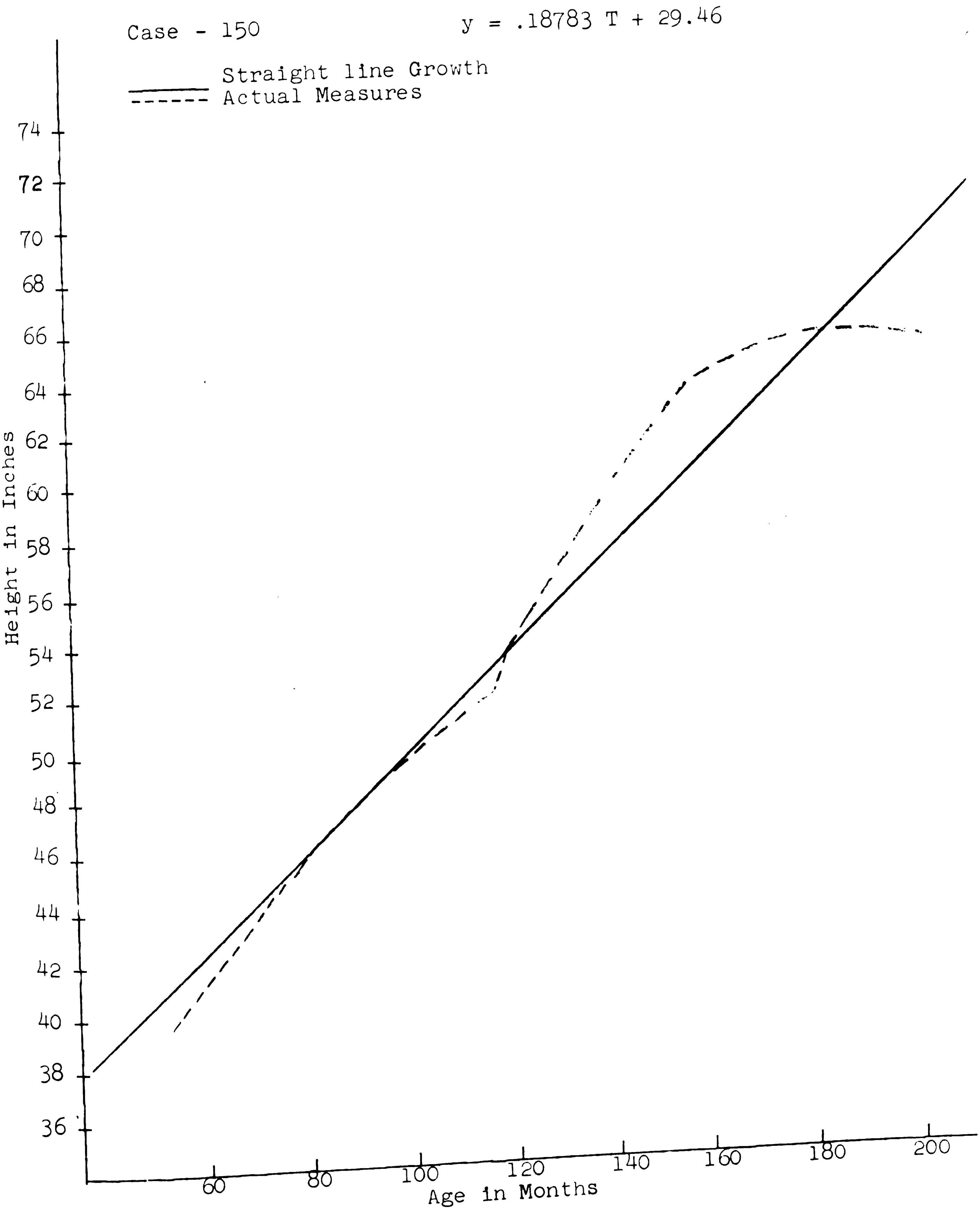
Additional data: Stanford Binet--10.60-120;
Regression equation -- .13883 T + 32.30

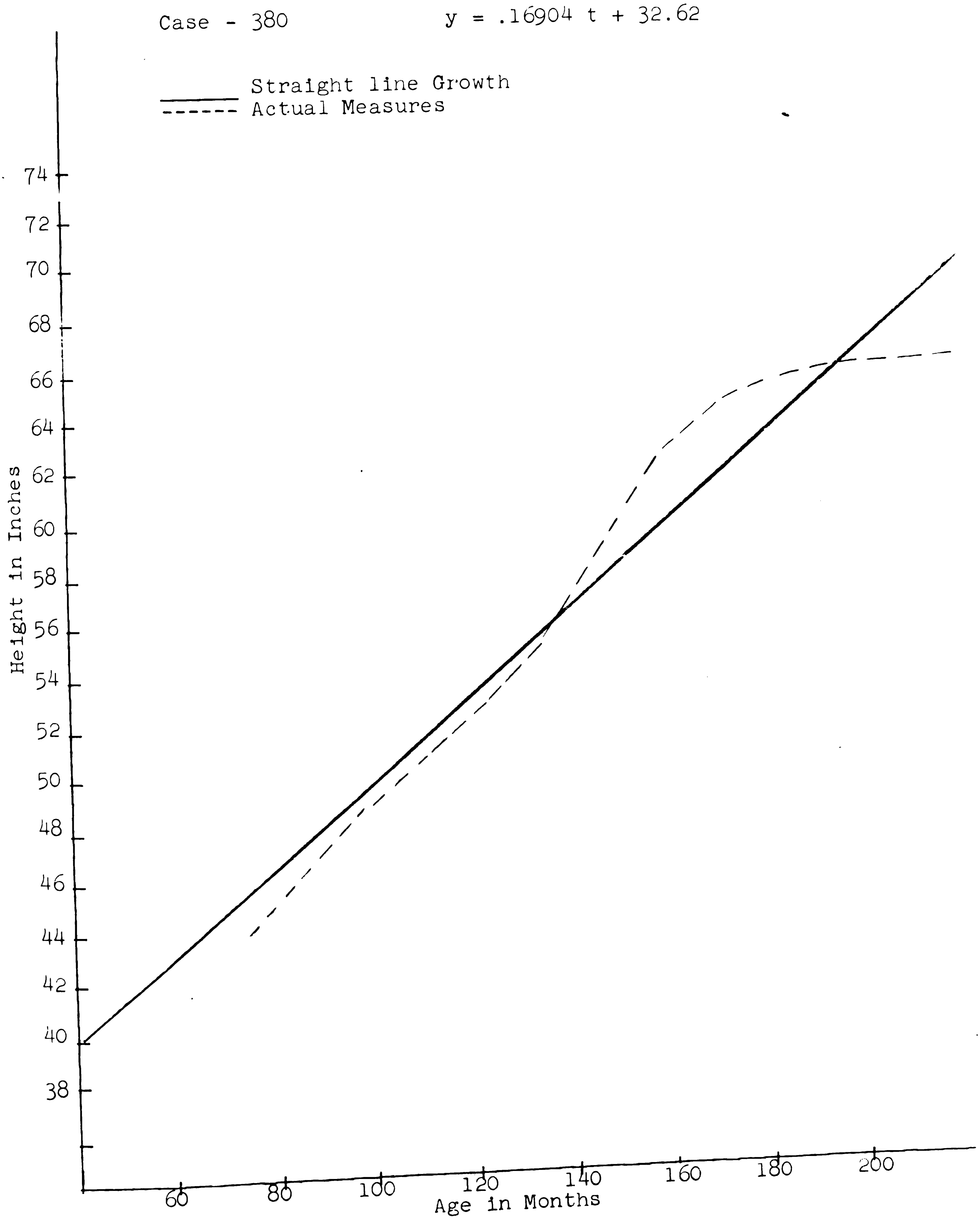
APPENDIX C

GRAPHIC ANALYSIS OF EARLY MATURERS

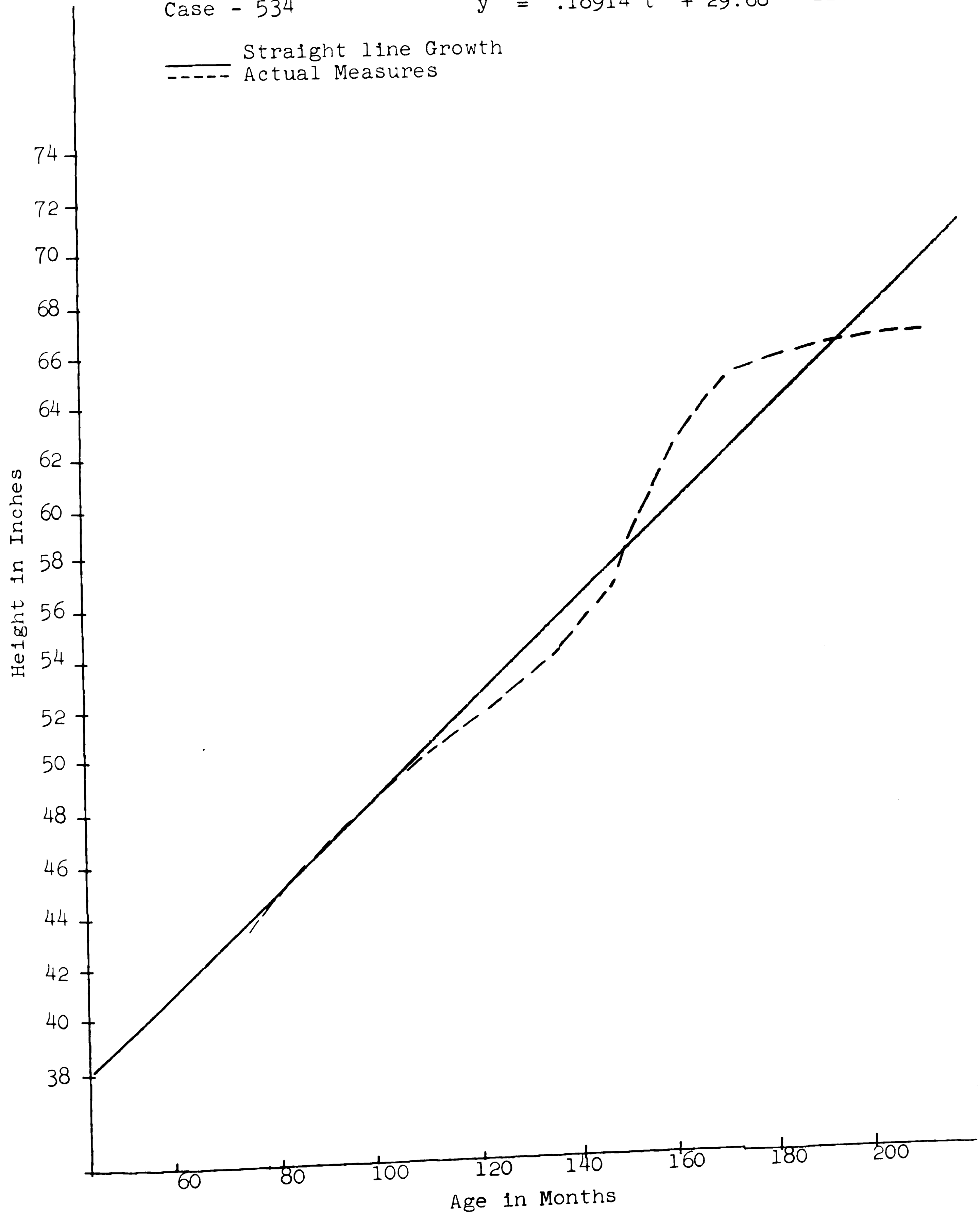


Case - 41
y = .18846 t + 32.52
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
60
80
100
120
140
160
180
200
Age in Months

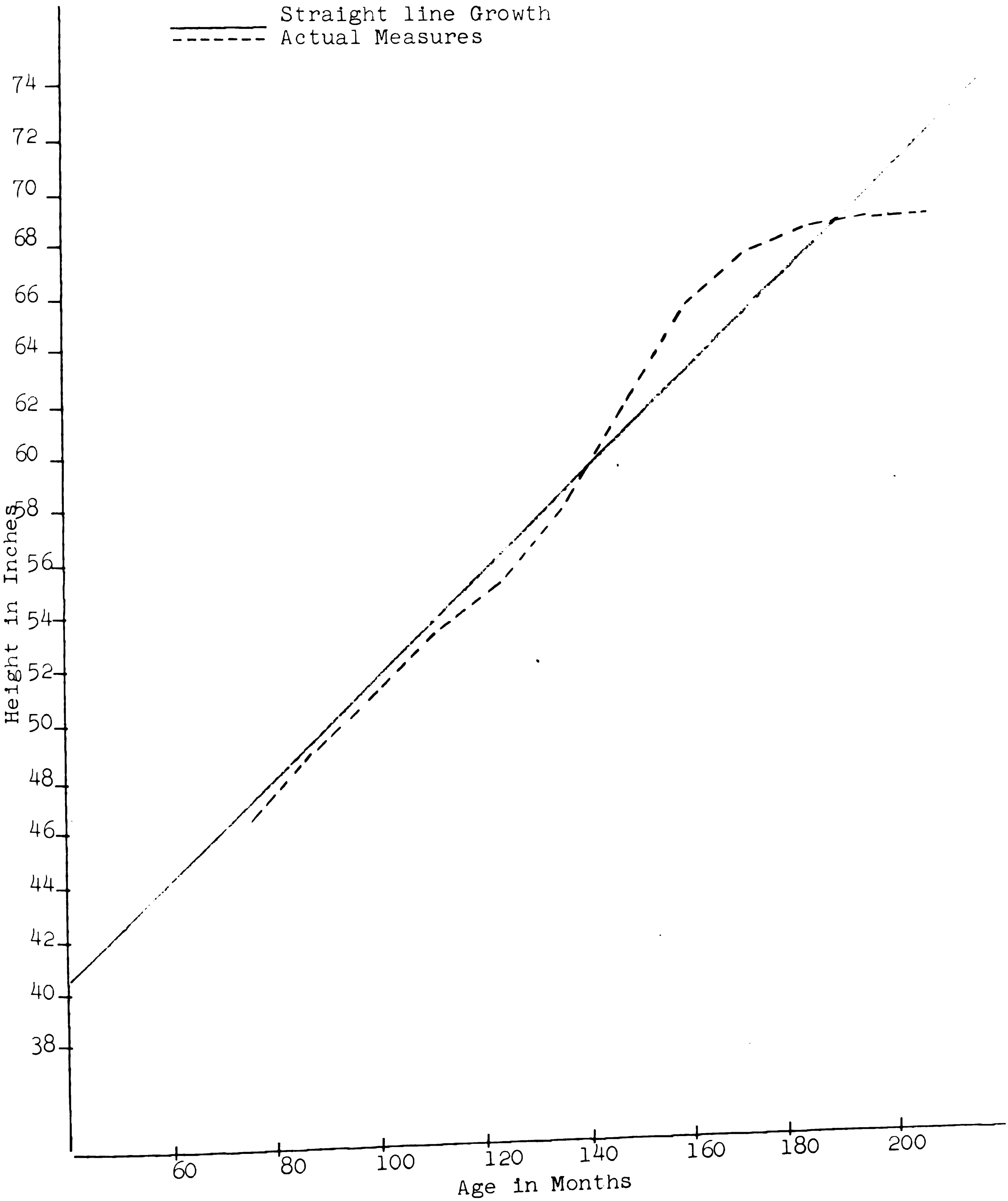

Case - 150
y = .18783 T + 29.46
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

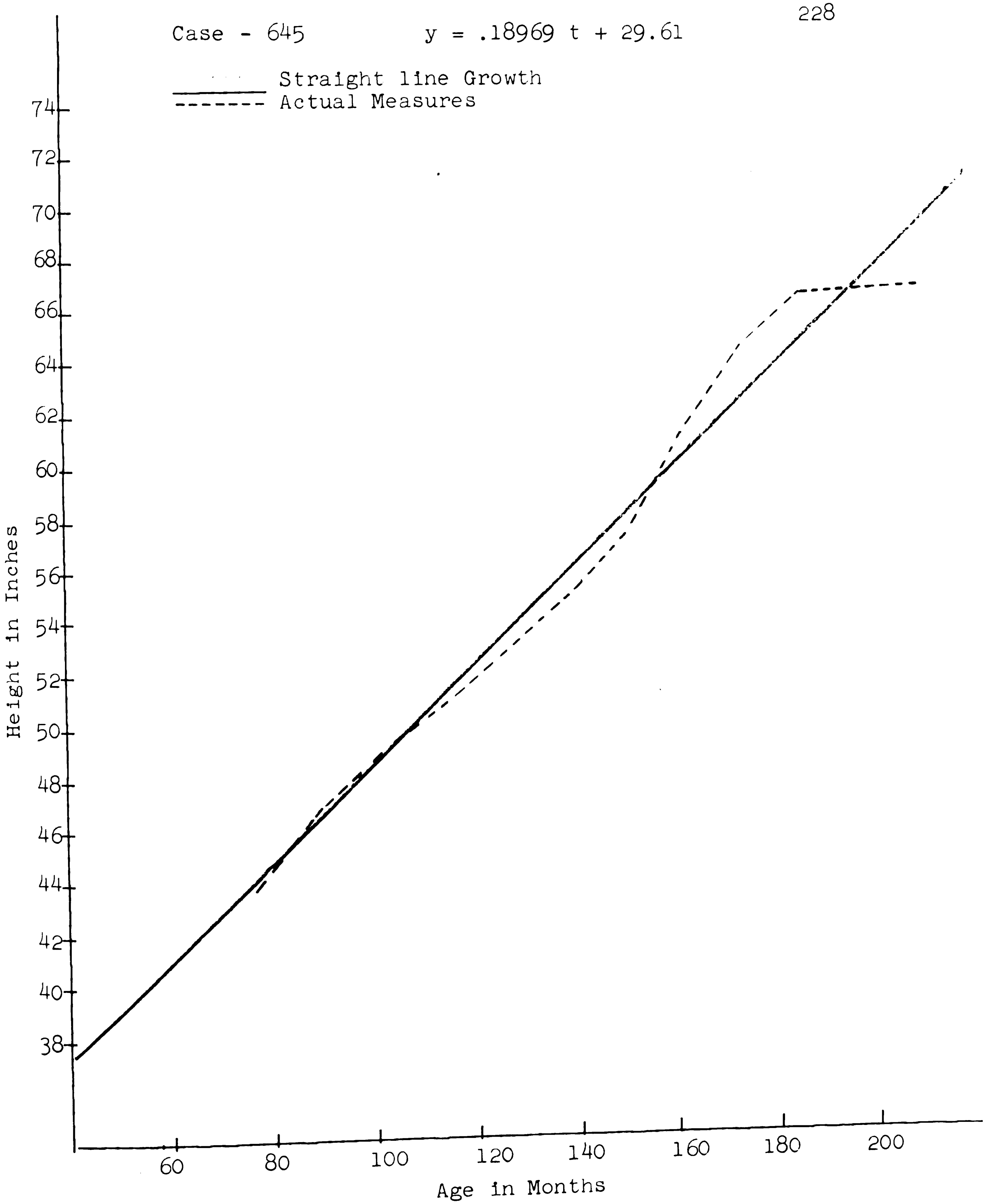

Case - 380
y = .16904 t + 32.62
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

Case - 534 $y = .18914\,t + 29.68$

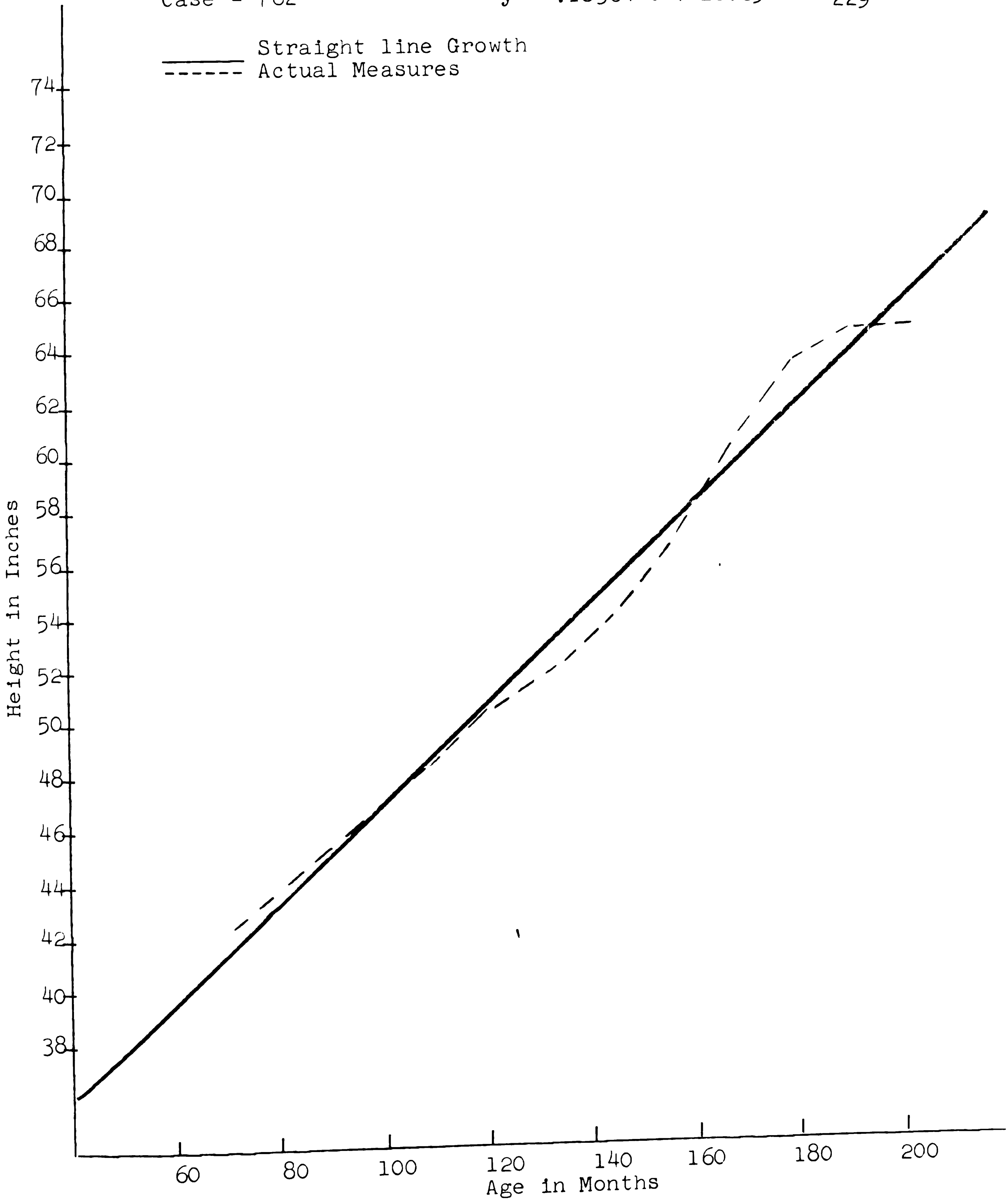


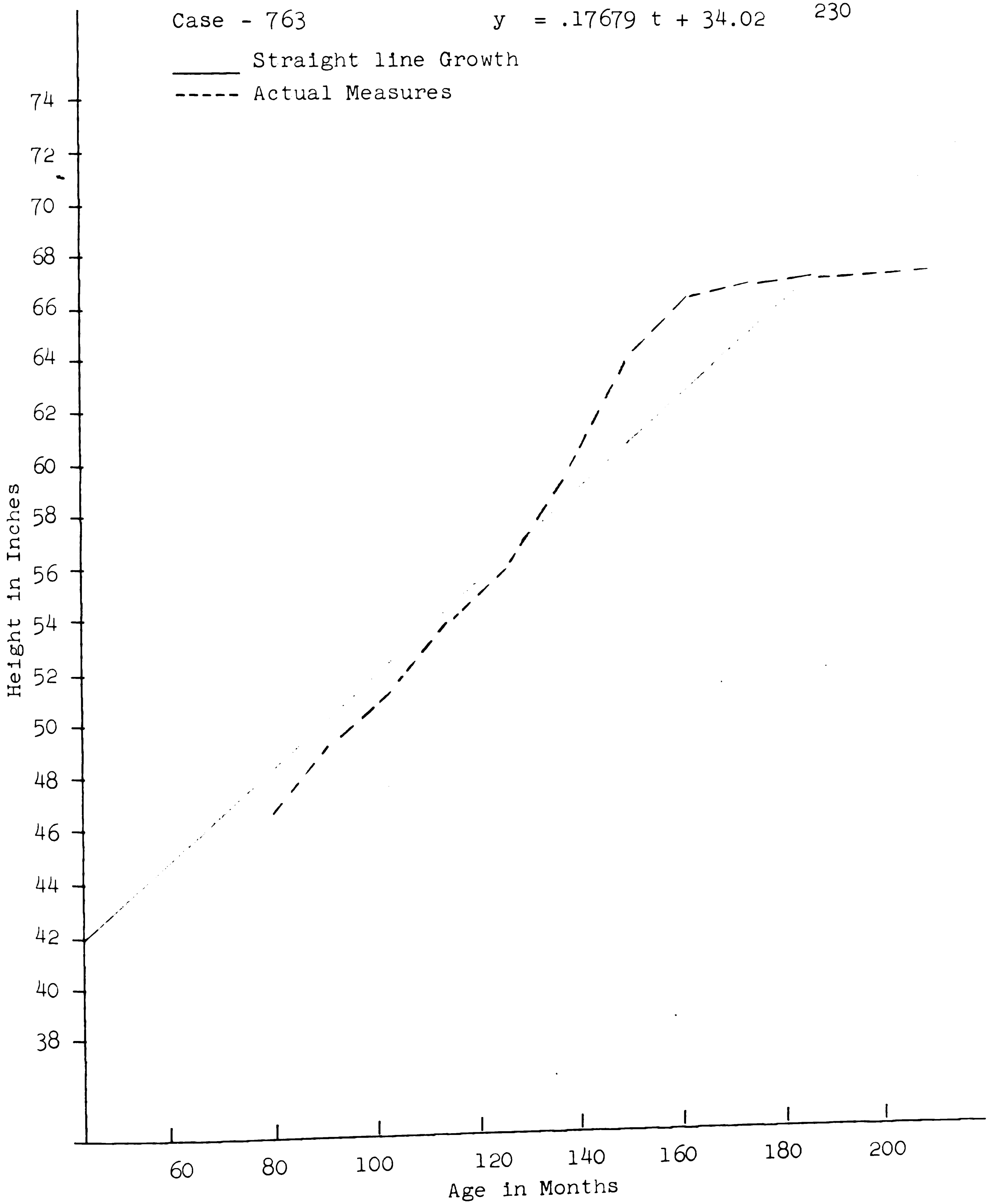
Case - 606   y = .18953 5 + 32.96

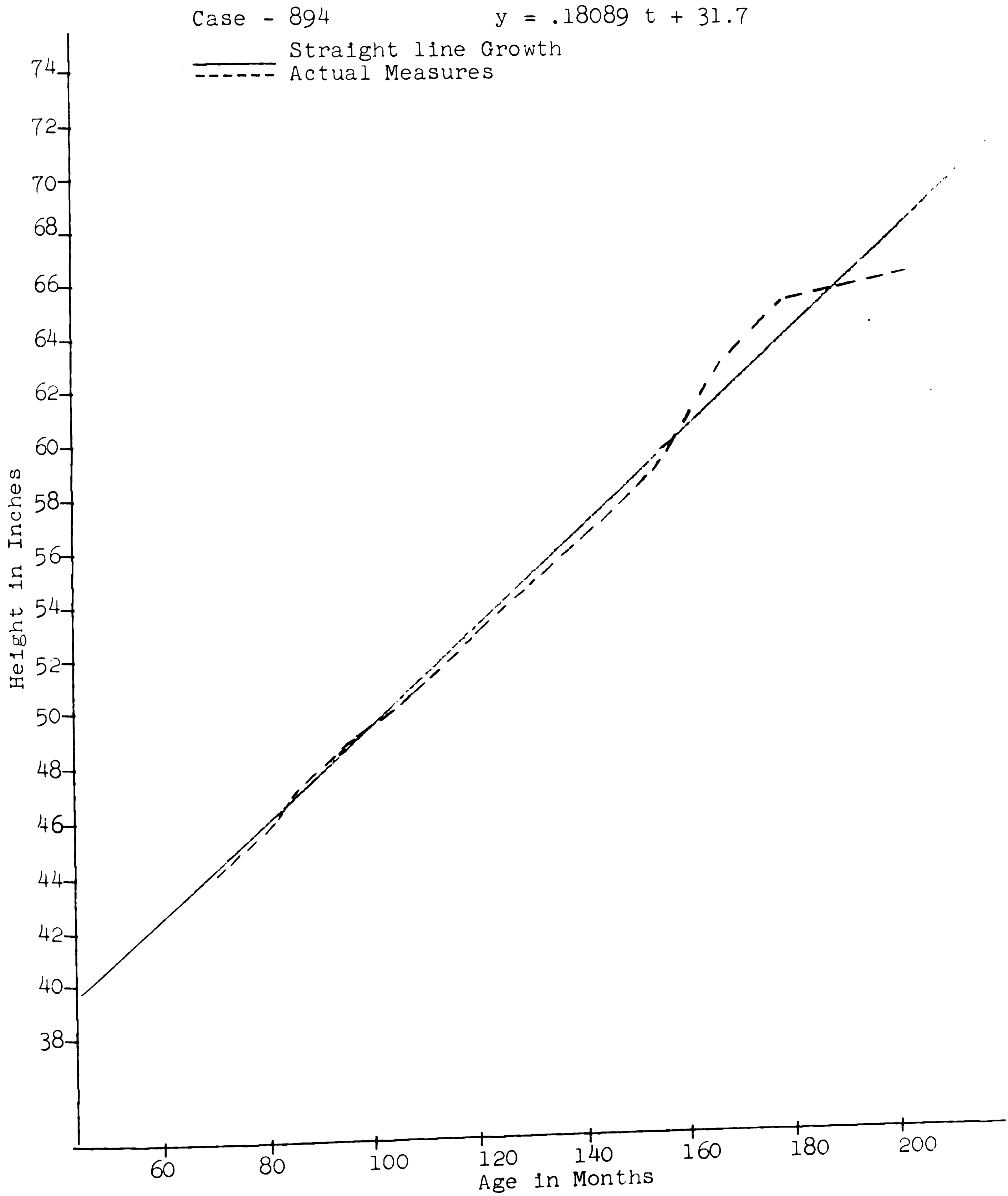



Case - 645
y = .18969 t + 29.61
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

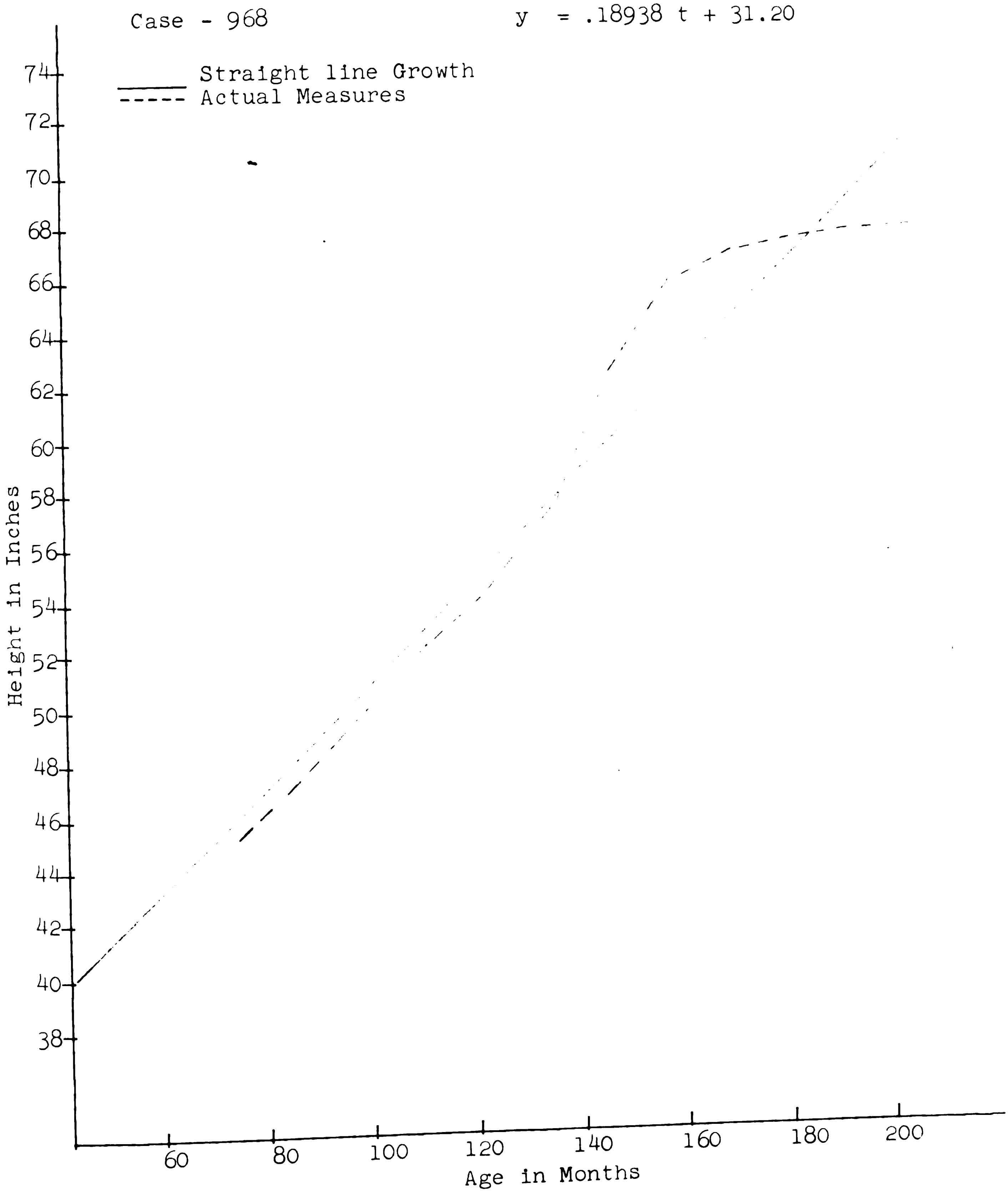
Case - 762 y = .18364 t + 28.69

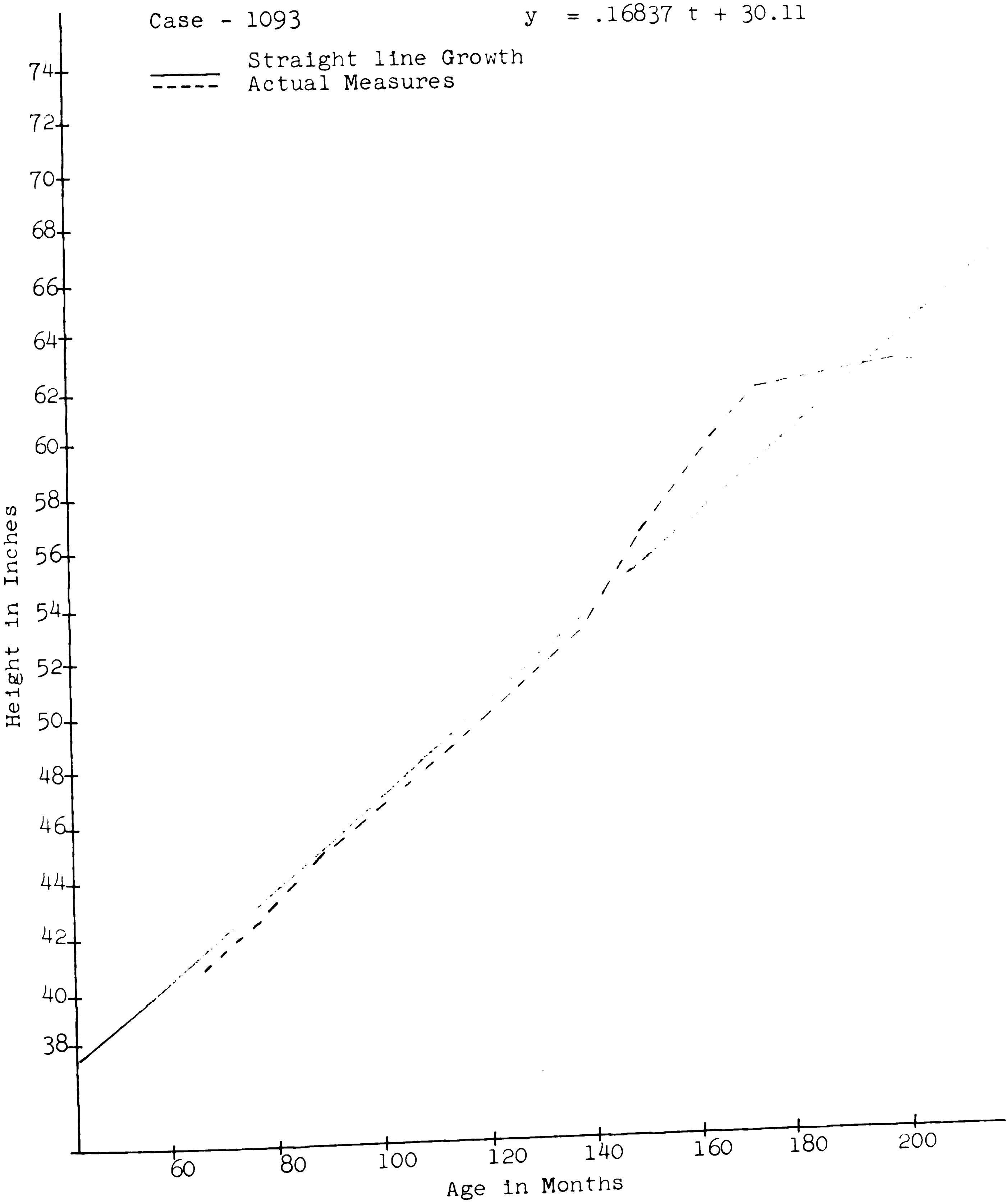


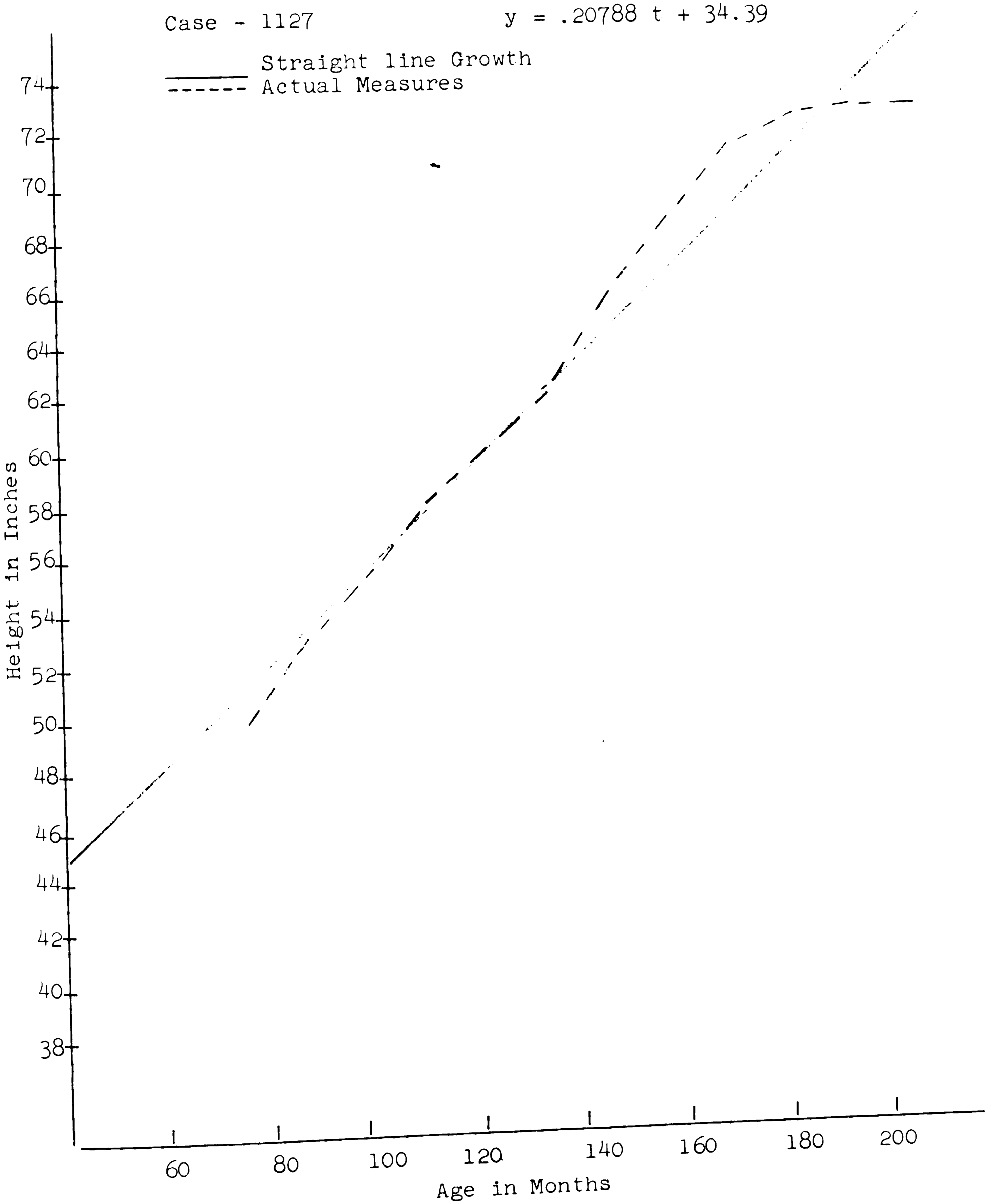

Case - 763
y = .17679 t + 34.02
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months



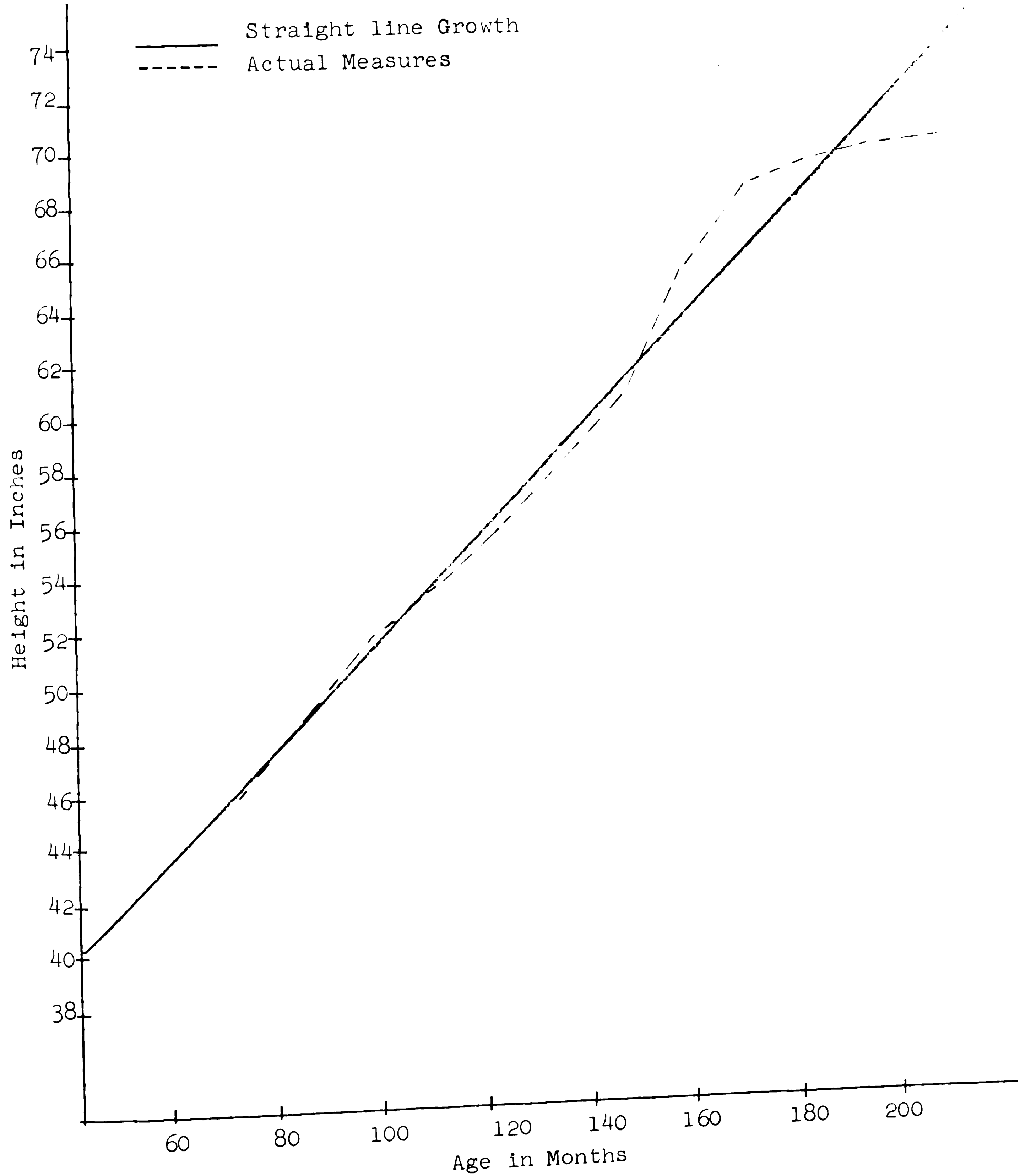
Case - 894
y = .18089 t + 31.7
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

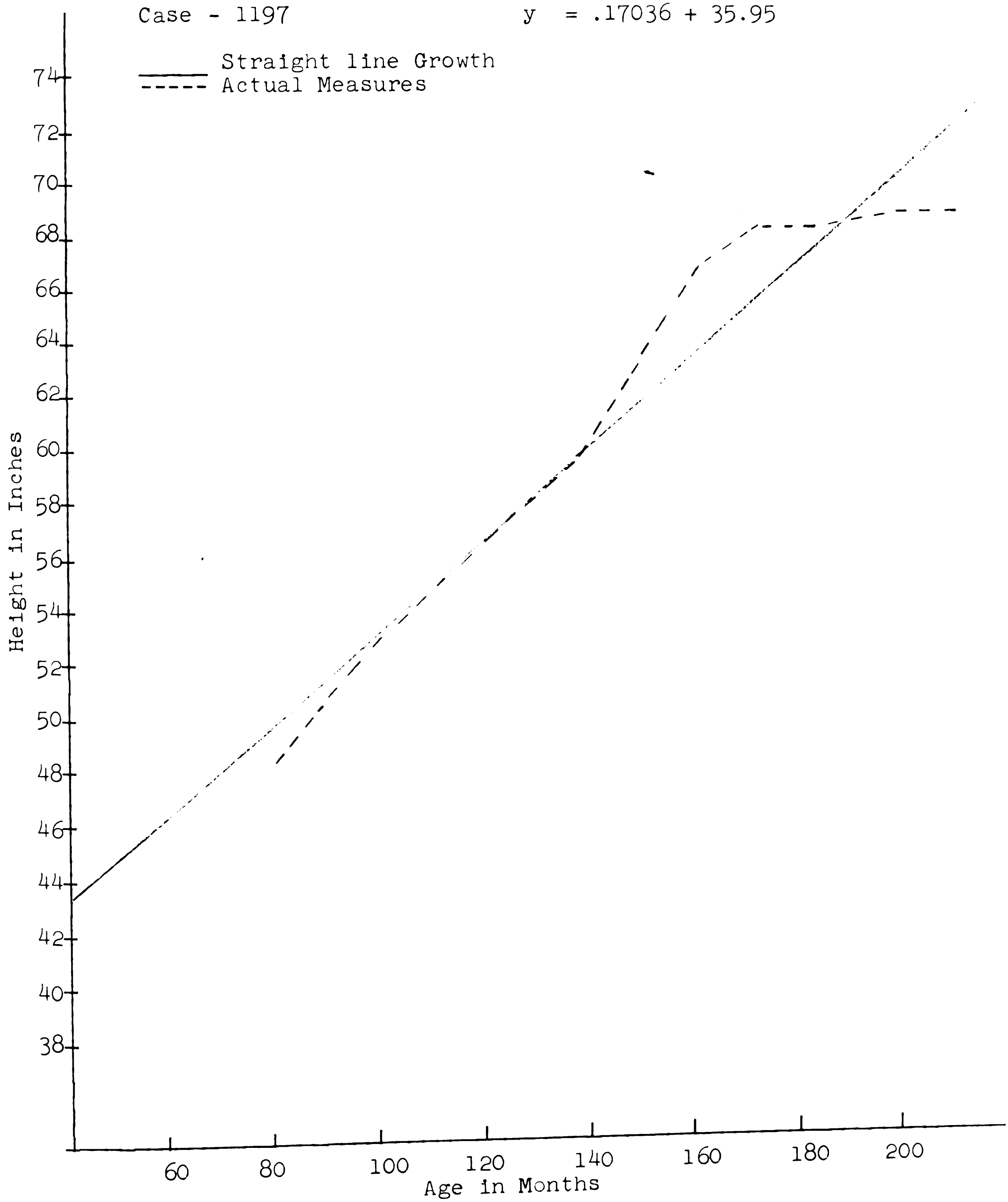

Case - 968
y = .18938 t + 31.20
Straight line Growth
----- Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Age in Months
60
80
100
120
140
160
180
200

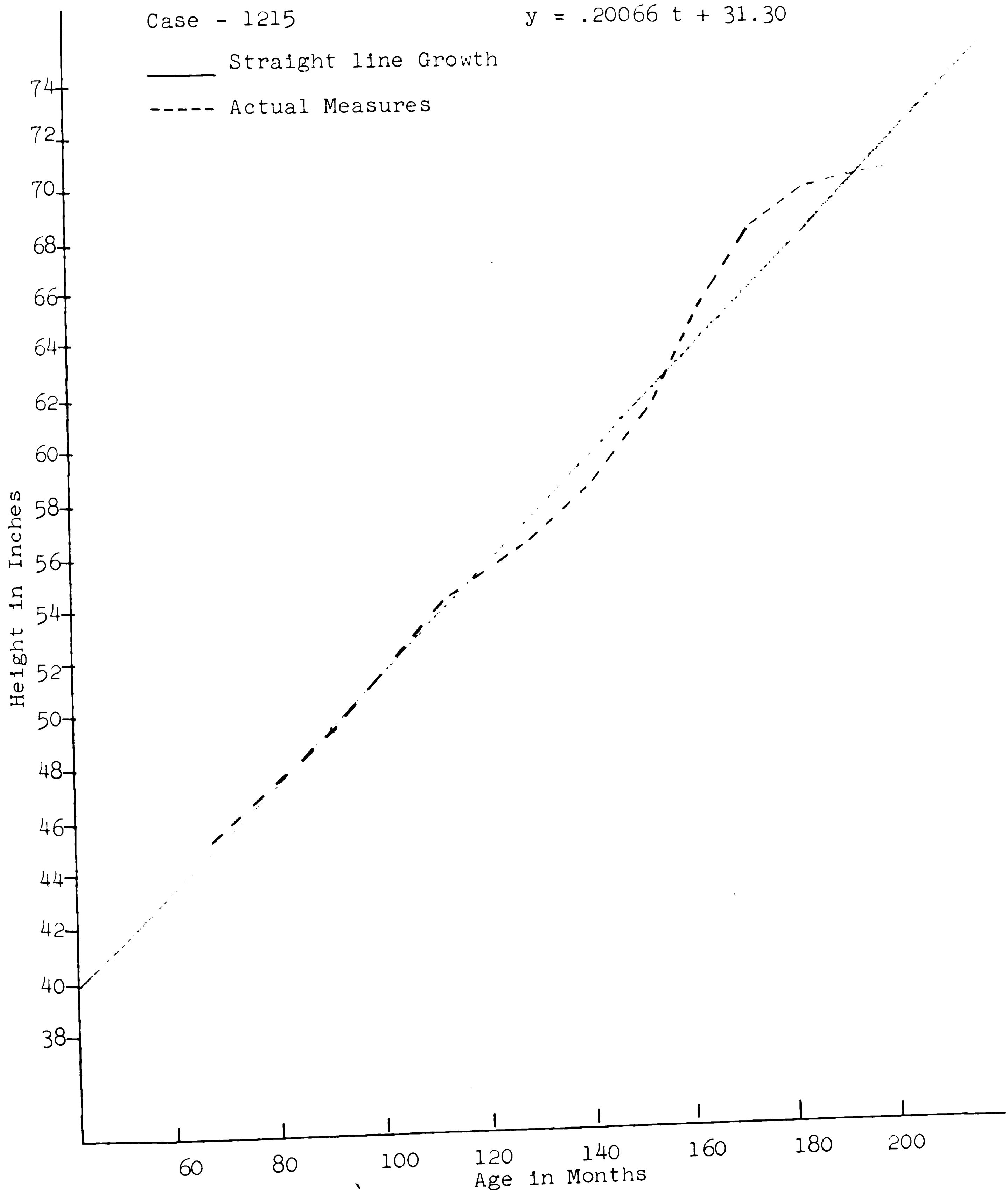

Case - 1093
y = .16837 t + 30.11
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 1127
y = .20788 t + 34.39
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

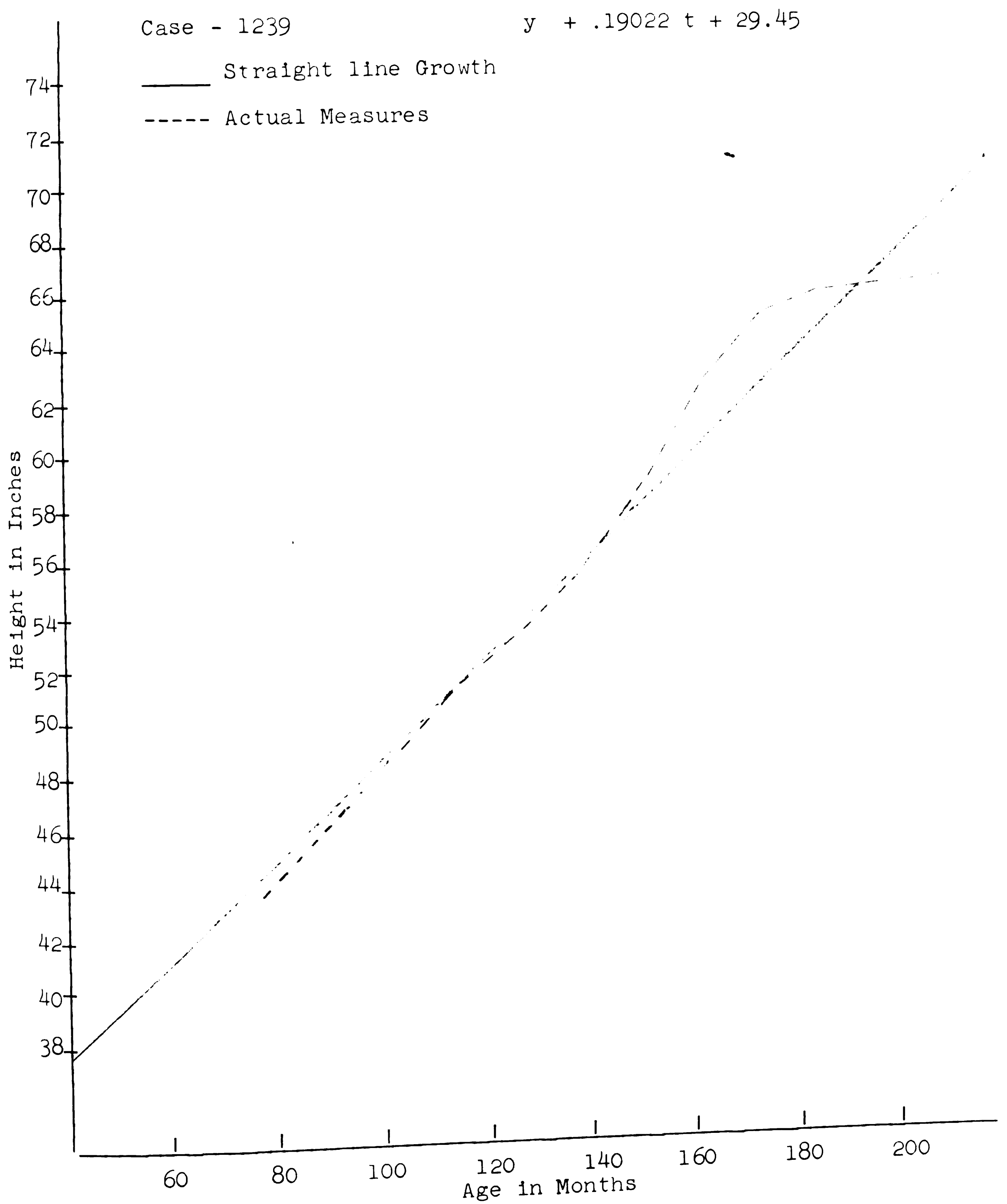
Case - 1159 $y = .20127\ t + 31.46$

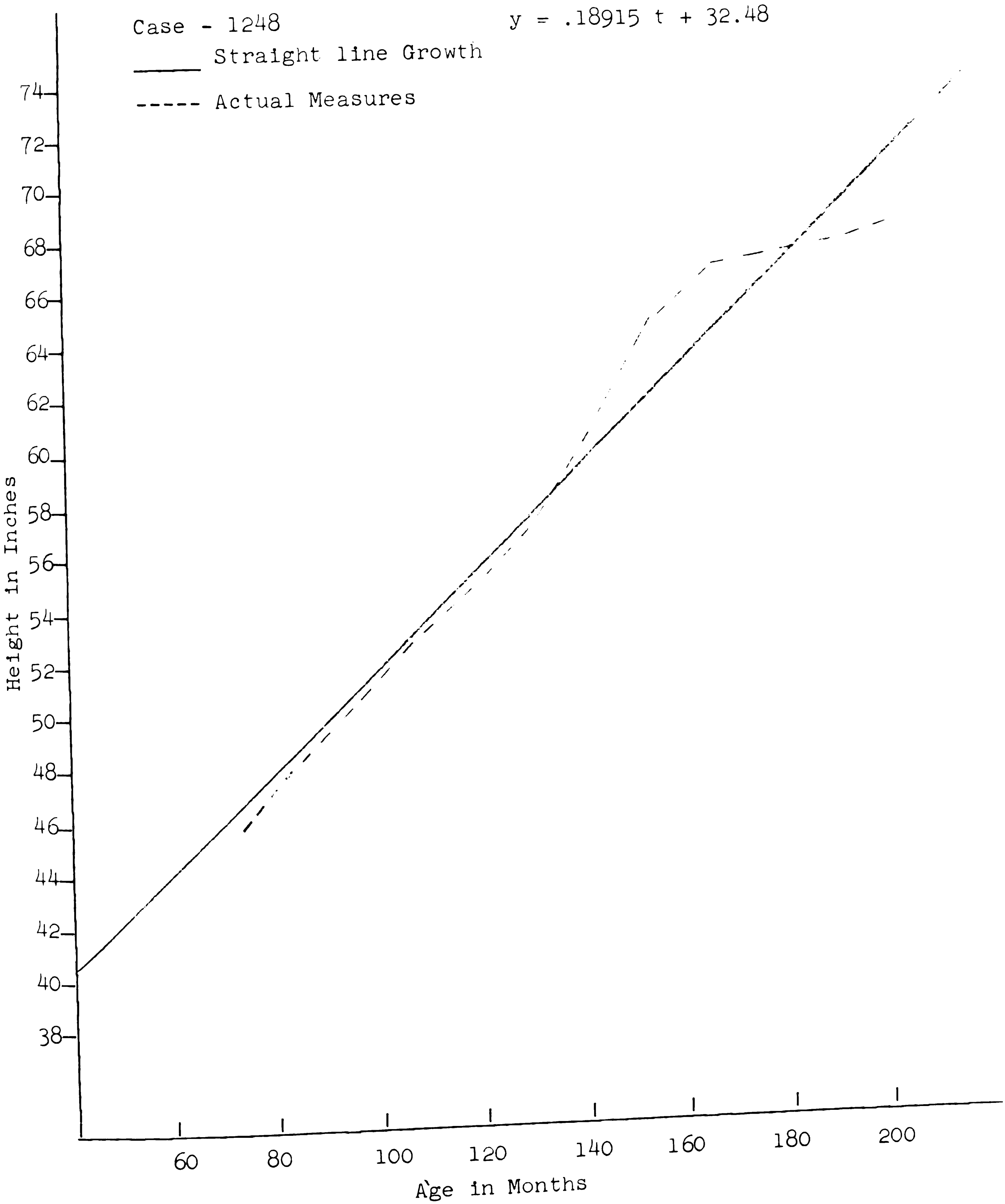


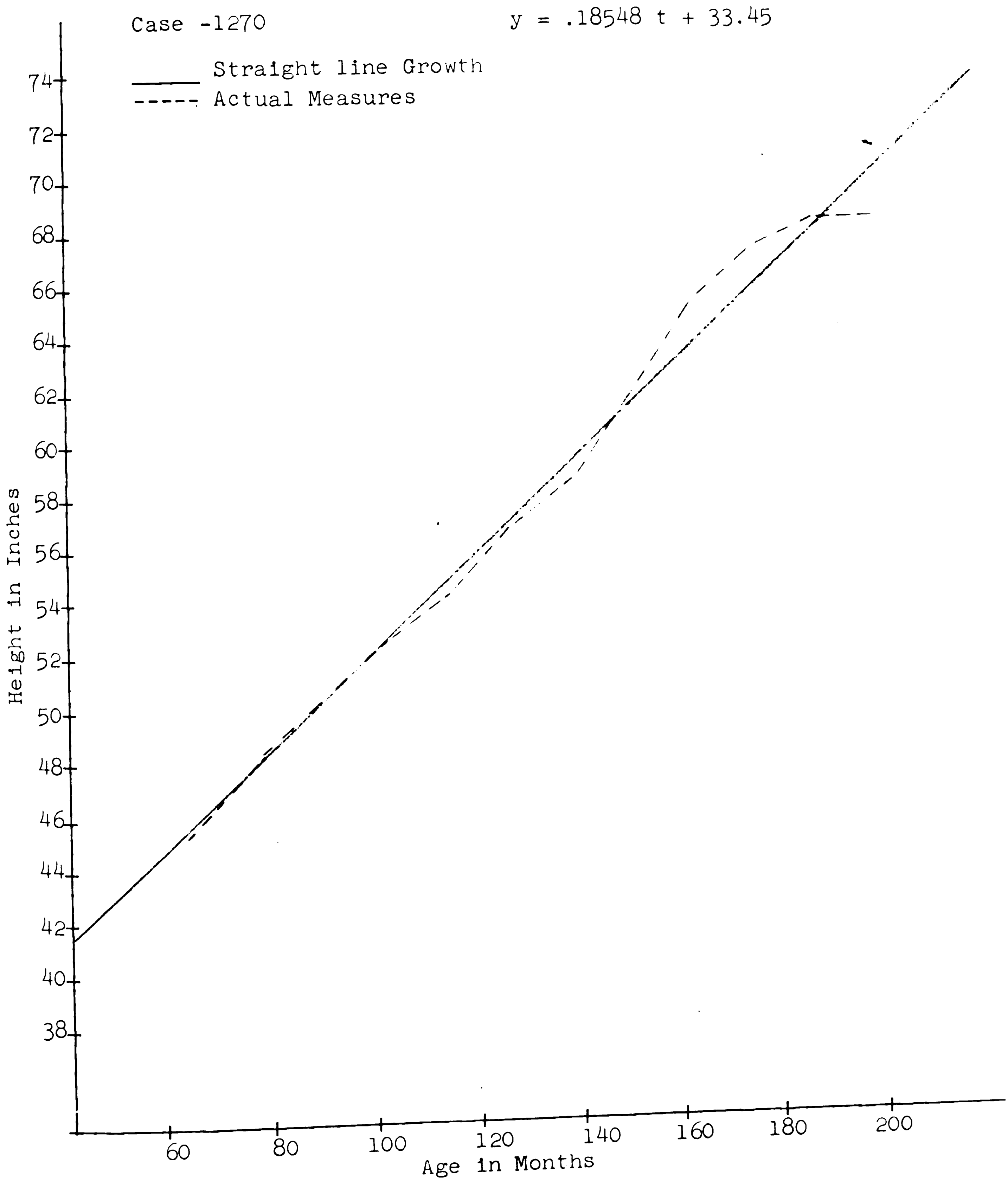

Case - 1197
y = .17036 + 35.95
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

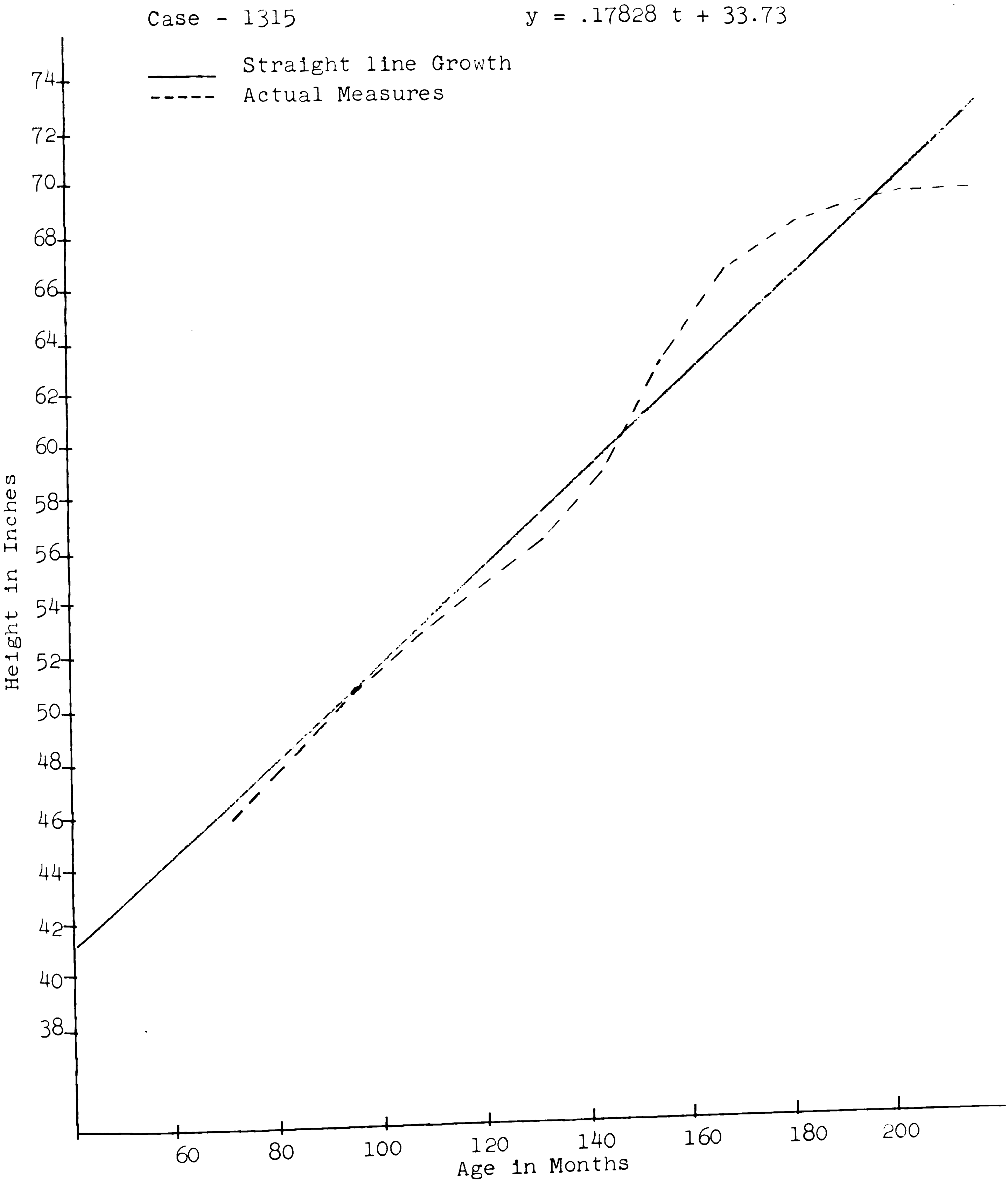


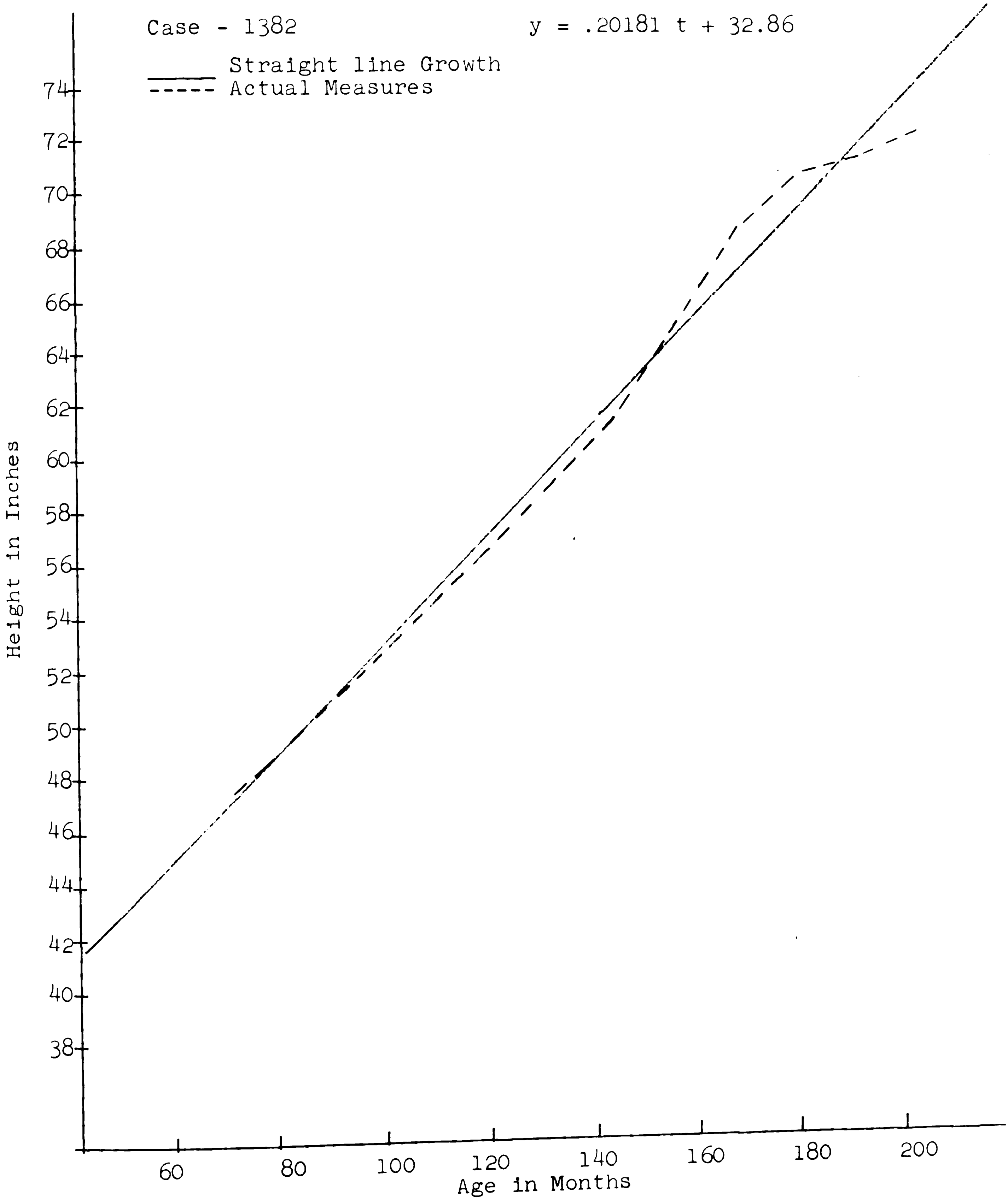
Case - 1215
y = .20066 t + 31.30
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Age in Months
60
80
100
120
140
160
180
200


Case - 1239
y + .19022 t + 29.45
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months


Case - 1248
y = .18915 t + 32.48
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

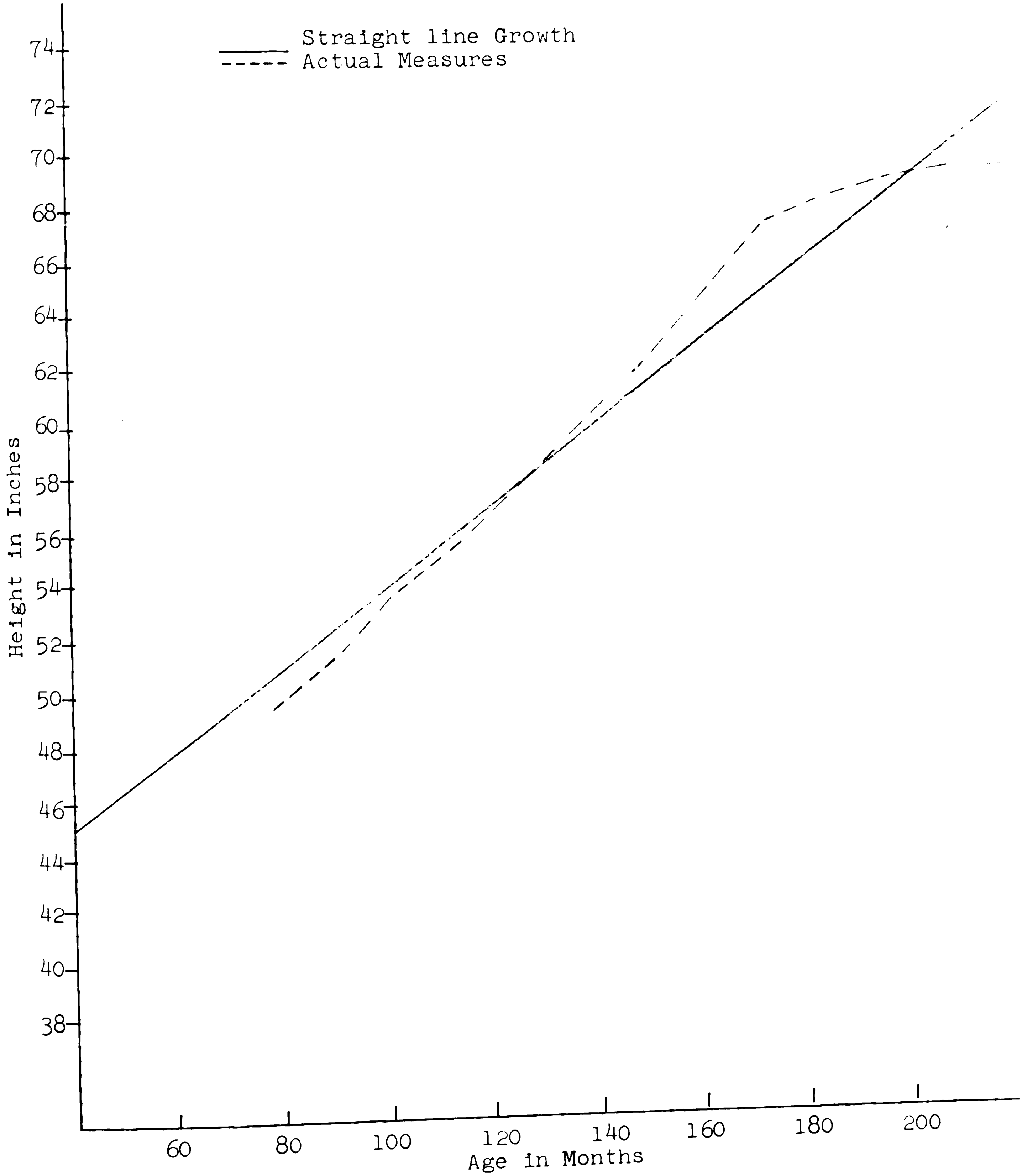

Case -1270
y = .18548 t + 33.45
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Age in Months
60
80
100
120
140
160
180
200

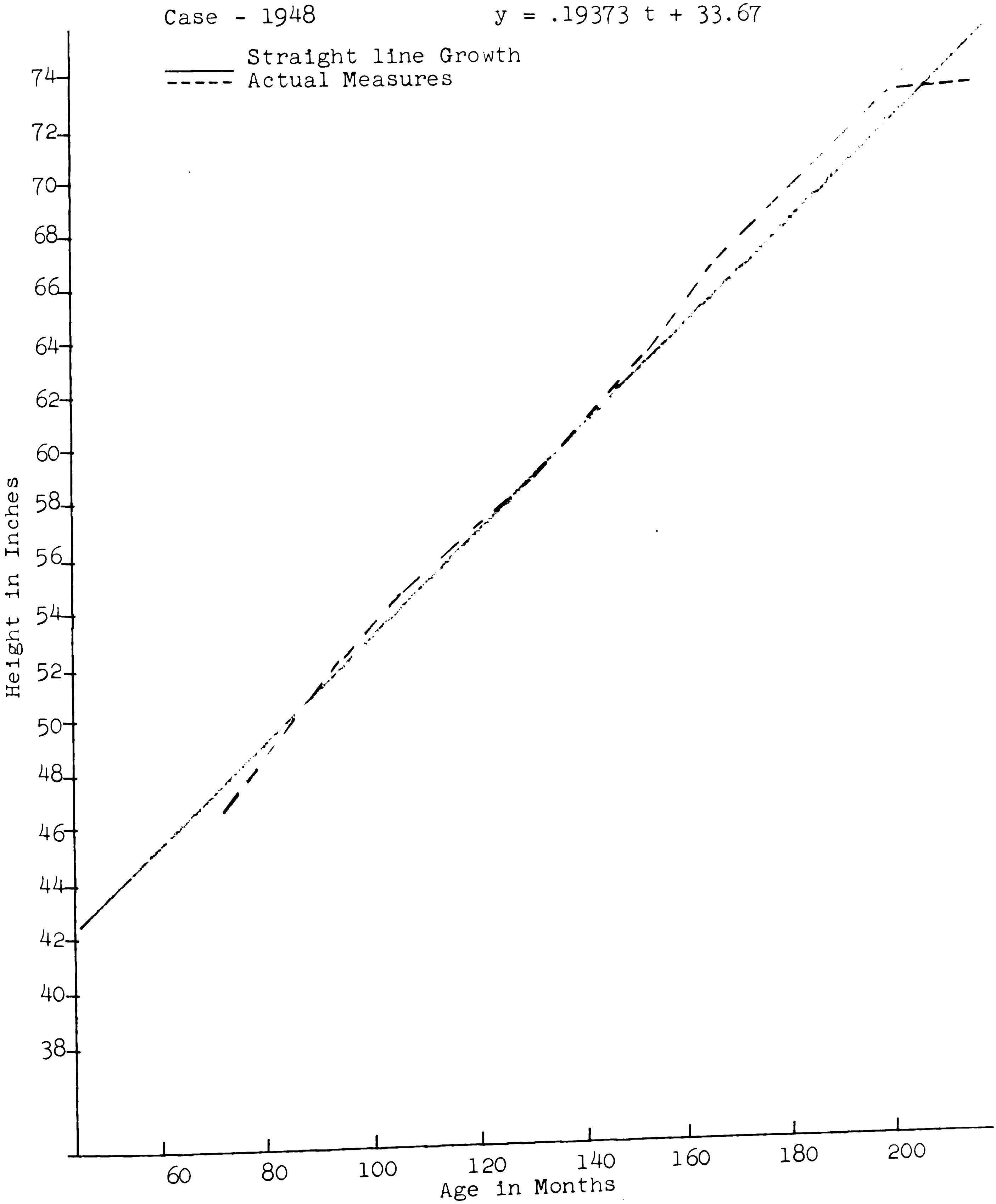

Case - 1315
y = .17828 t + 33.73
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months



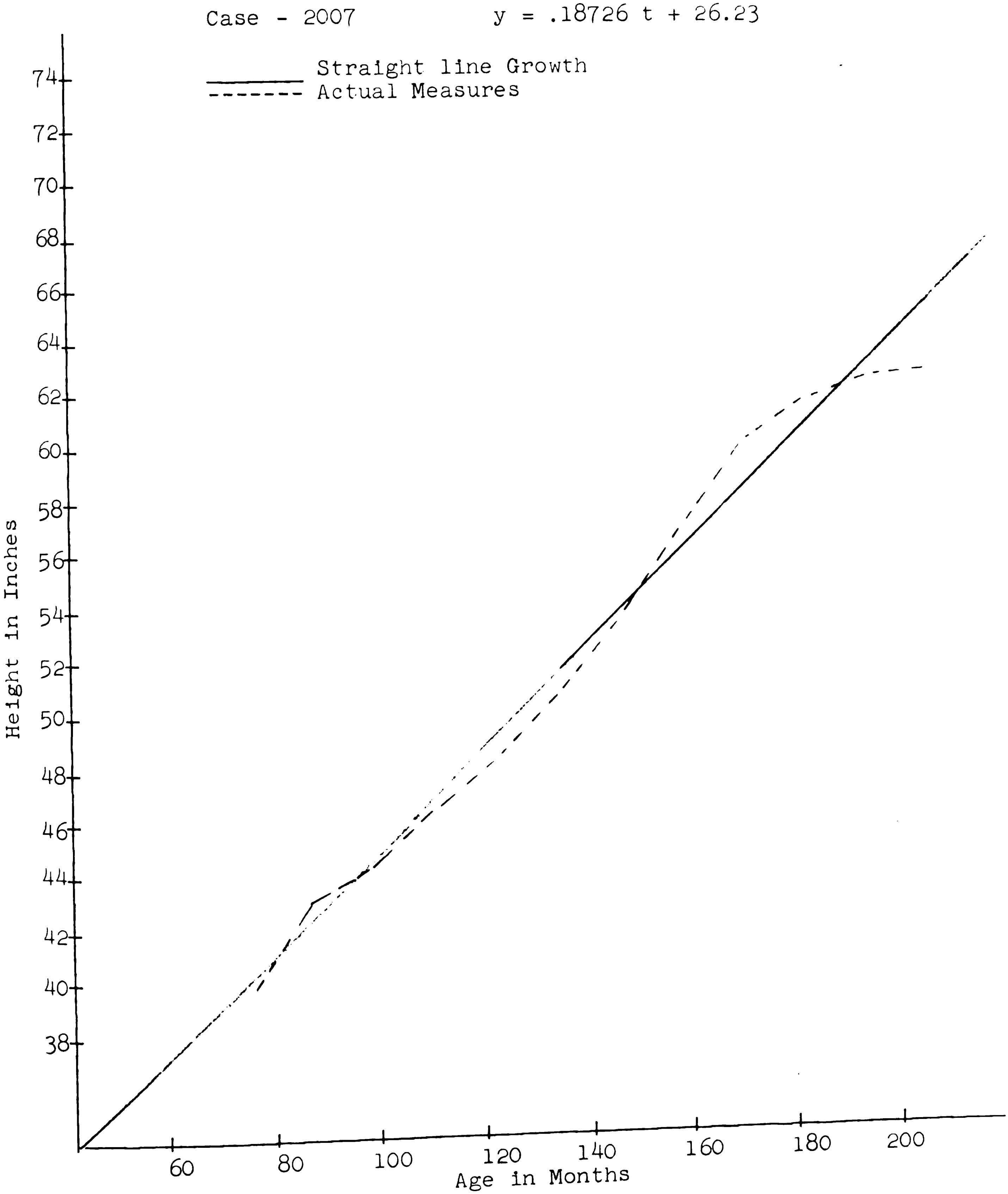
Case - 1382
y = .20181 t + 32.86
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

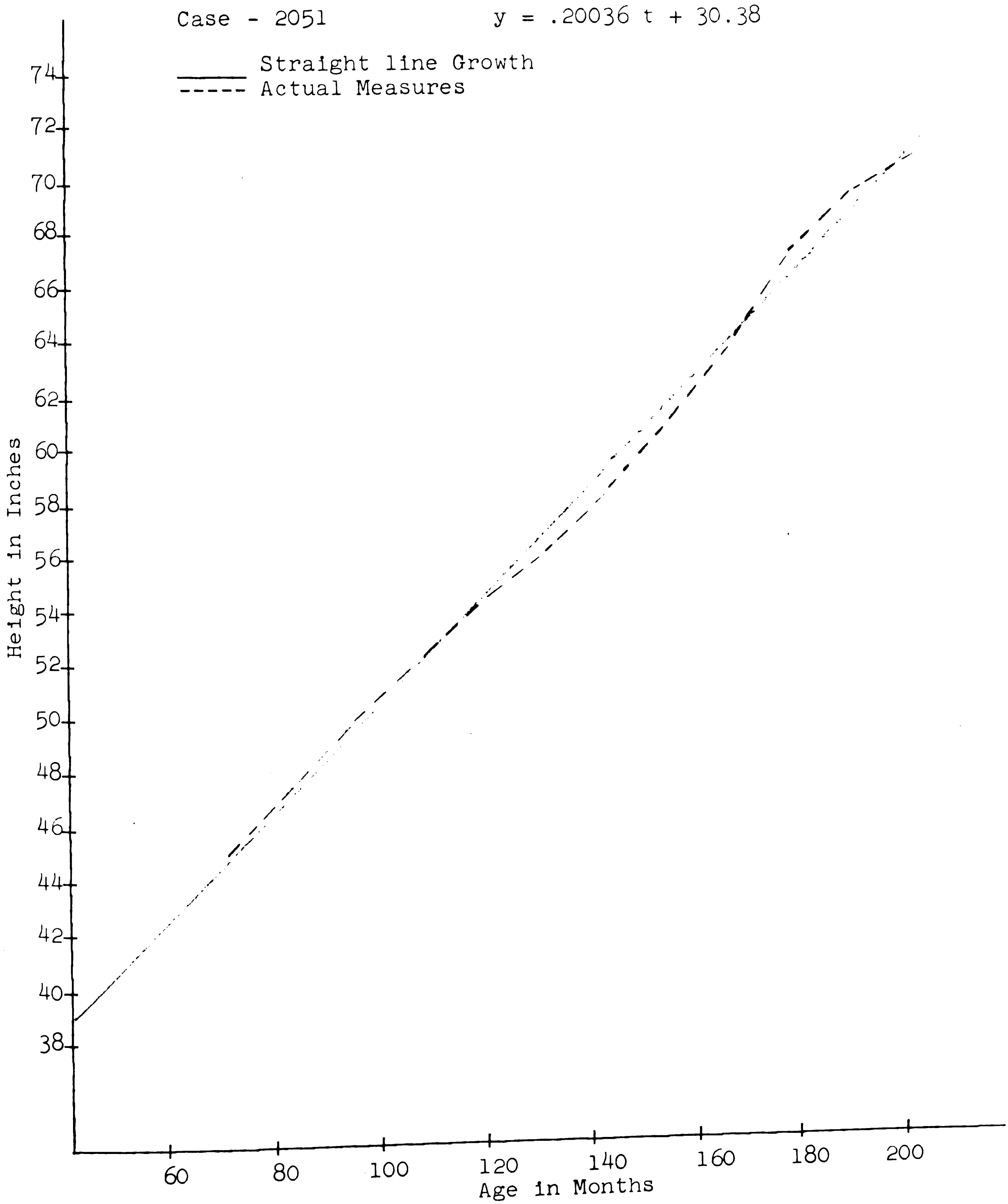
Case - 1616 $y = .14941\ t + 38.82$



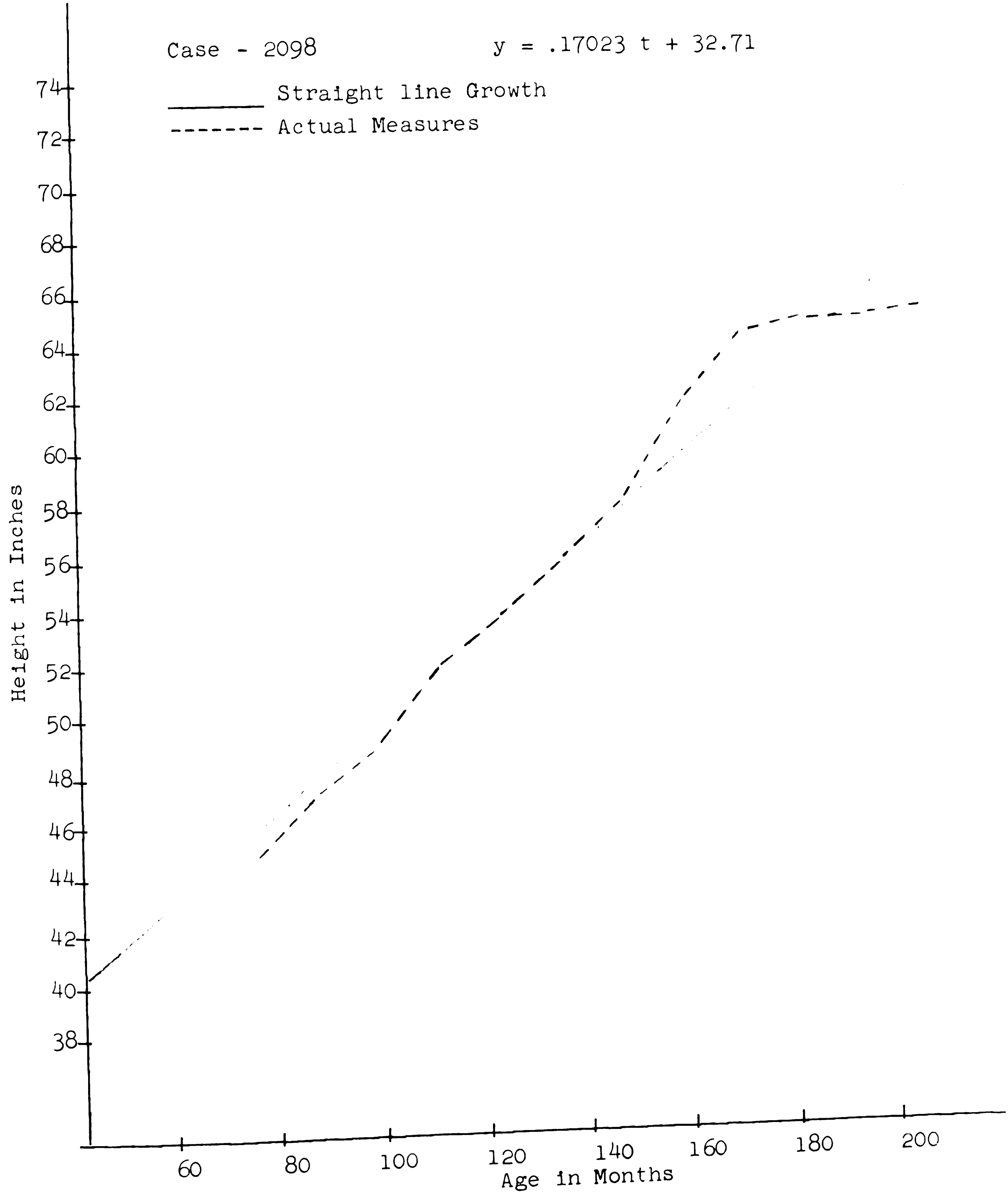

Case - 1948
y = .19373 t + 33.67
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

[illegible]

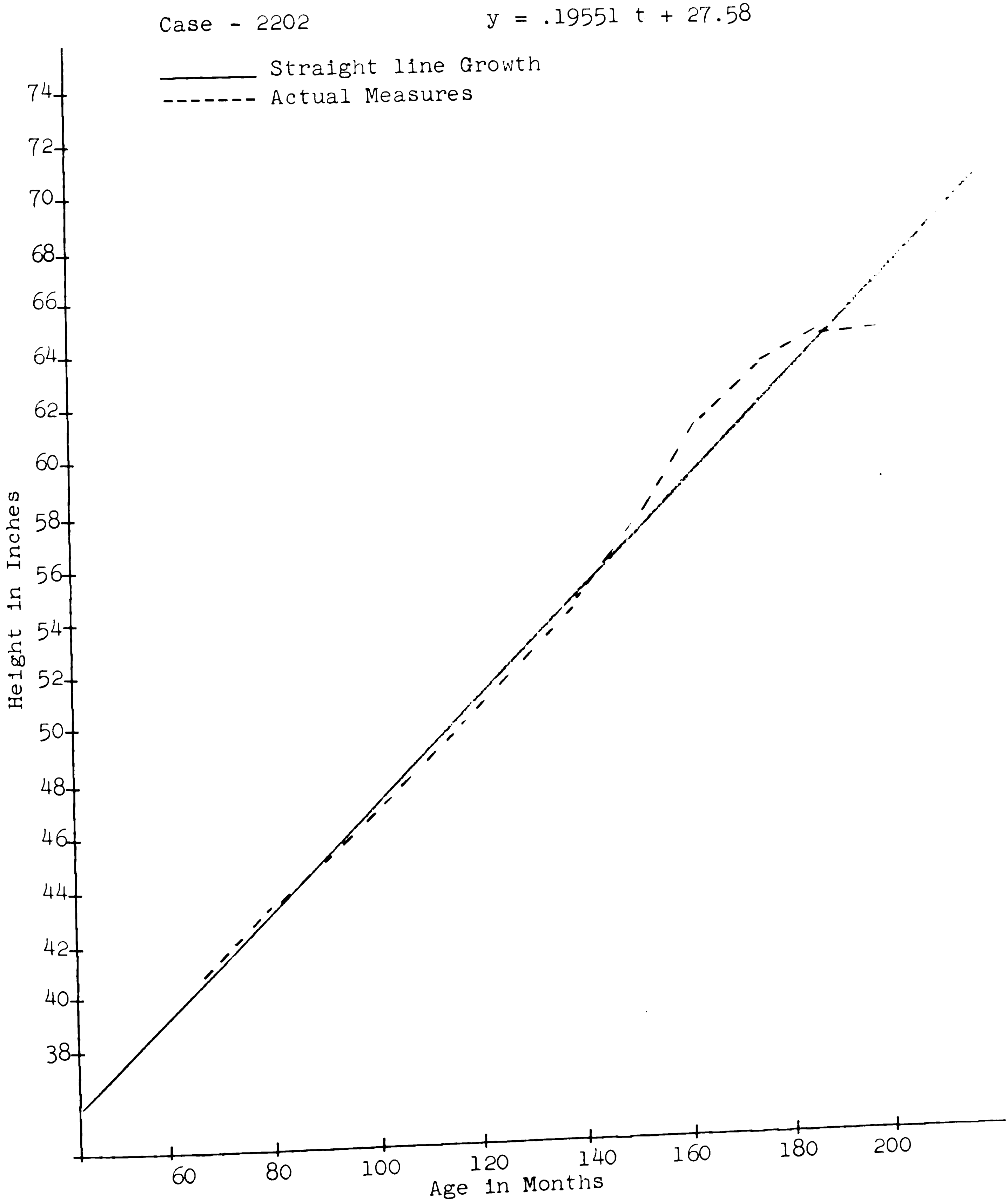

Case - 2007
y = .18726 t + 26.23
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months



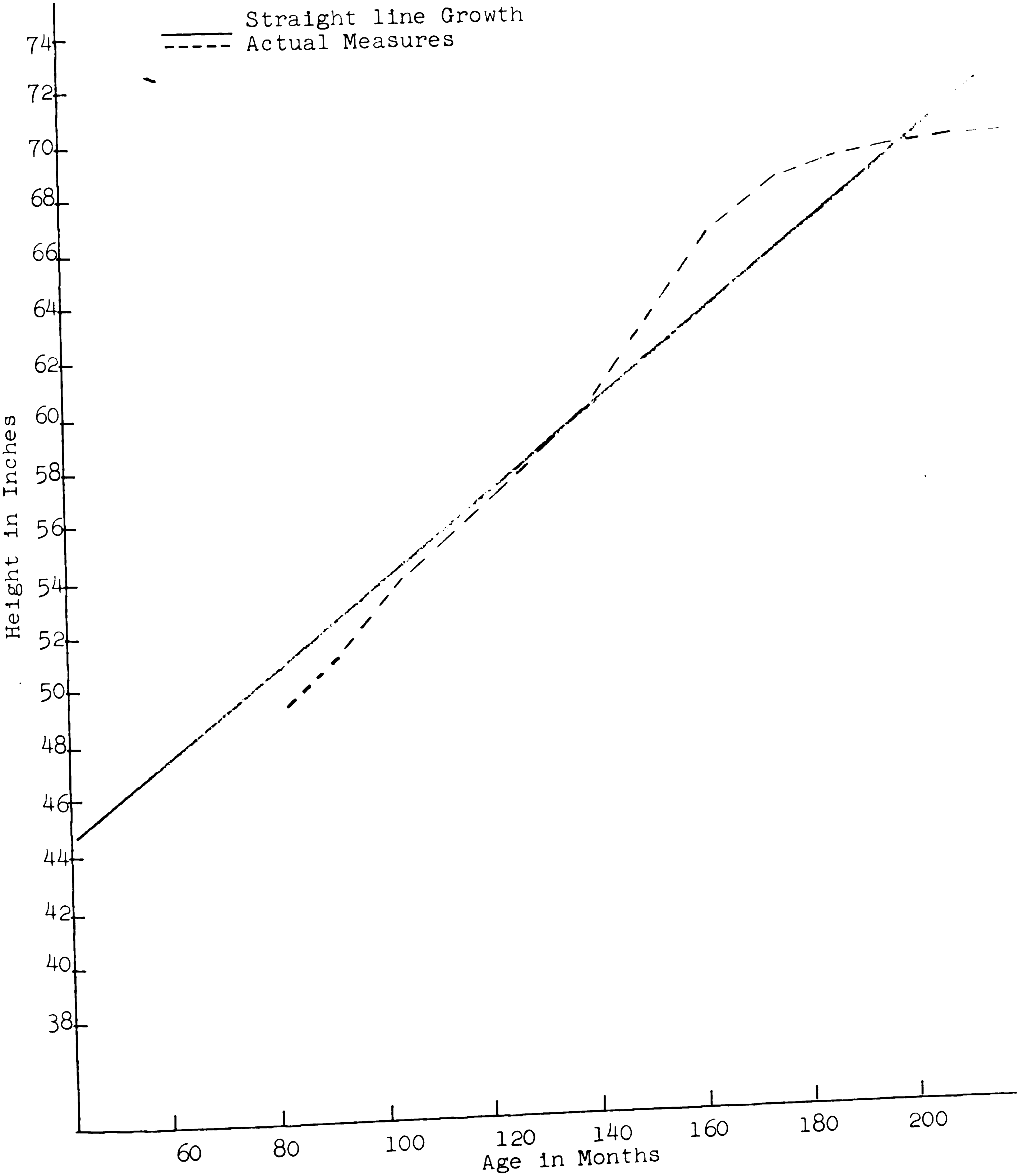
Case - 2051
y = .20036 t + 30.38
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

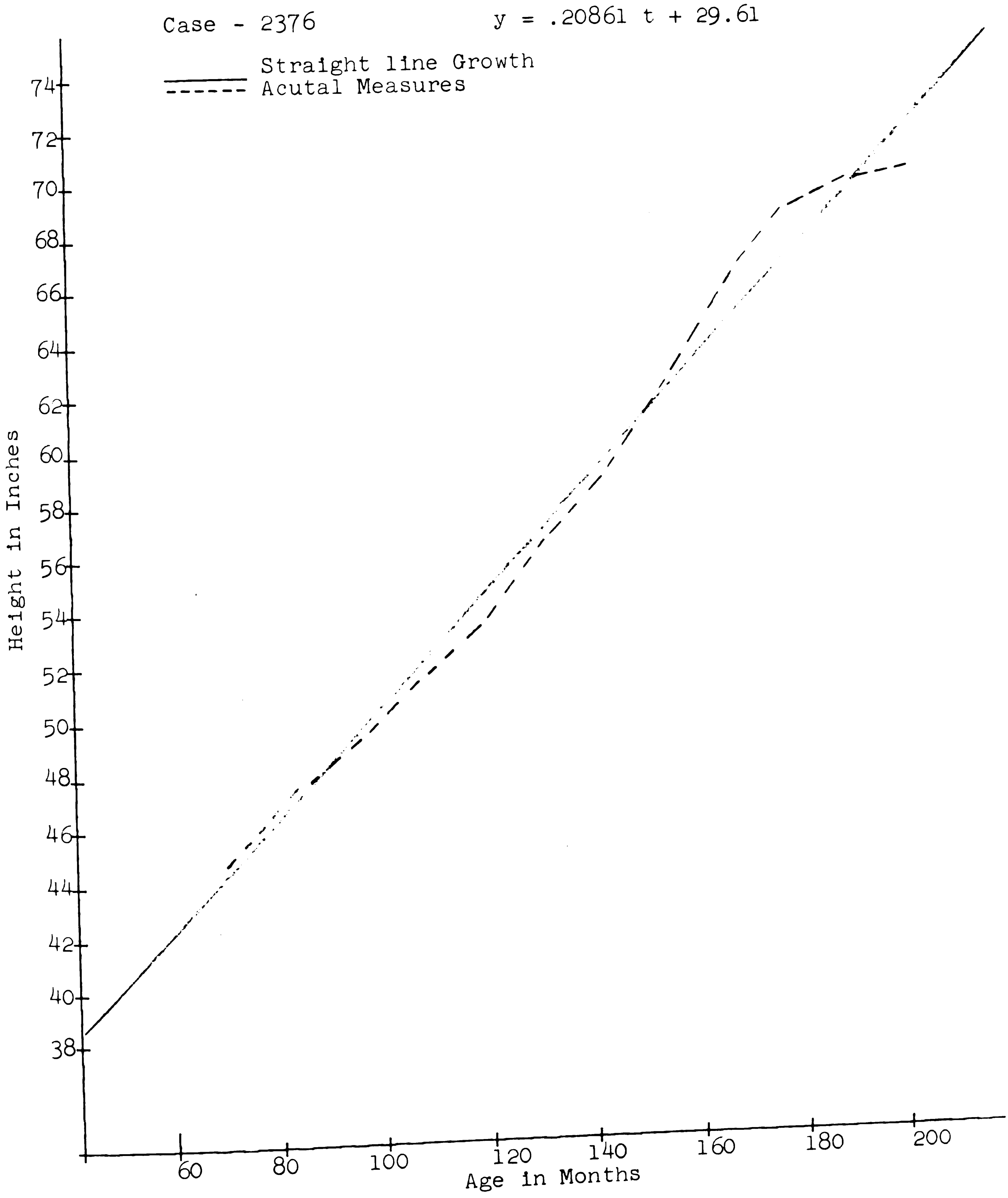


Case - 2098
y = .17023 t + 32.71
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months


Case - 2202
y = .19551 t + 27.58
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Age in Months
60
80
100
120
140
160
180
200

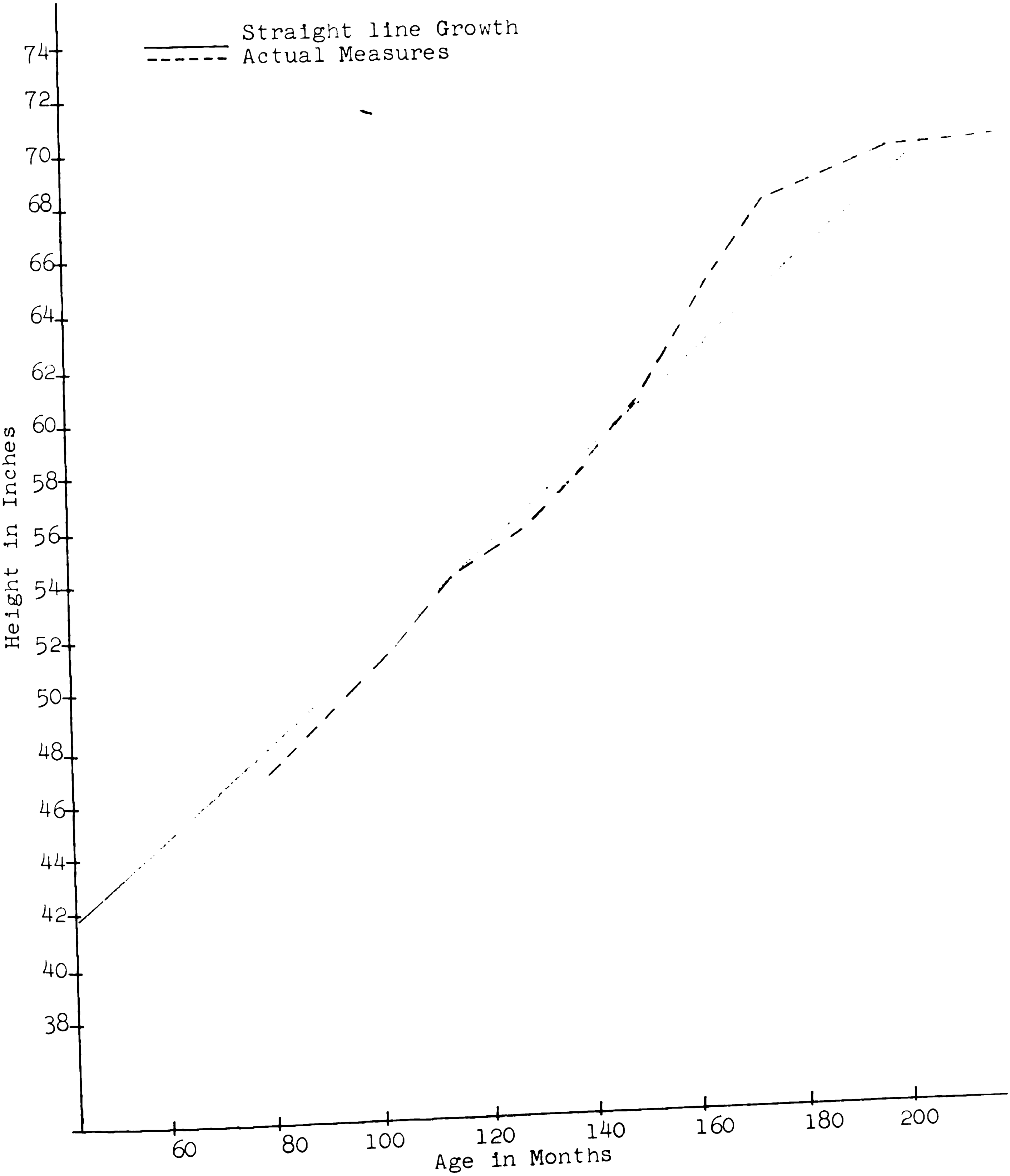
Case - 2301 $y = .15643\ t + 38.02$

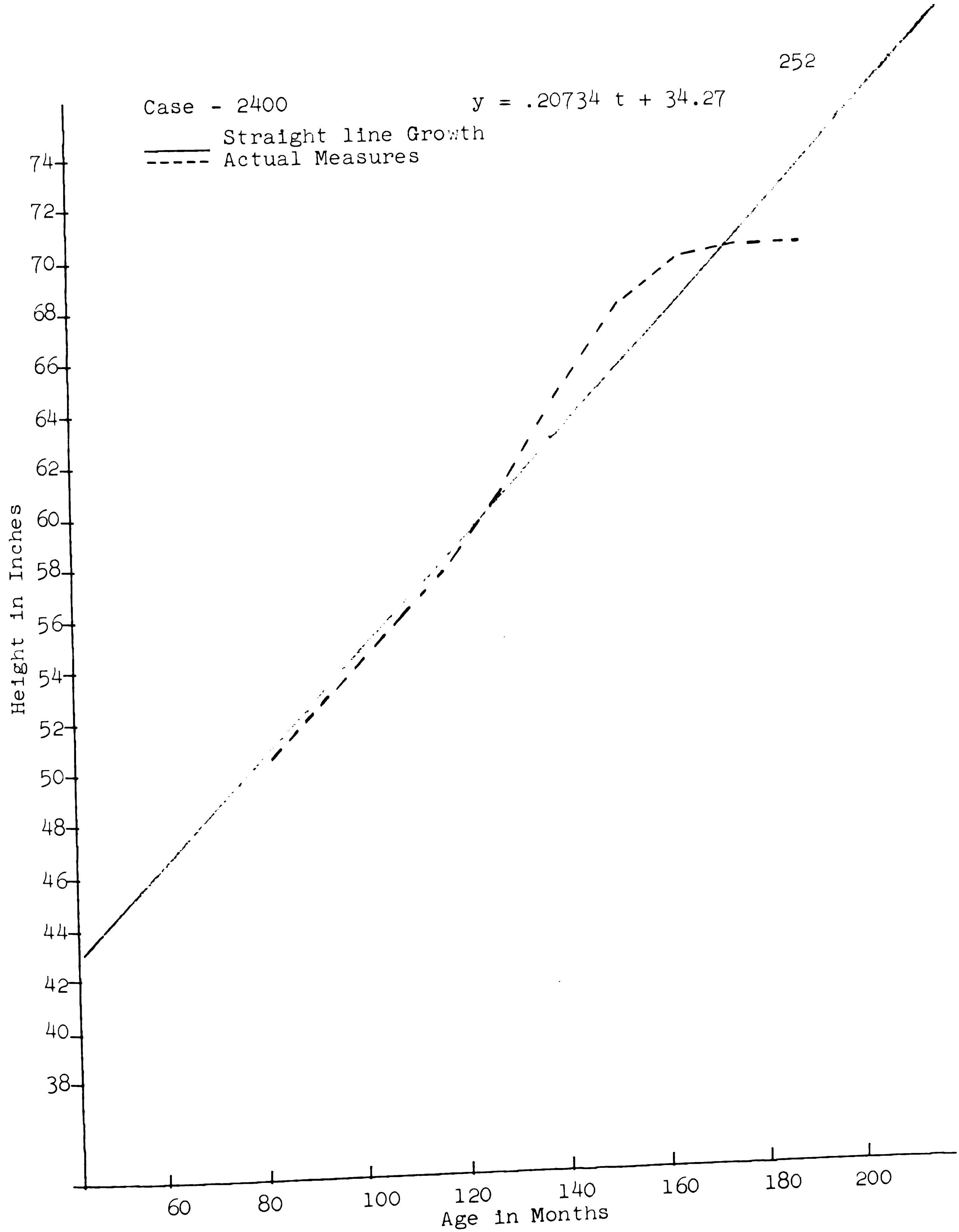


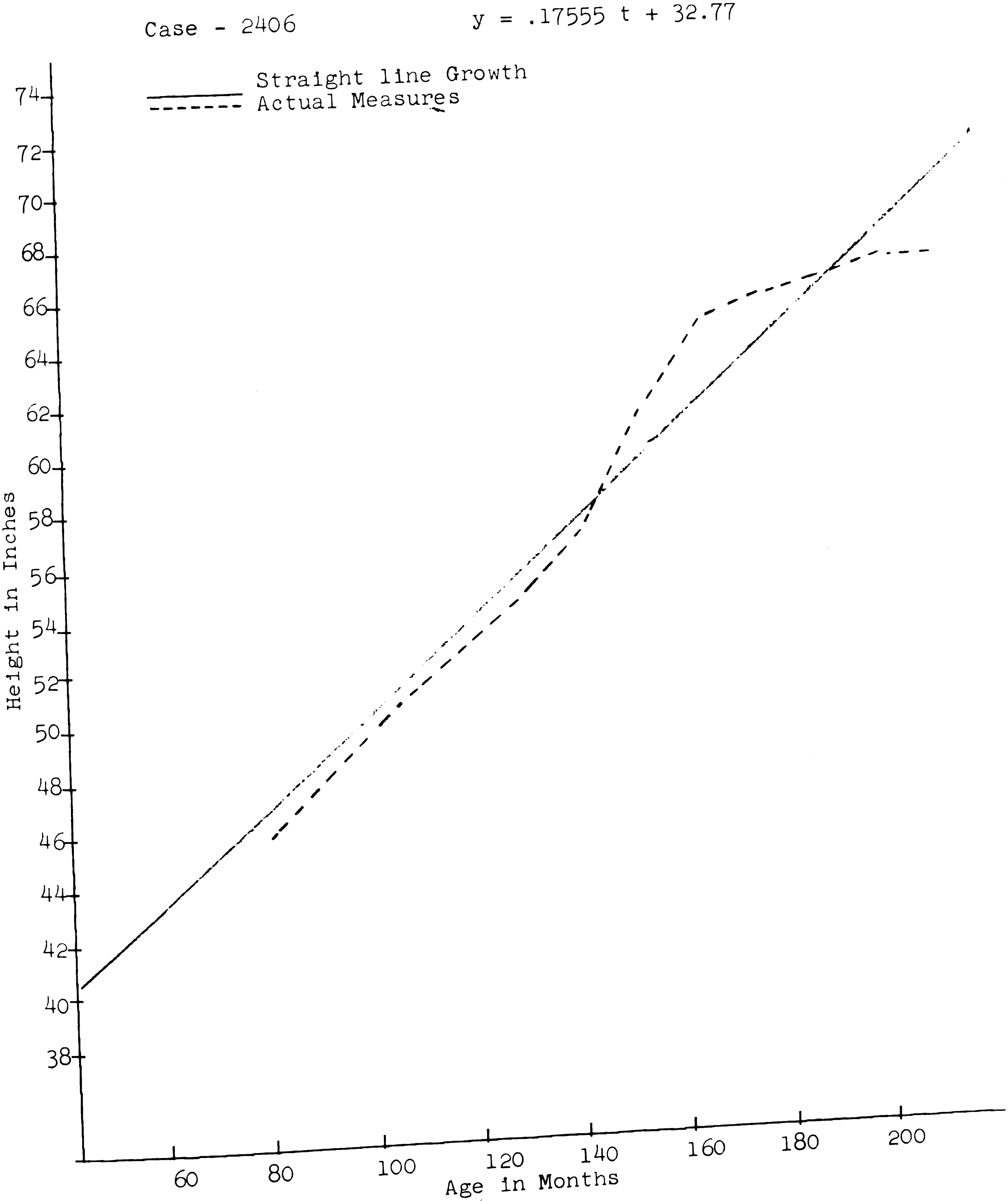

Case - 2376
y = .20861 t + 29.61
Straight line Growth
Acutal Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

Case - 2396

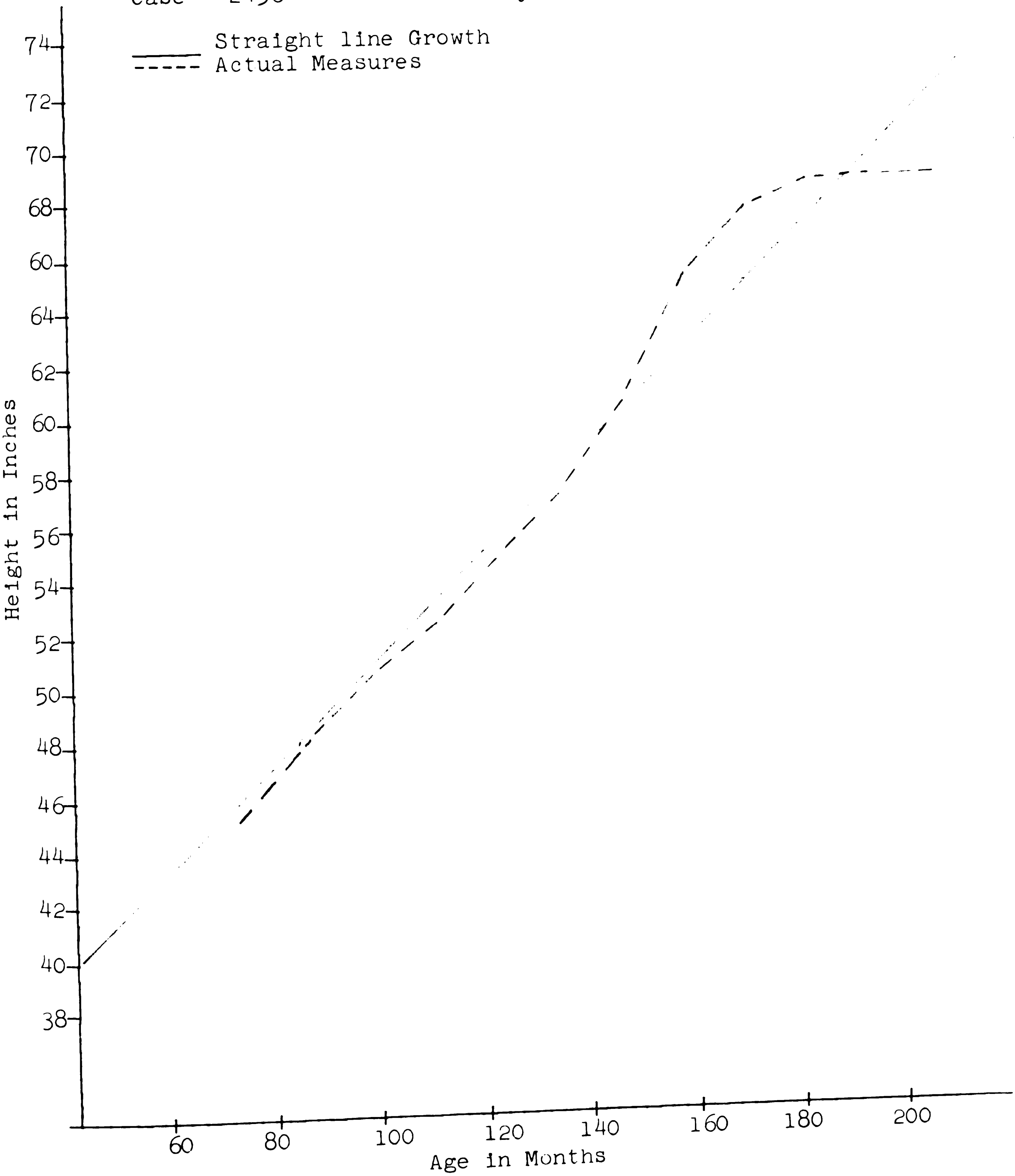
$y = .17347\ t + 34.27$

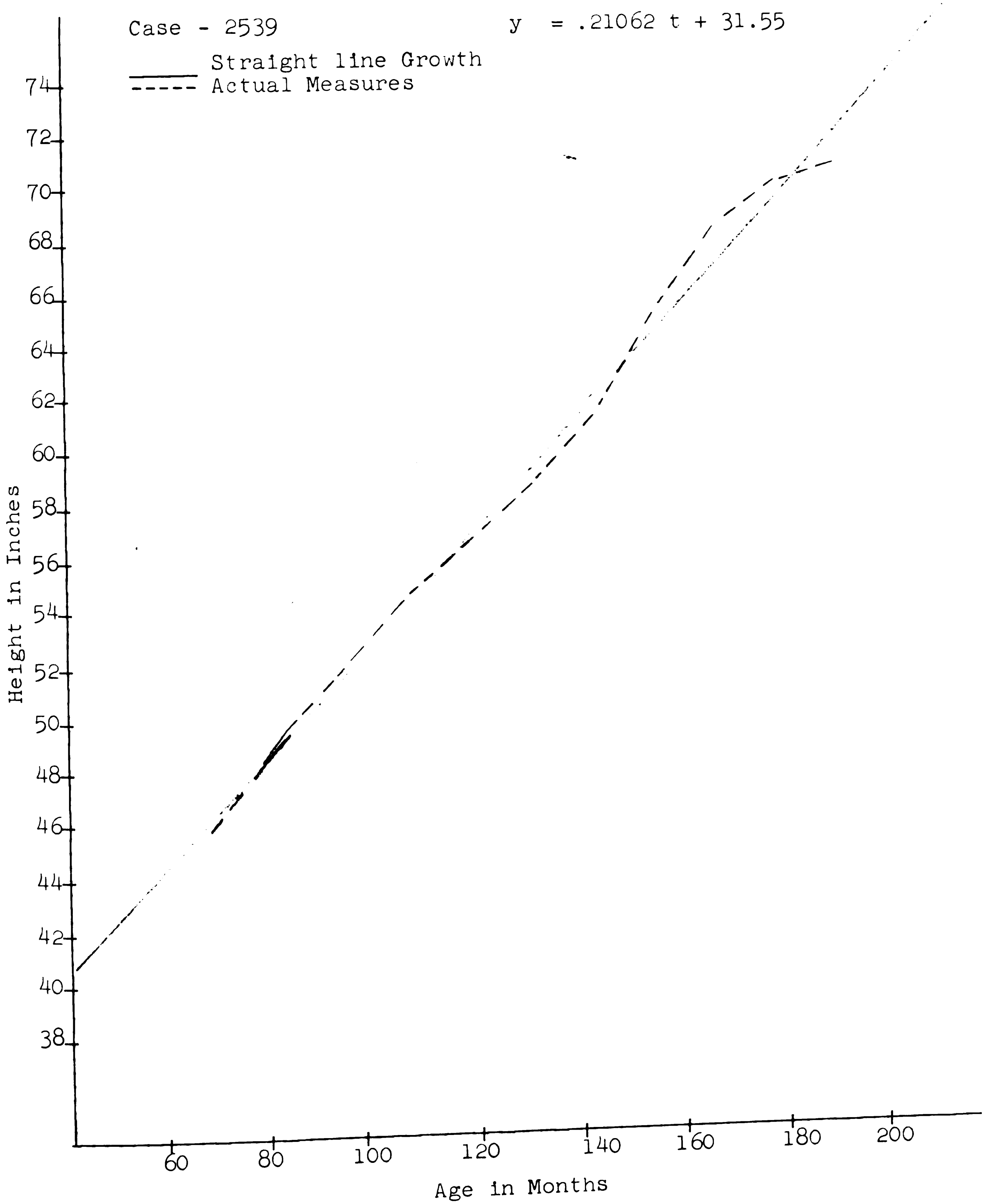


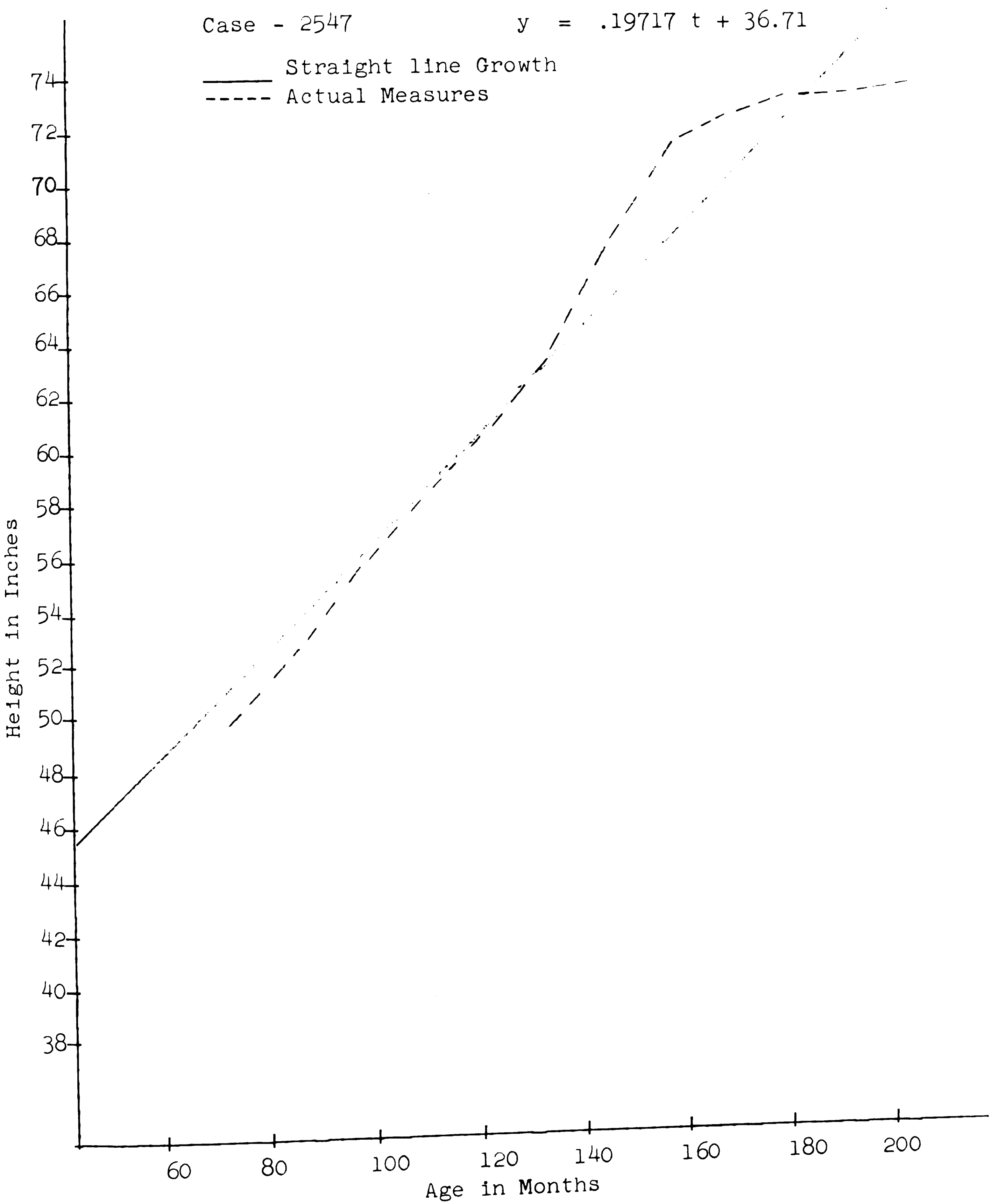

Case - 2400
y = .20734 t + 34.27
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

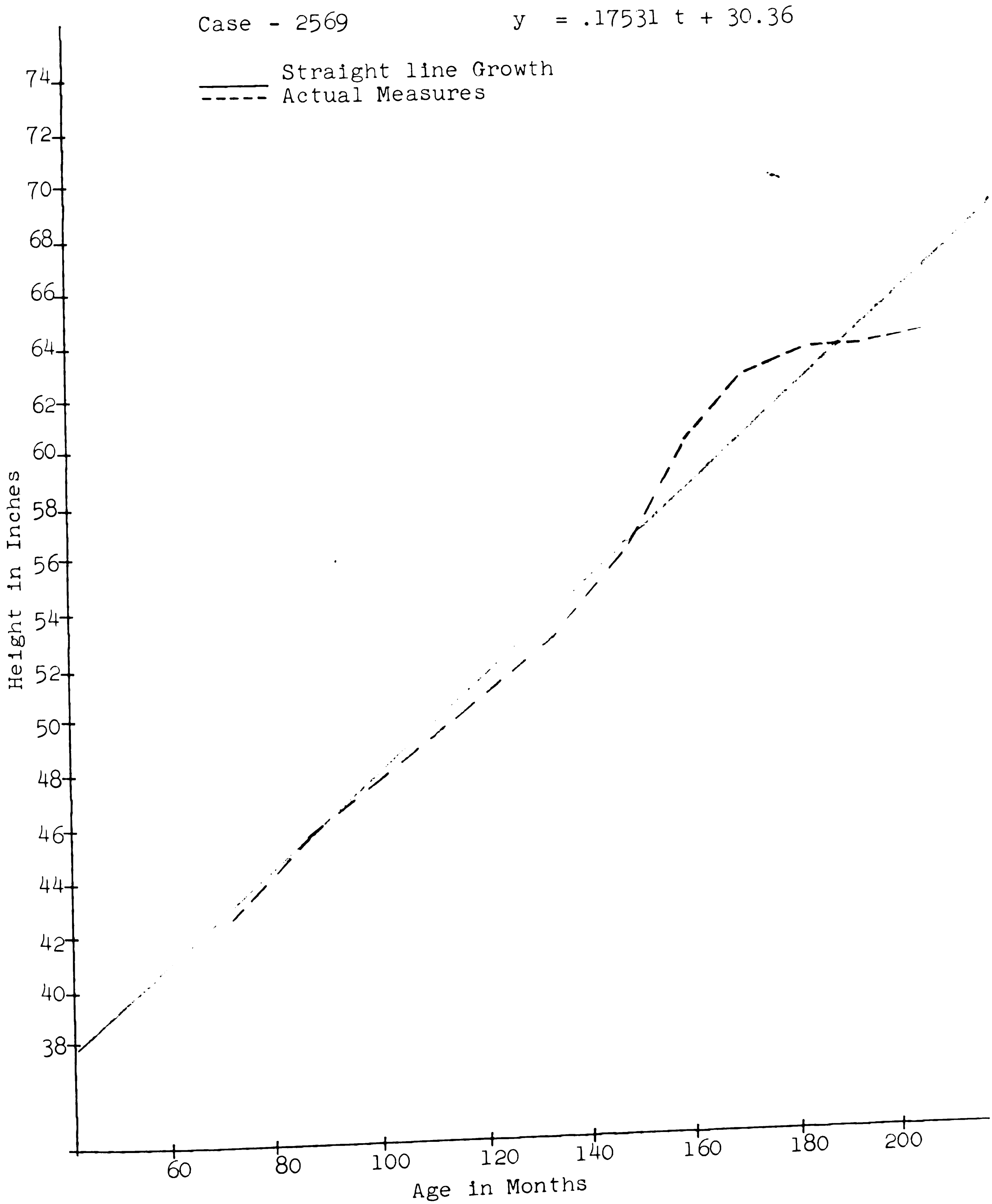

Case - 2406
y = .17555 t + 32.77
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

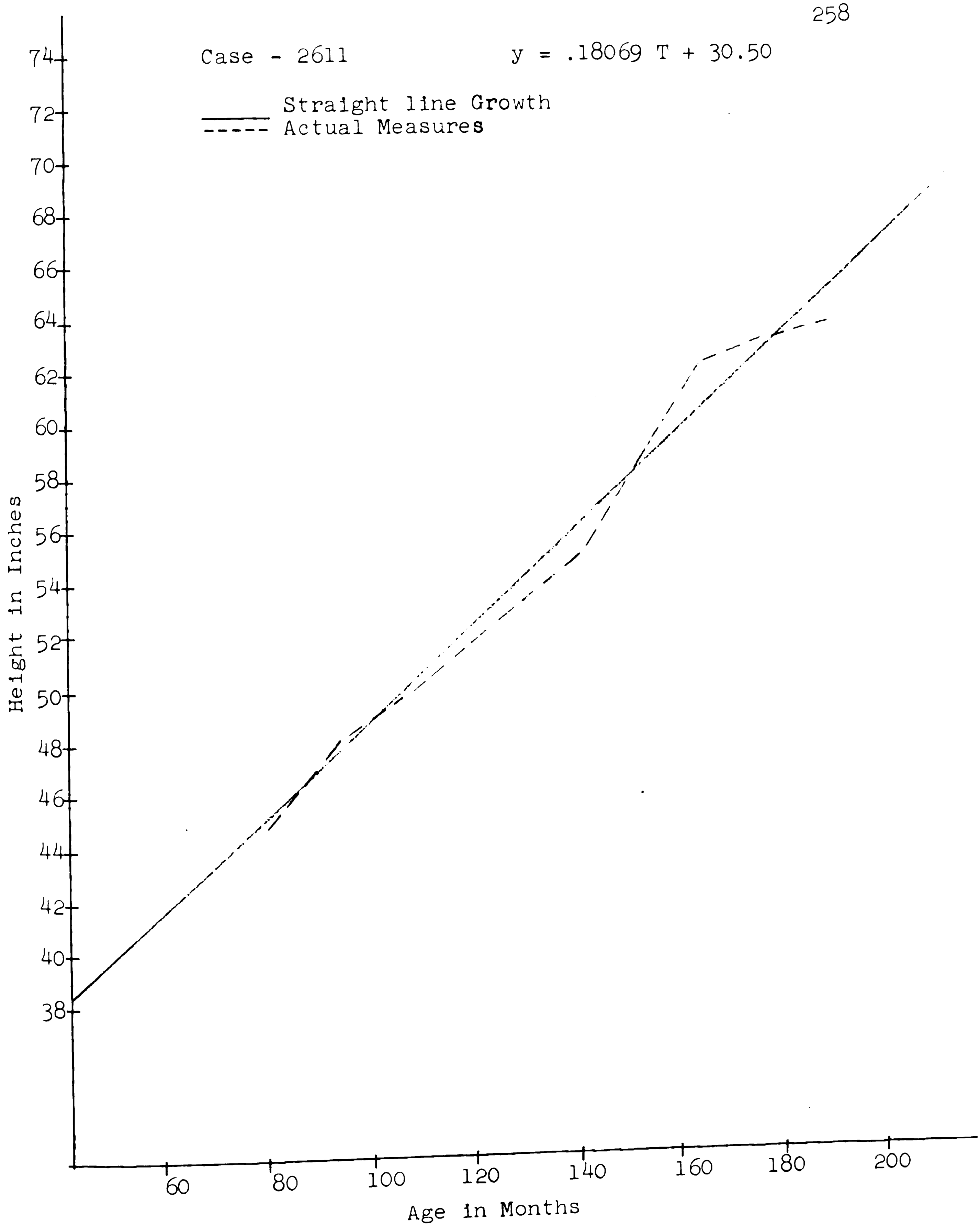
Case - 2456 $y = .19854\,t + 30.97$



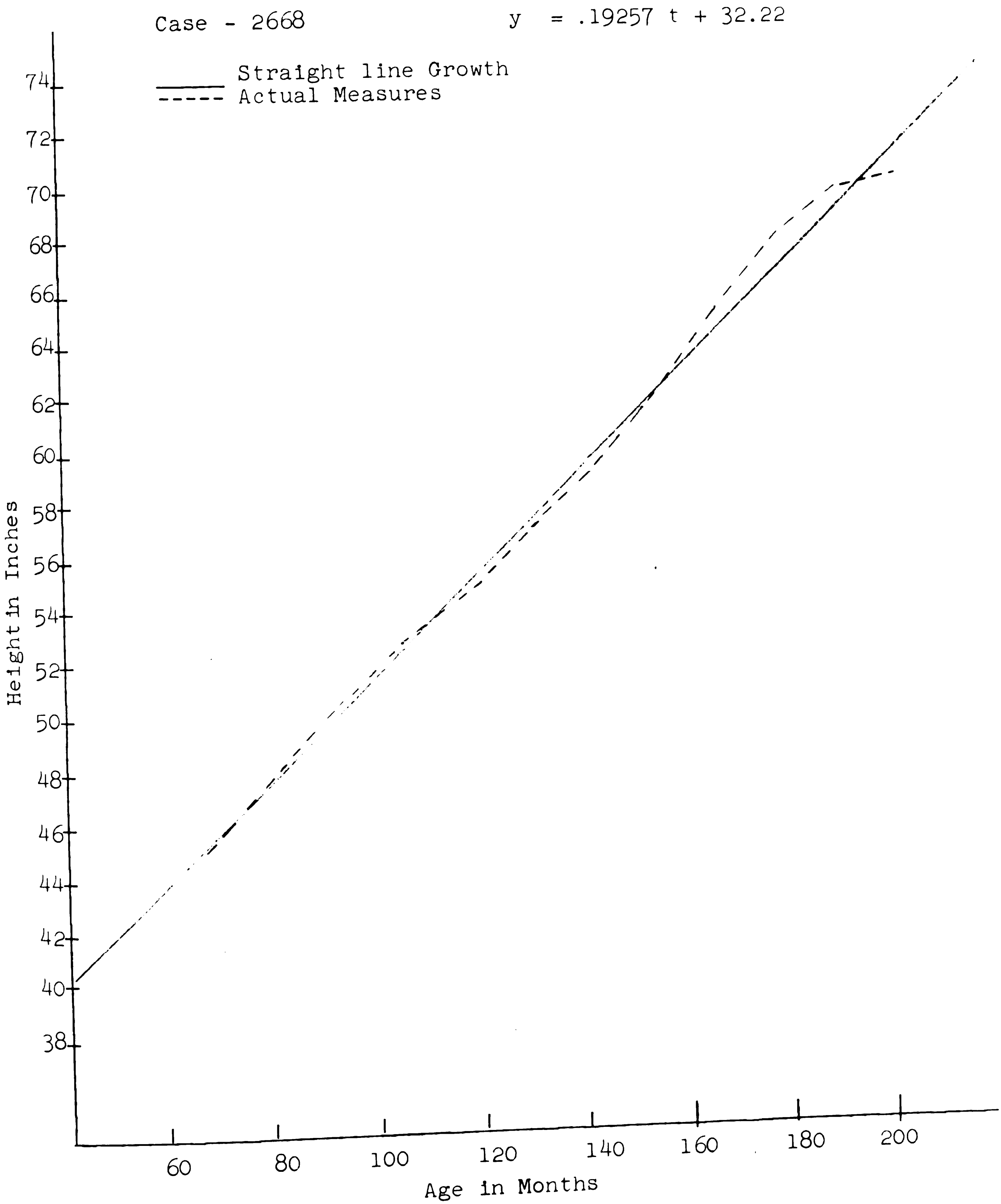

Case - 2539
y = .21062 t + 31.55
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

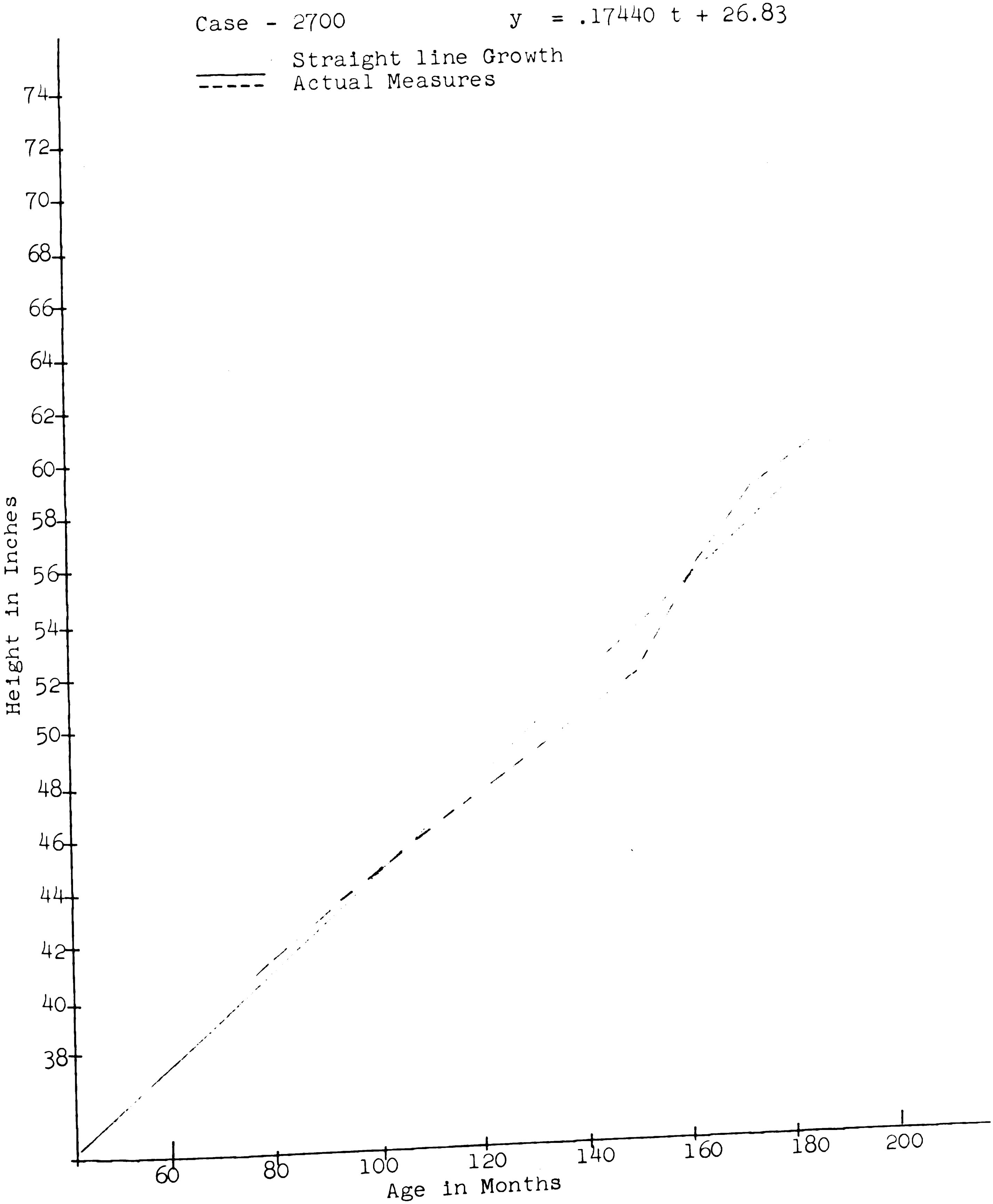

Case - 2547
y = .19717 t + 36.71
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

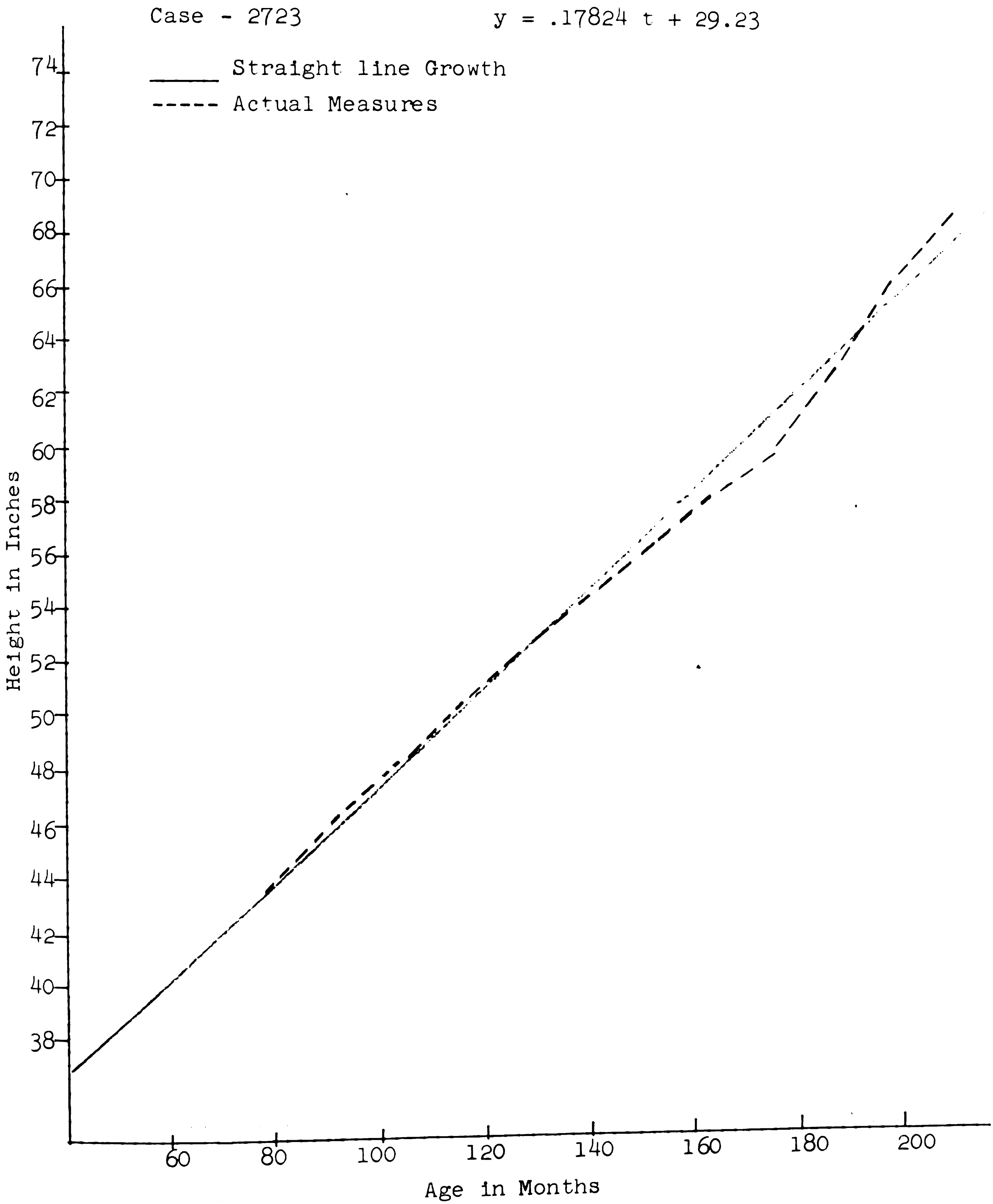

Case - 2569
y = .17531 t + 30.36
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months



Case - 2611
y = .18069 T + 30.50
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 2668
y = .19257 t + 32.22
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

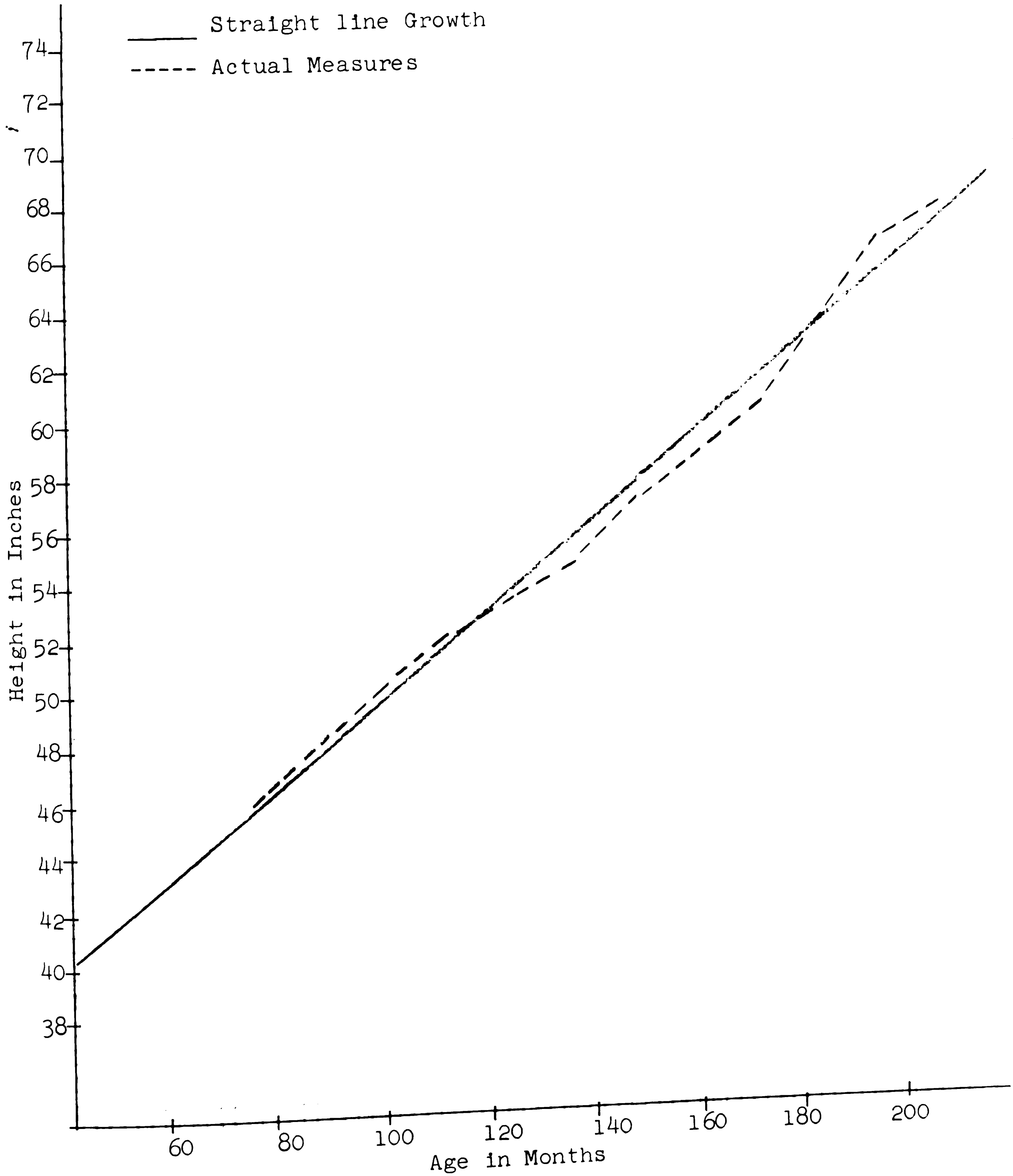

Case - 2700
y = .17440 t + 26.83
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months



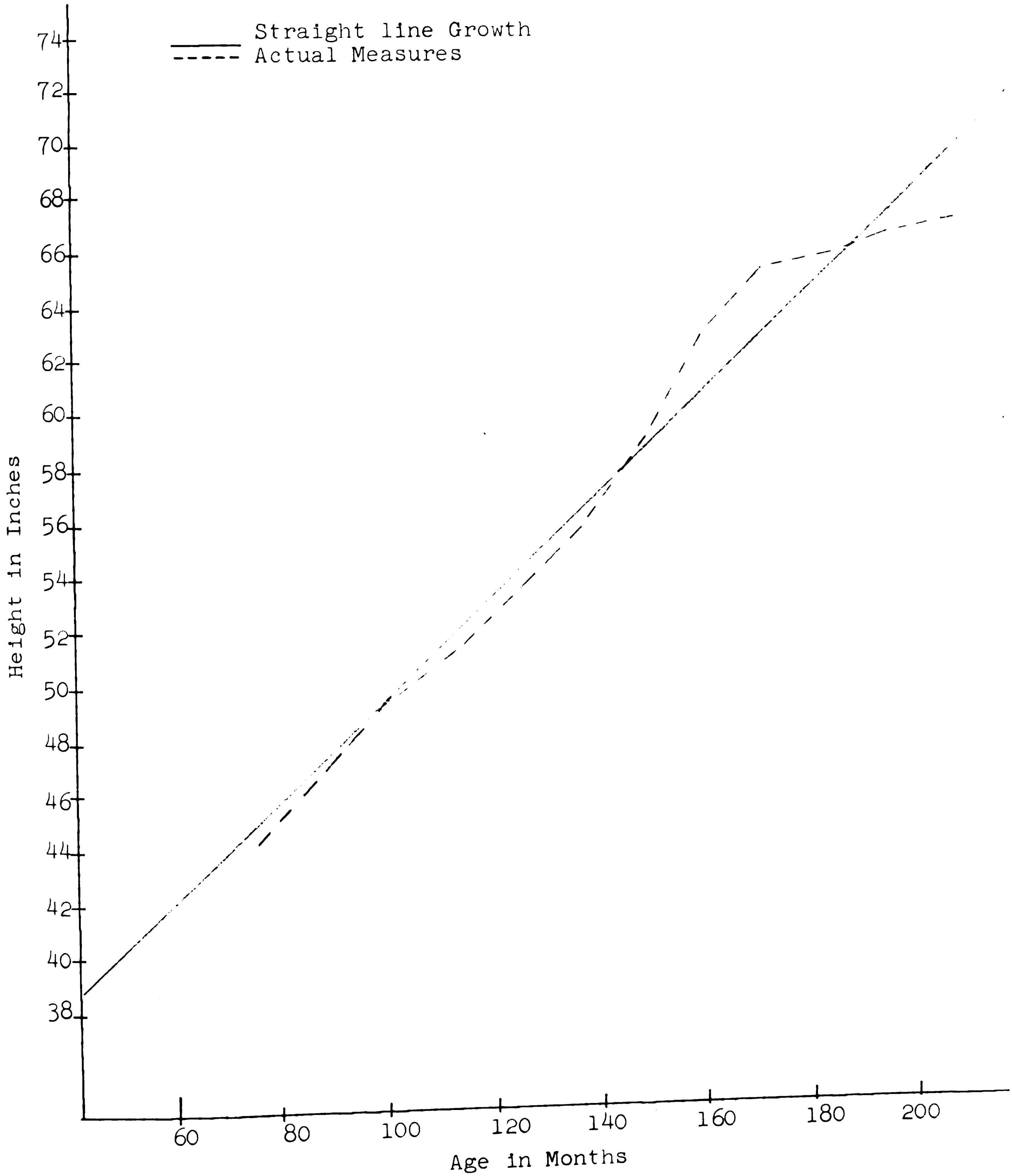
Case - 2723
y = .17824 t + 29.23
Straight line Growth
----- Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

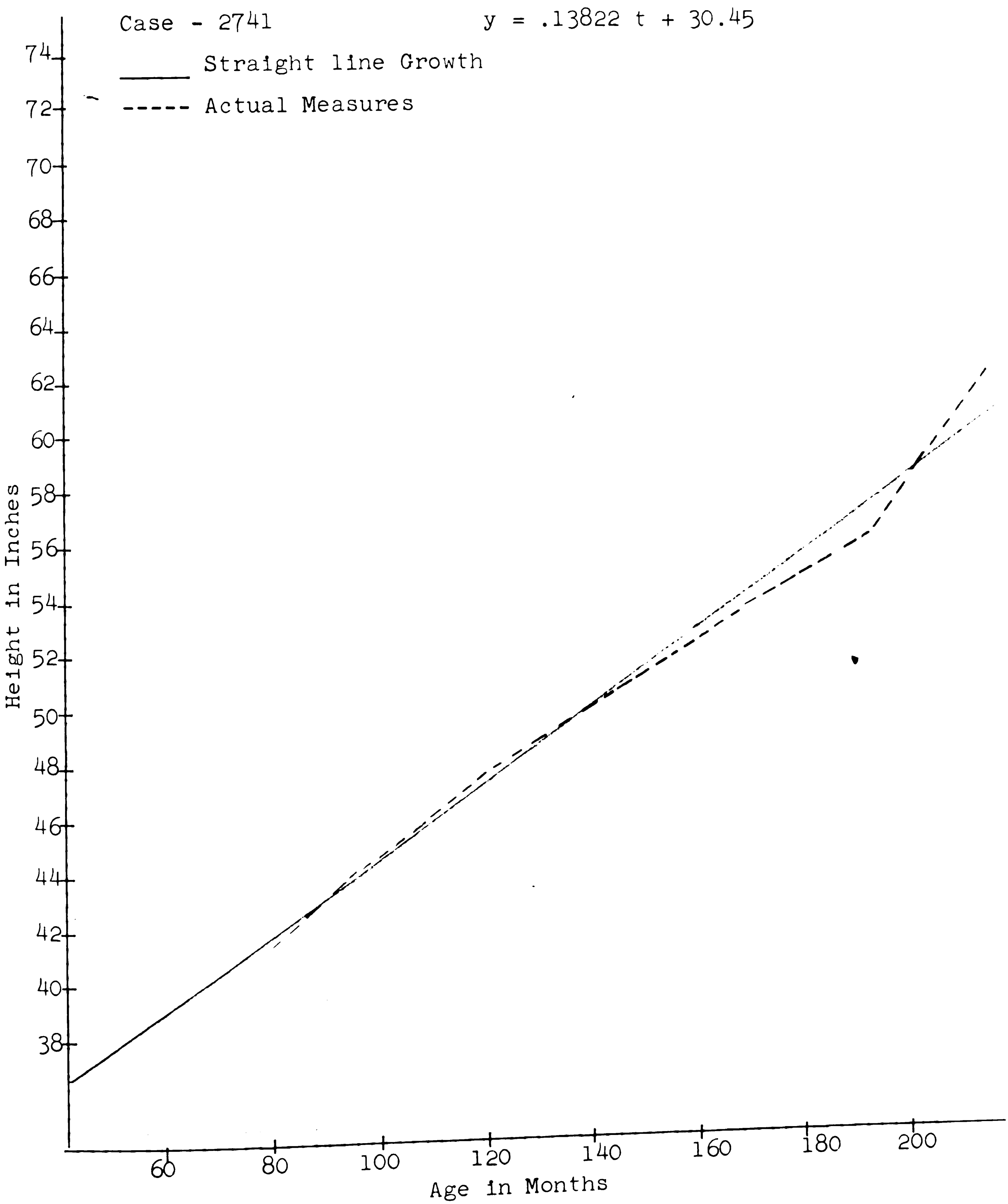
Case - 2728

$y = .15891\ t + 33.54$



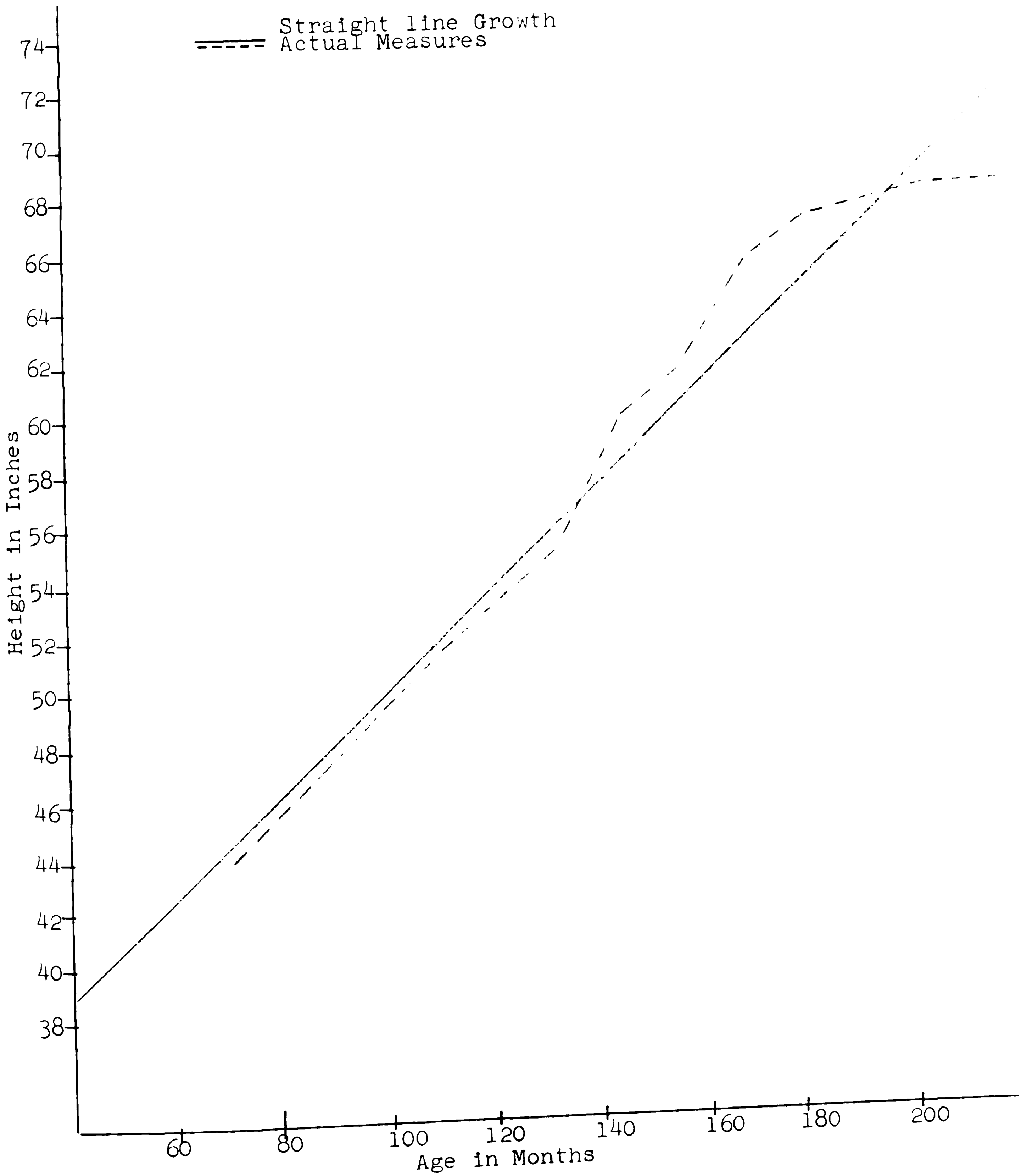
Case - 2738 y = .18424 T + 30.98

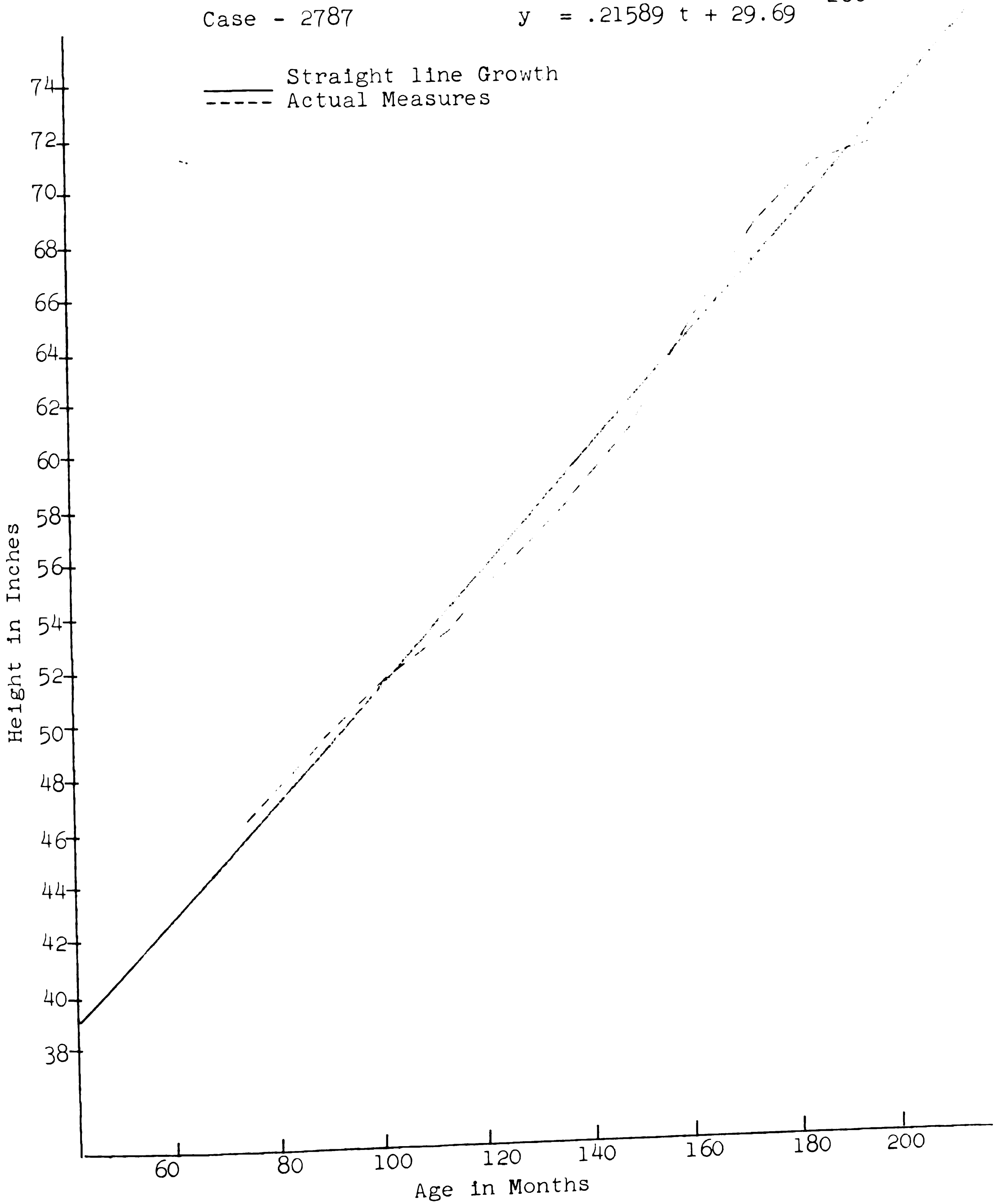




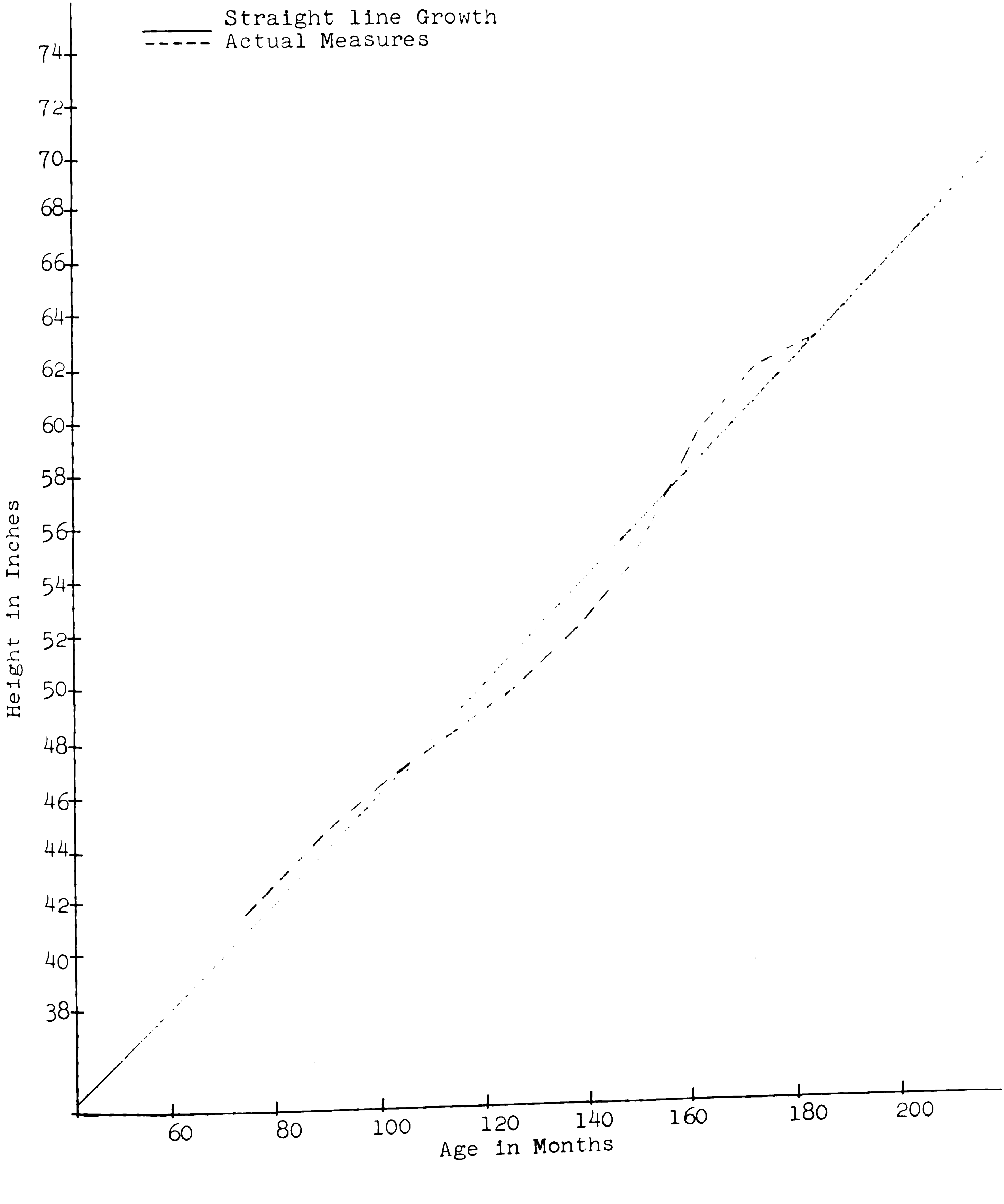
Case - 2741
y = .13822 t + 30.45
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

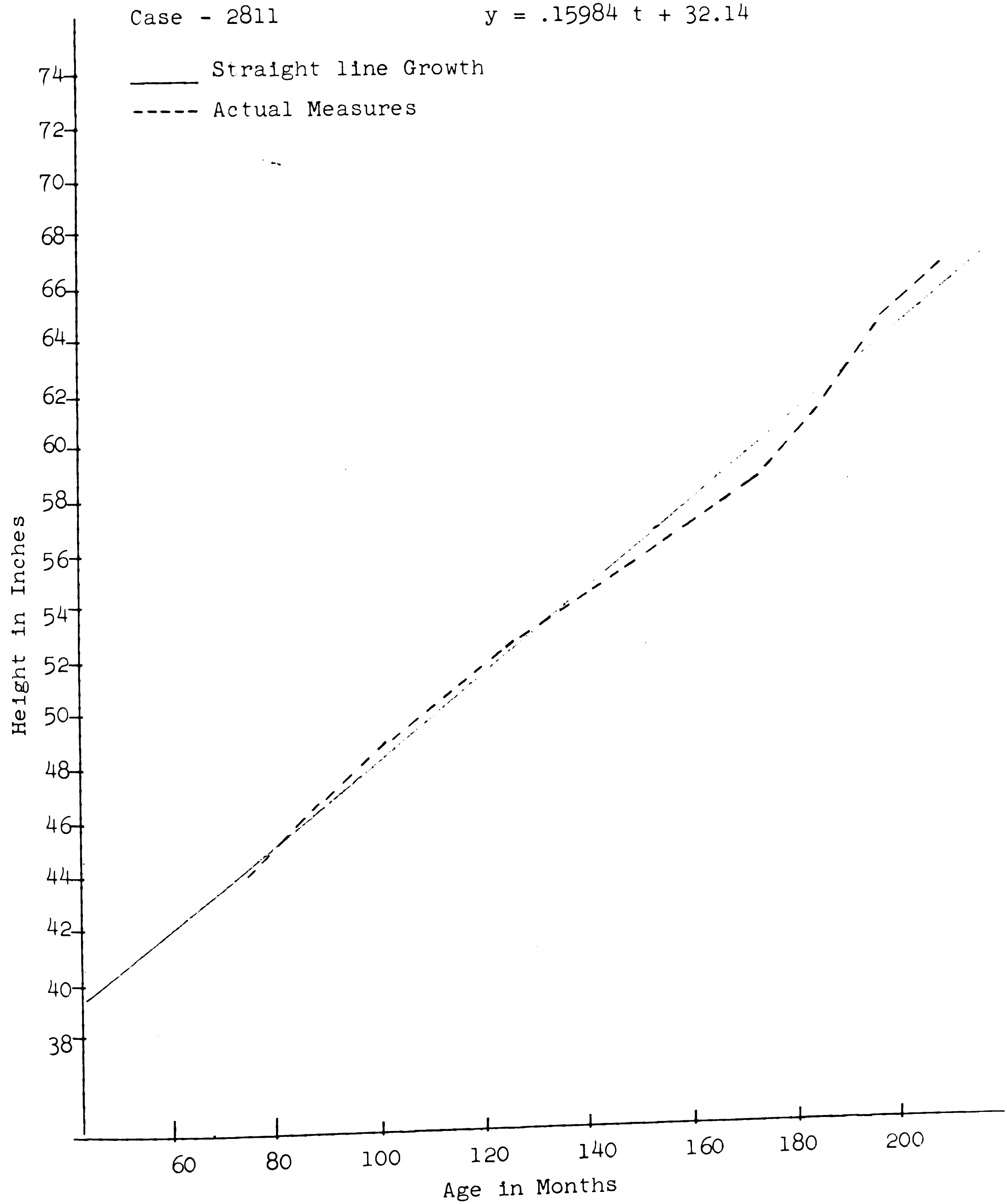
Case - 2762 $y = .18143\ t + 31.74$

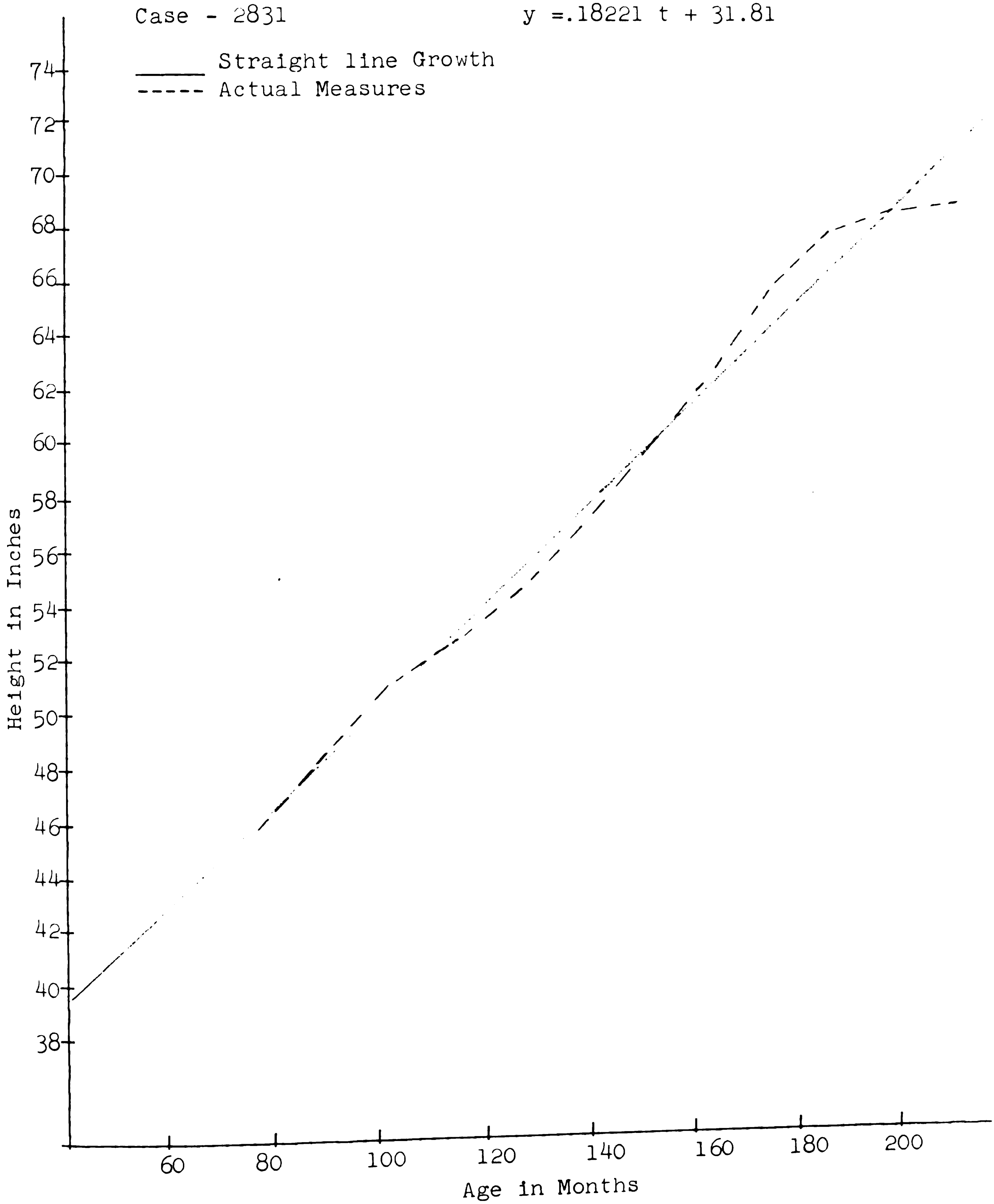


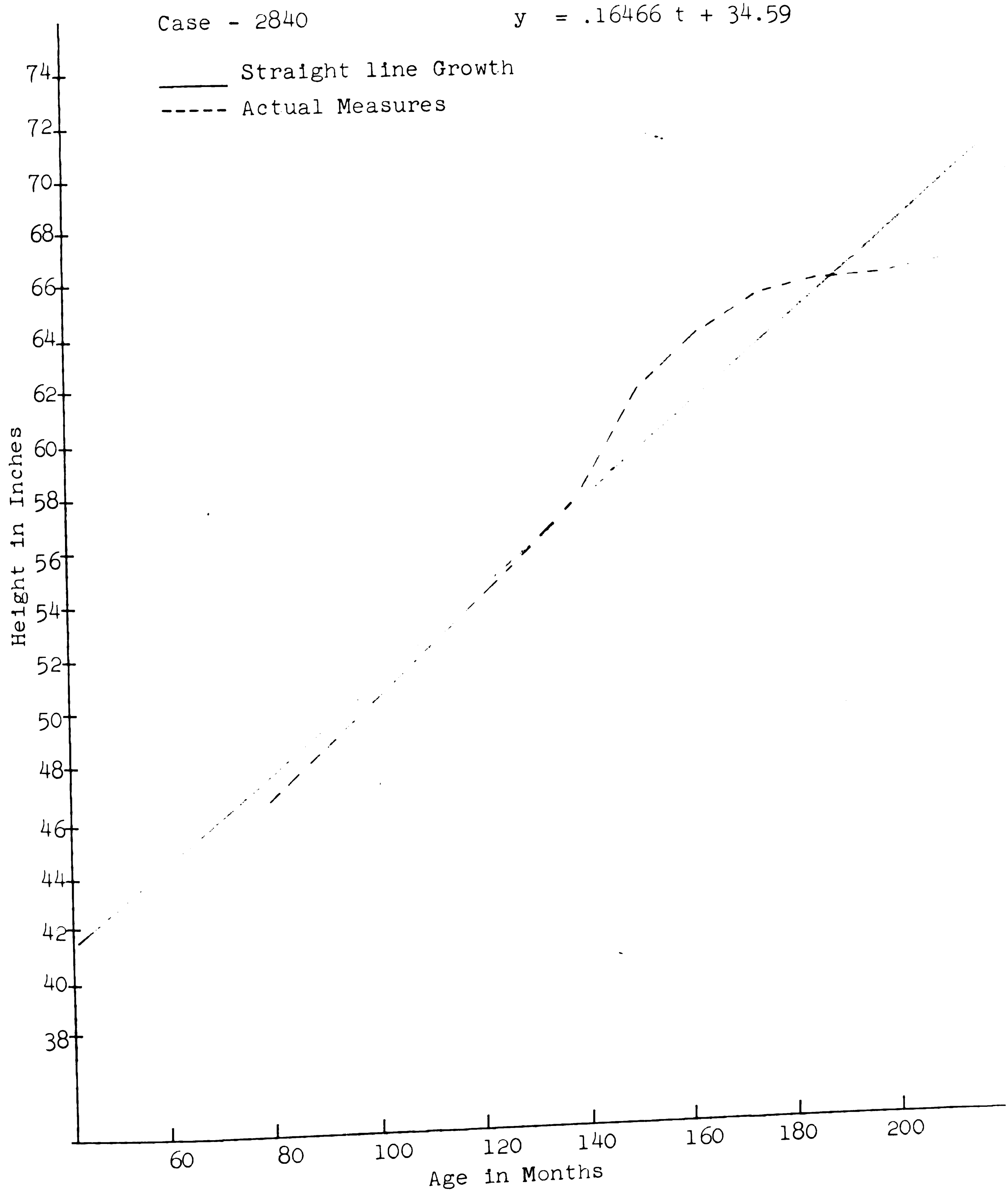

Case - 2787
y = .21589 t + 29.69
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

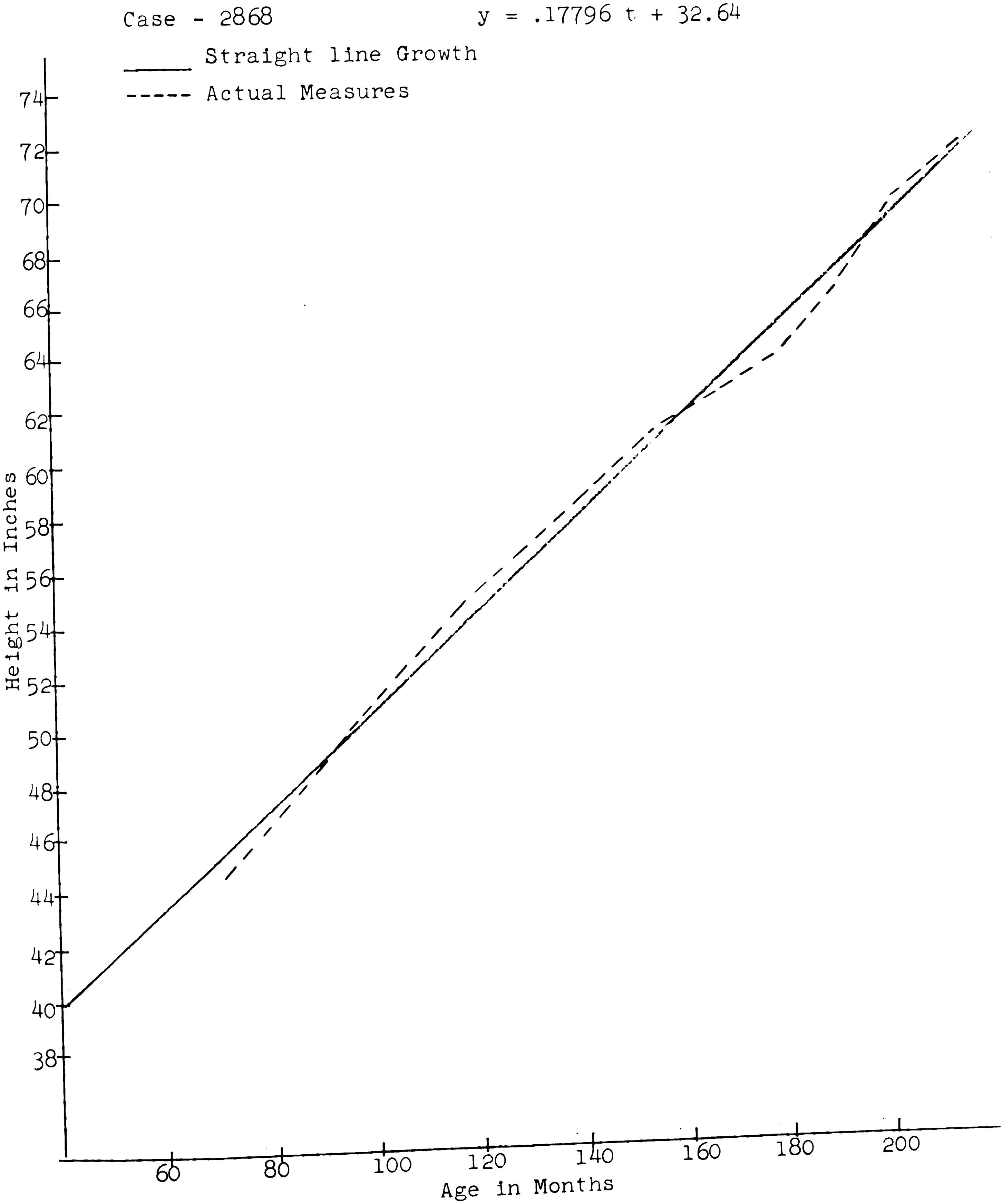
Case - 2805 y = .19928 t + 26.09




Case - 2811
y = .15984 t + 32.14
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

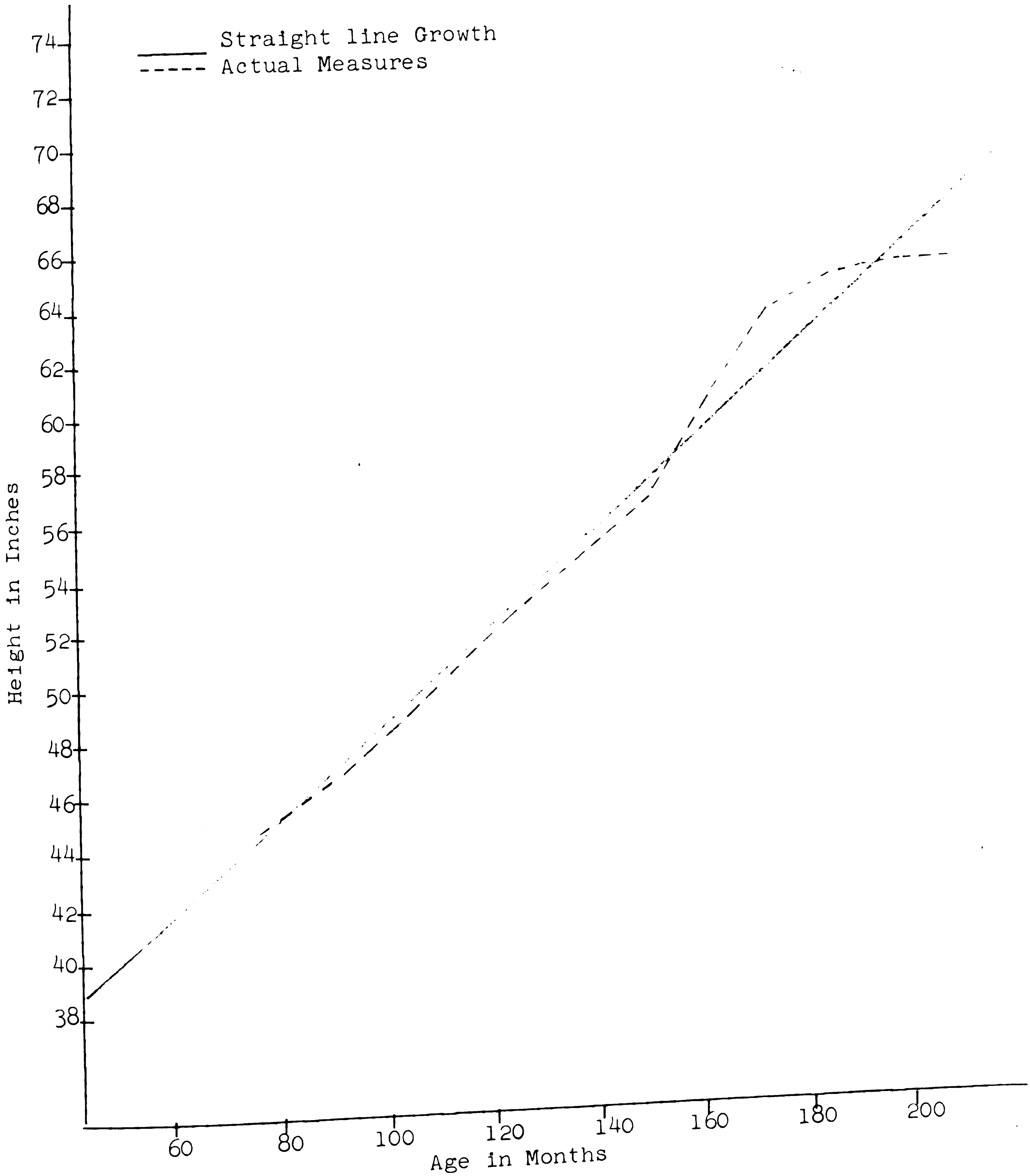

Case - 2831
y =.18221 t + 31.81
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 2840
y = .16466 t + 34.59
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 2868
y = .17796 t + 32.64
Straight line Growth
----- Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

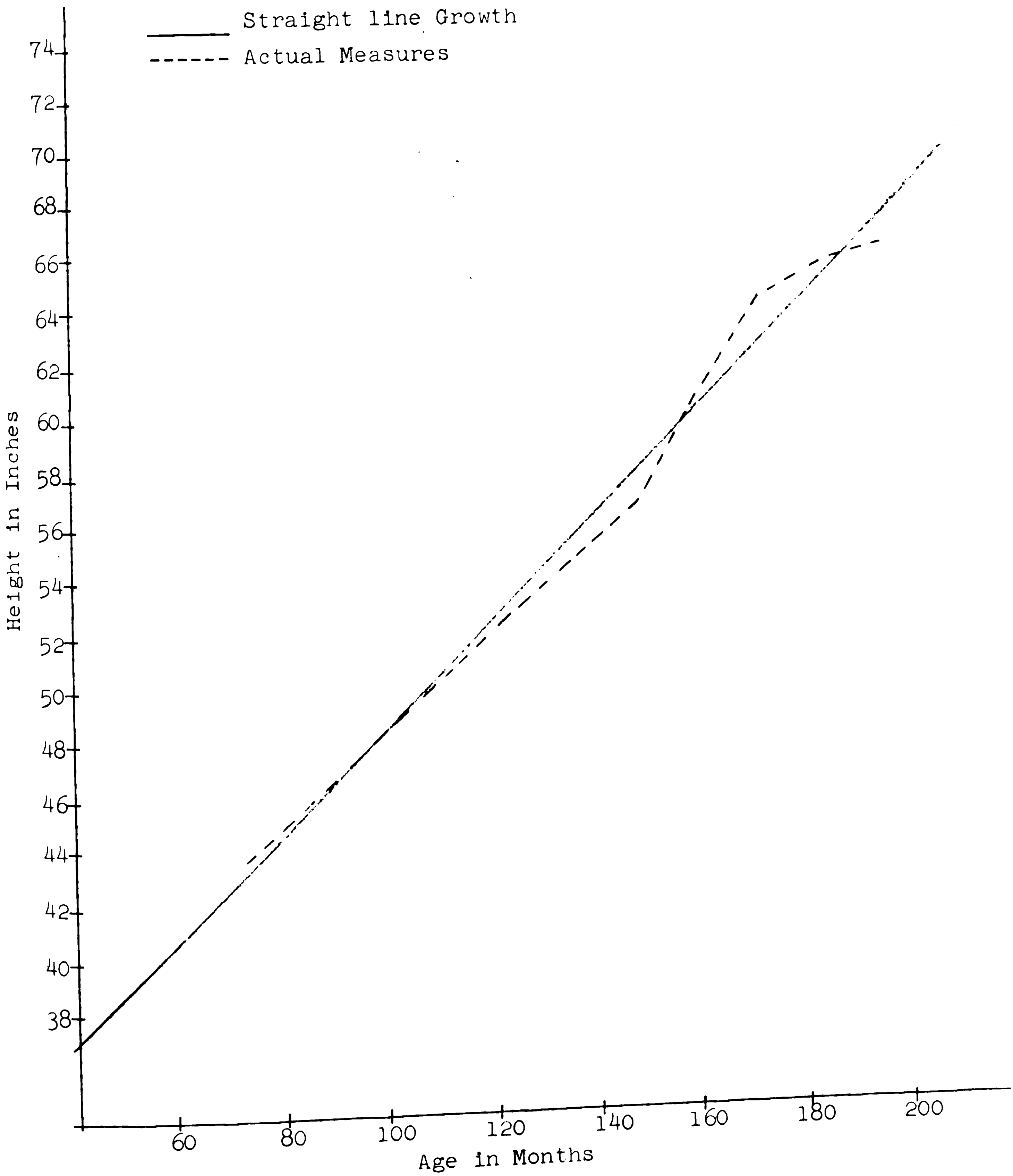
Case - 2961

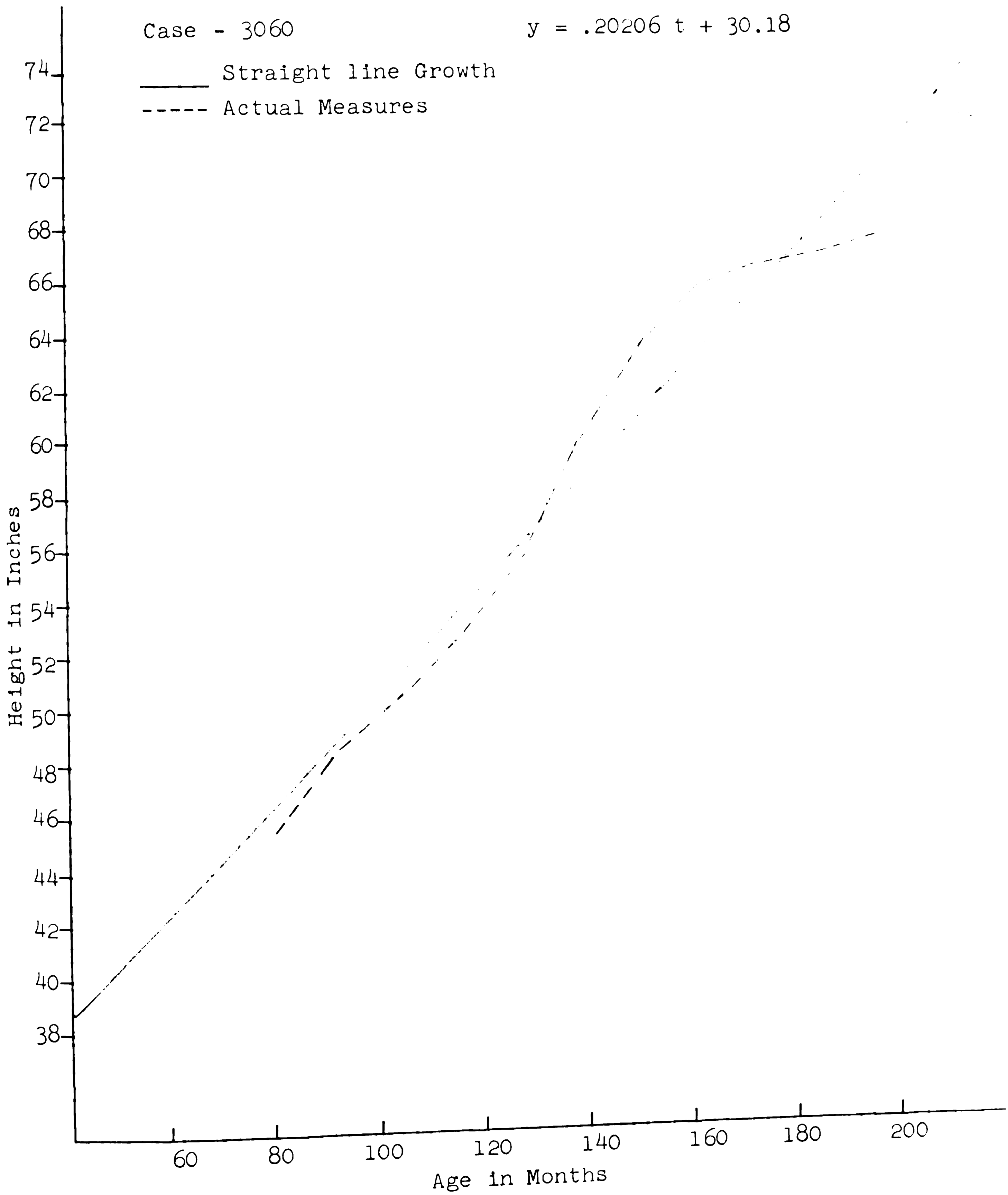
$y = .17364\ t + 31.25$



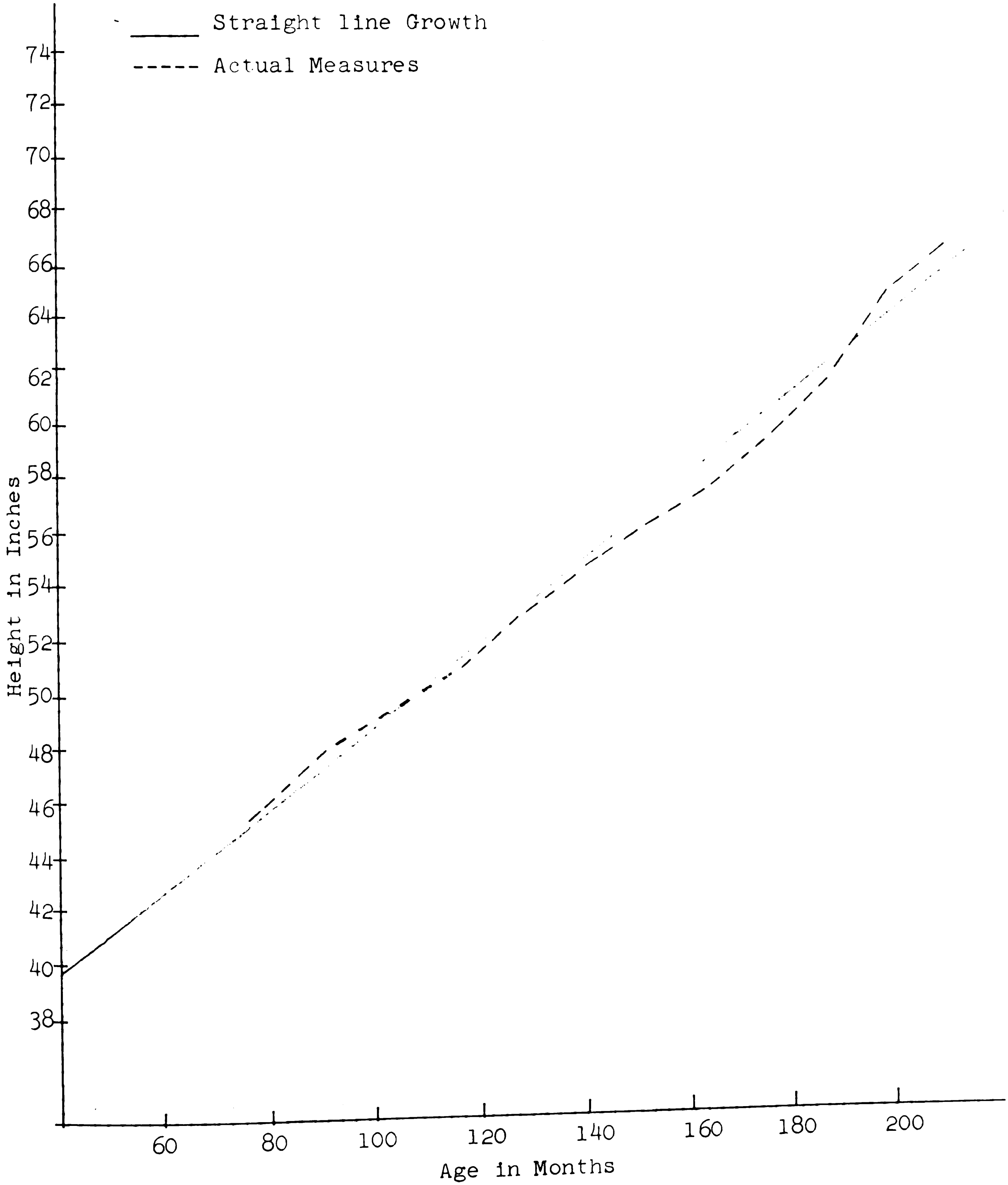
Case - 3039

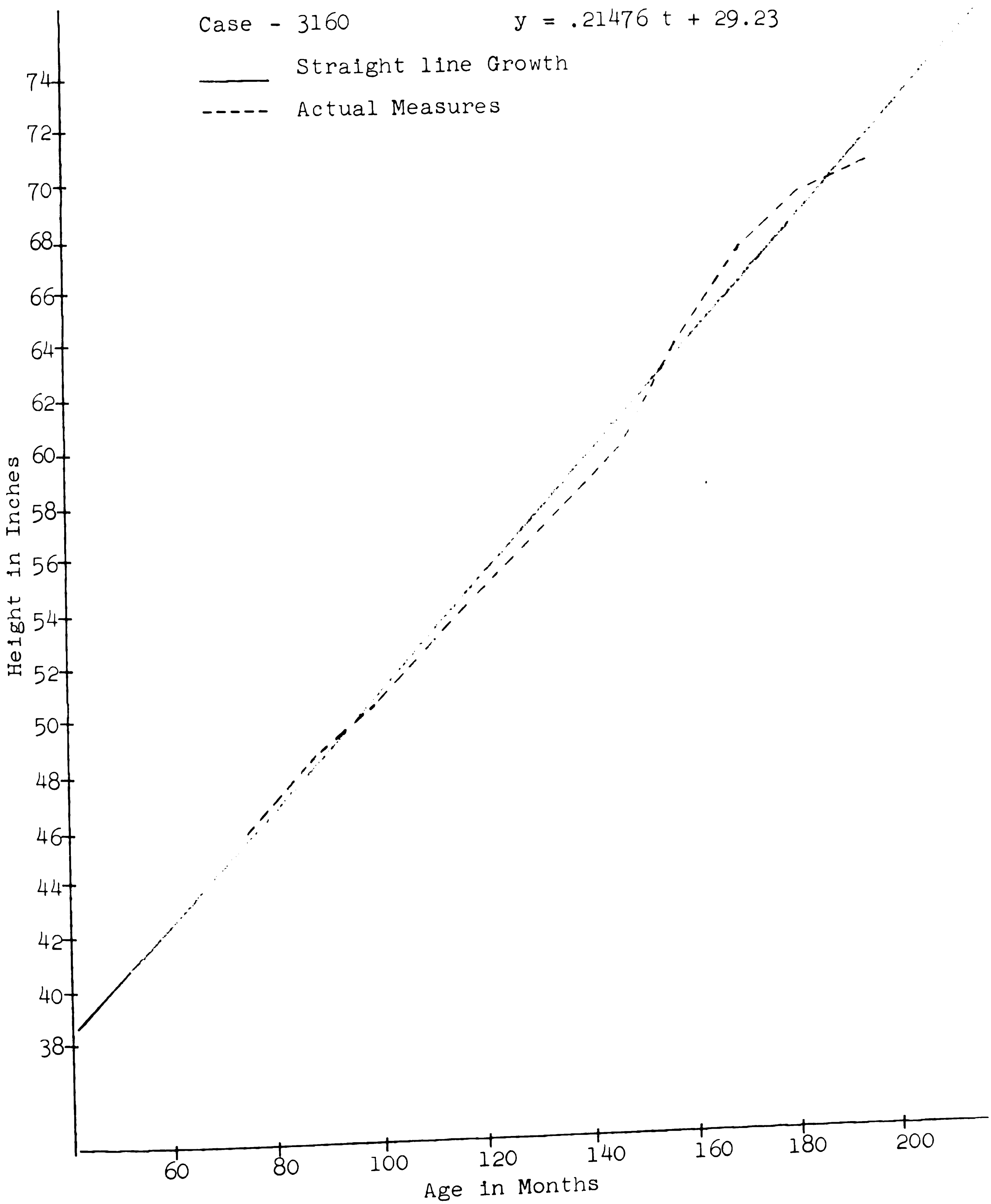
$y = .19641\ t + 28.77$




Case - 3060
y = .20206 t + 30.18
Straight line Growth
----- Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

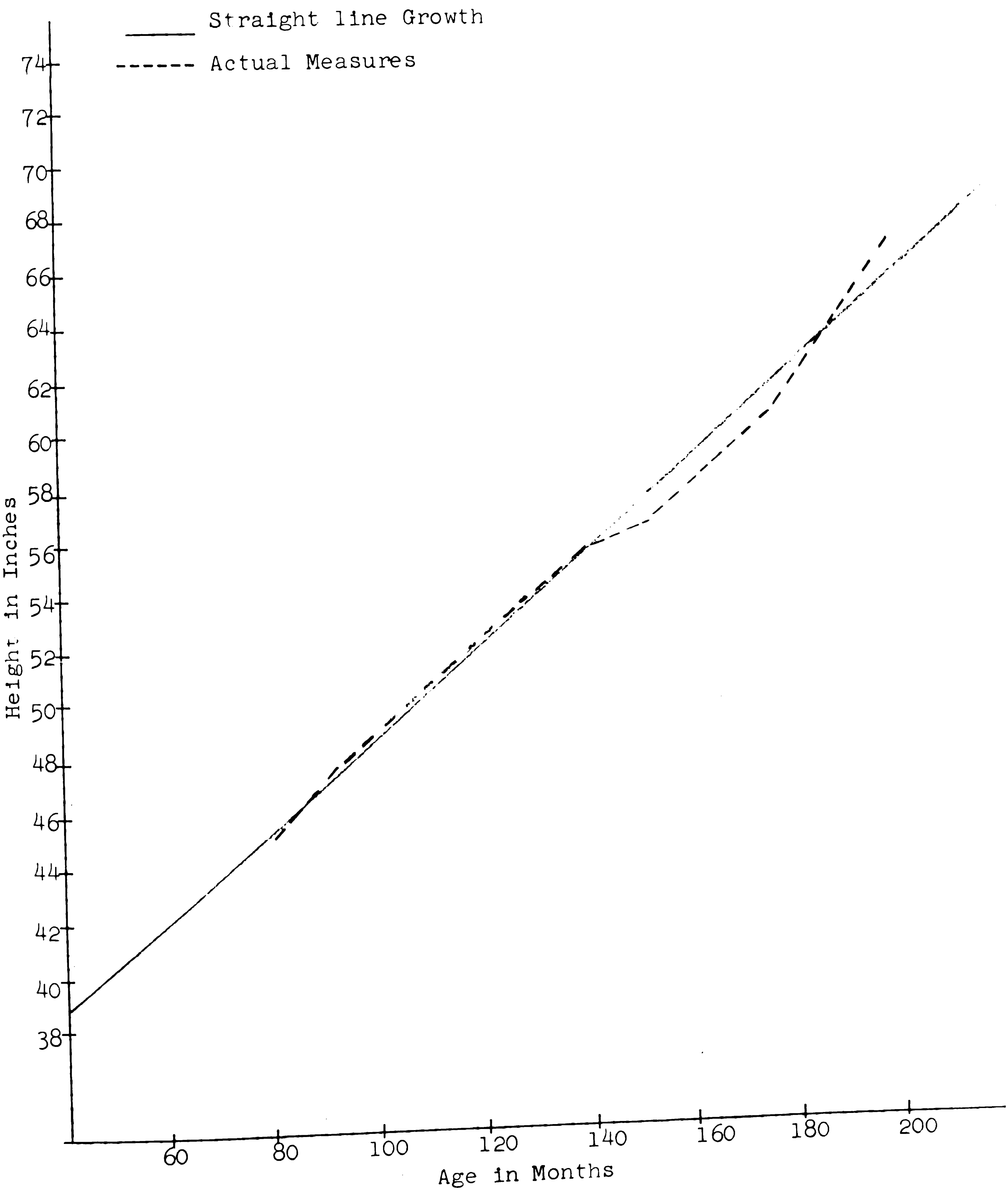
Case - 3091 $y = .15225\ t + 33.29$



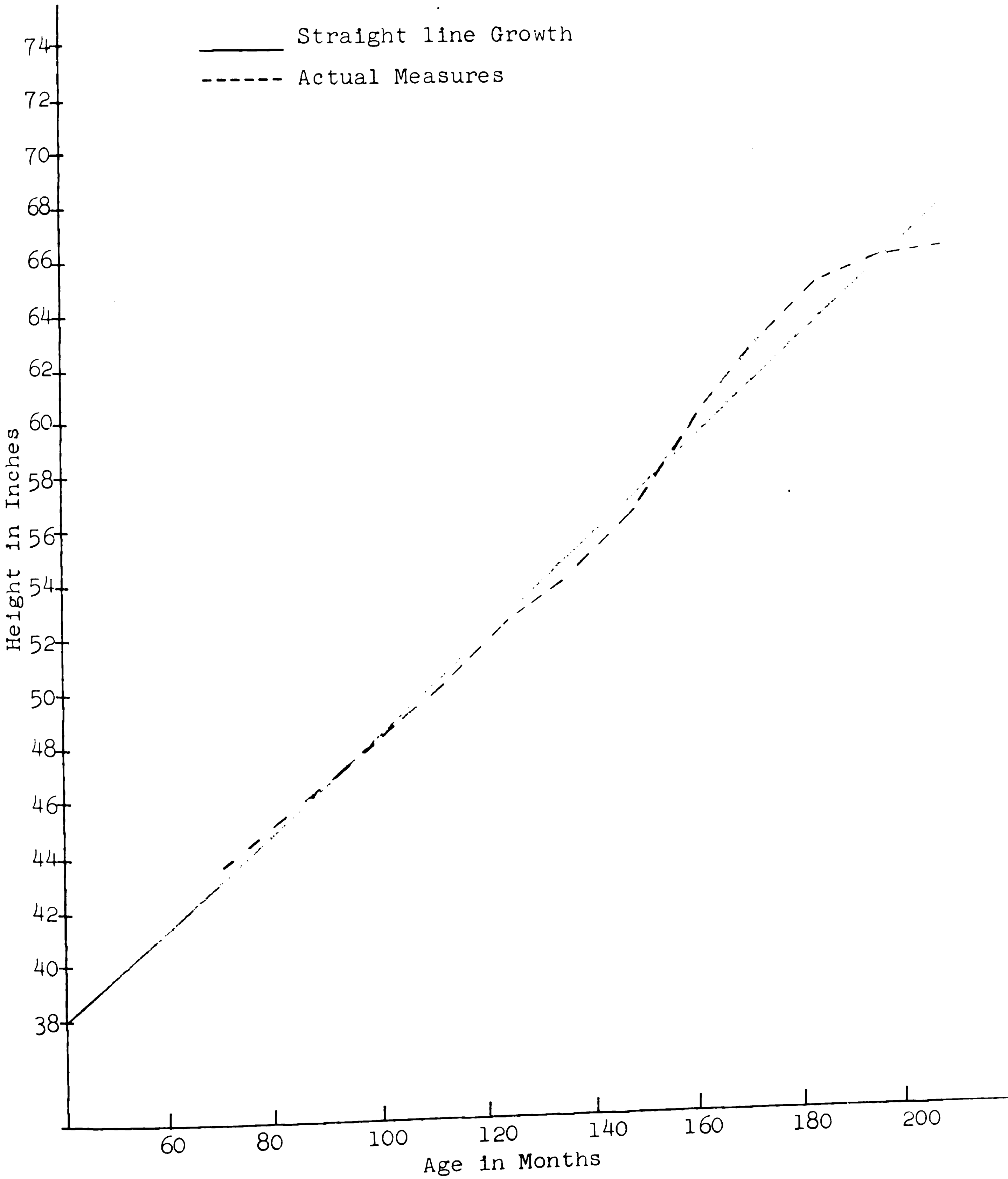

Case - 3160
y = .21476 t + 29.23
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

Case - 3189

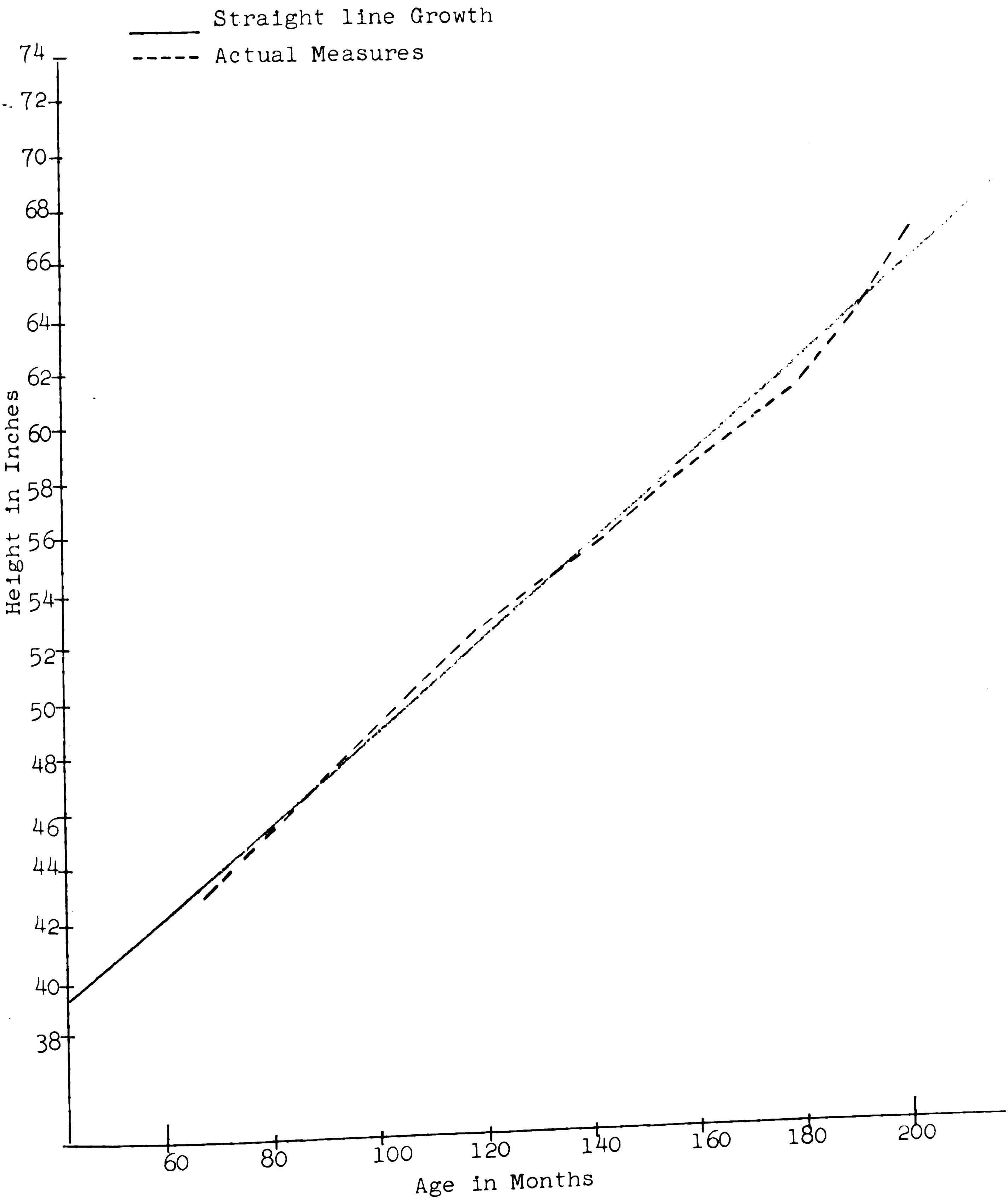
$y = .16747\ t + 31.67$

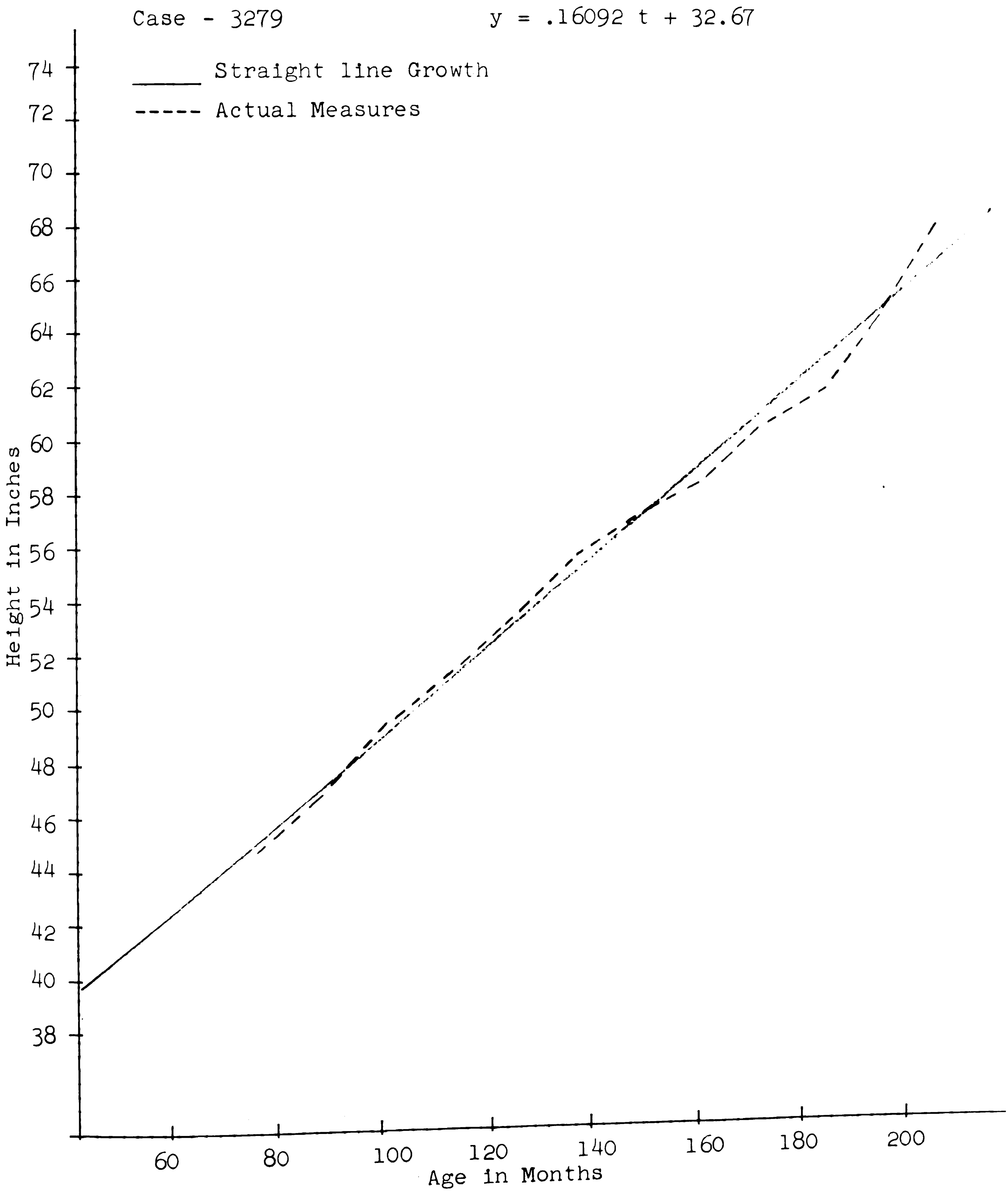


Case - 3237 $y = .17901\ t + 30.32$

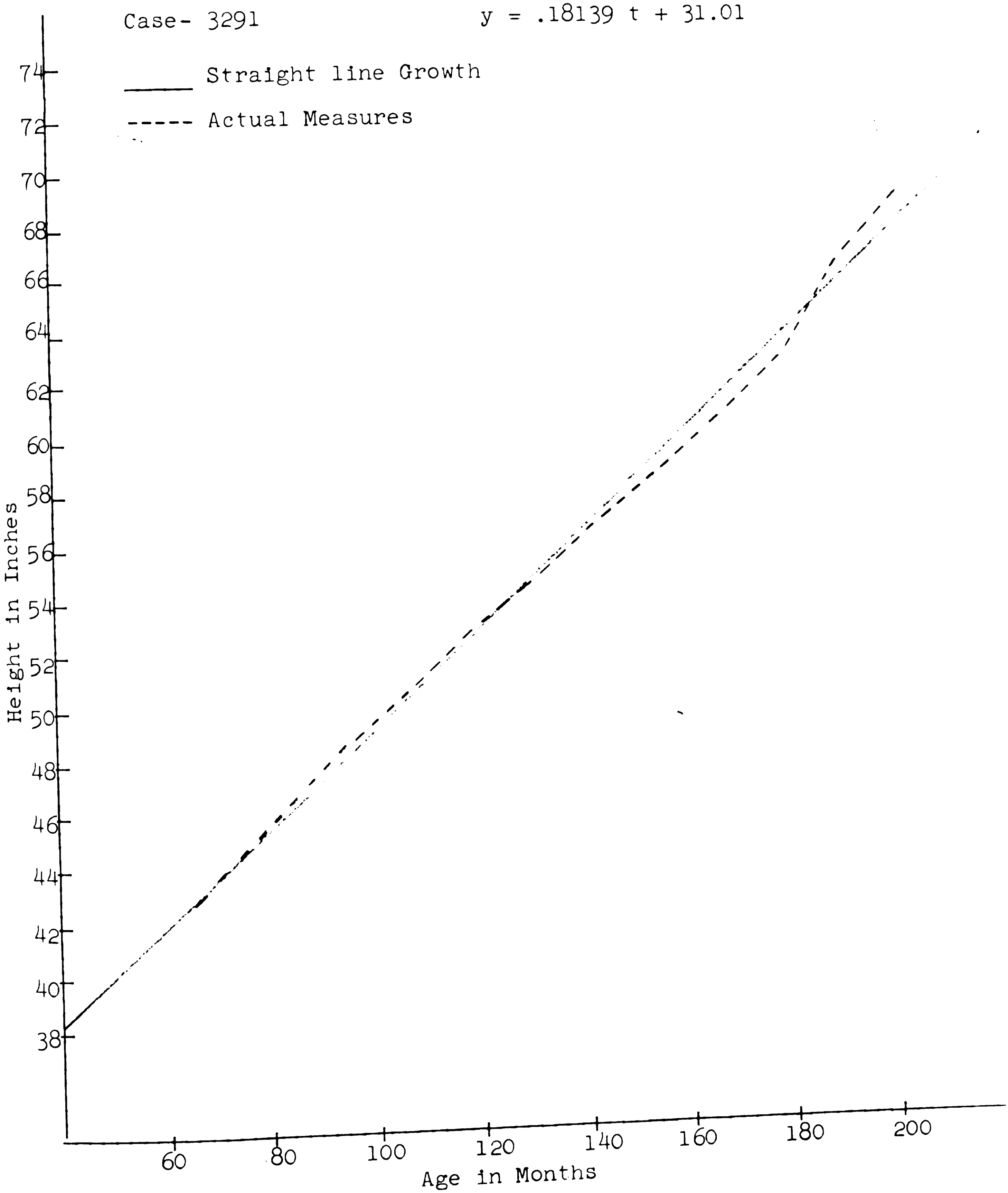


Case - 3272 $y = .16568 t + 32.09$

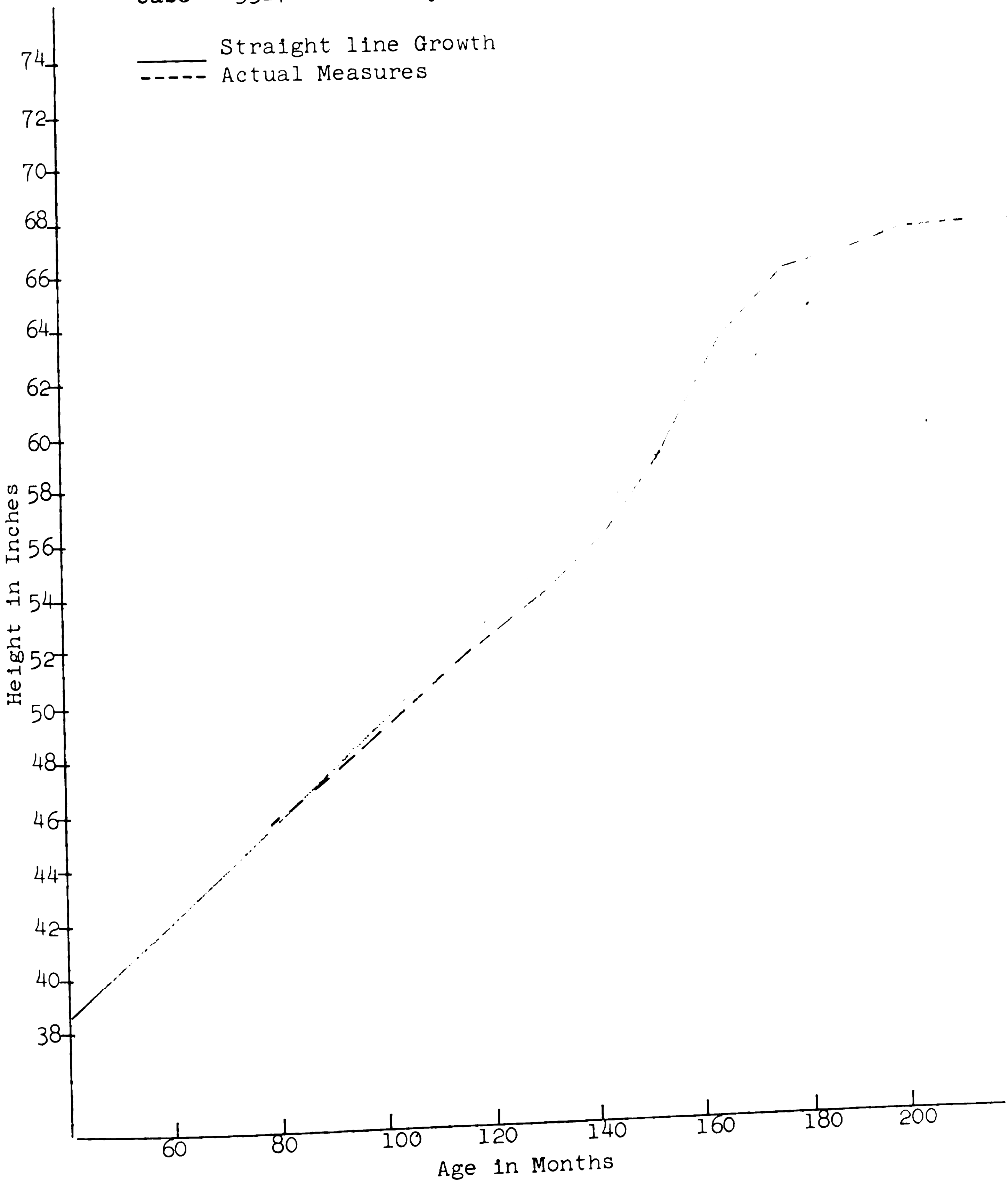


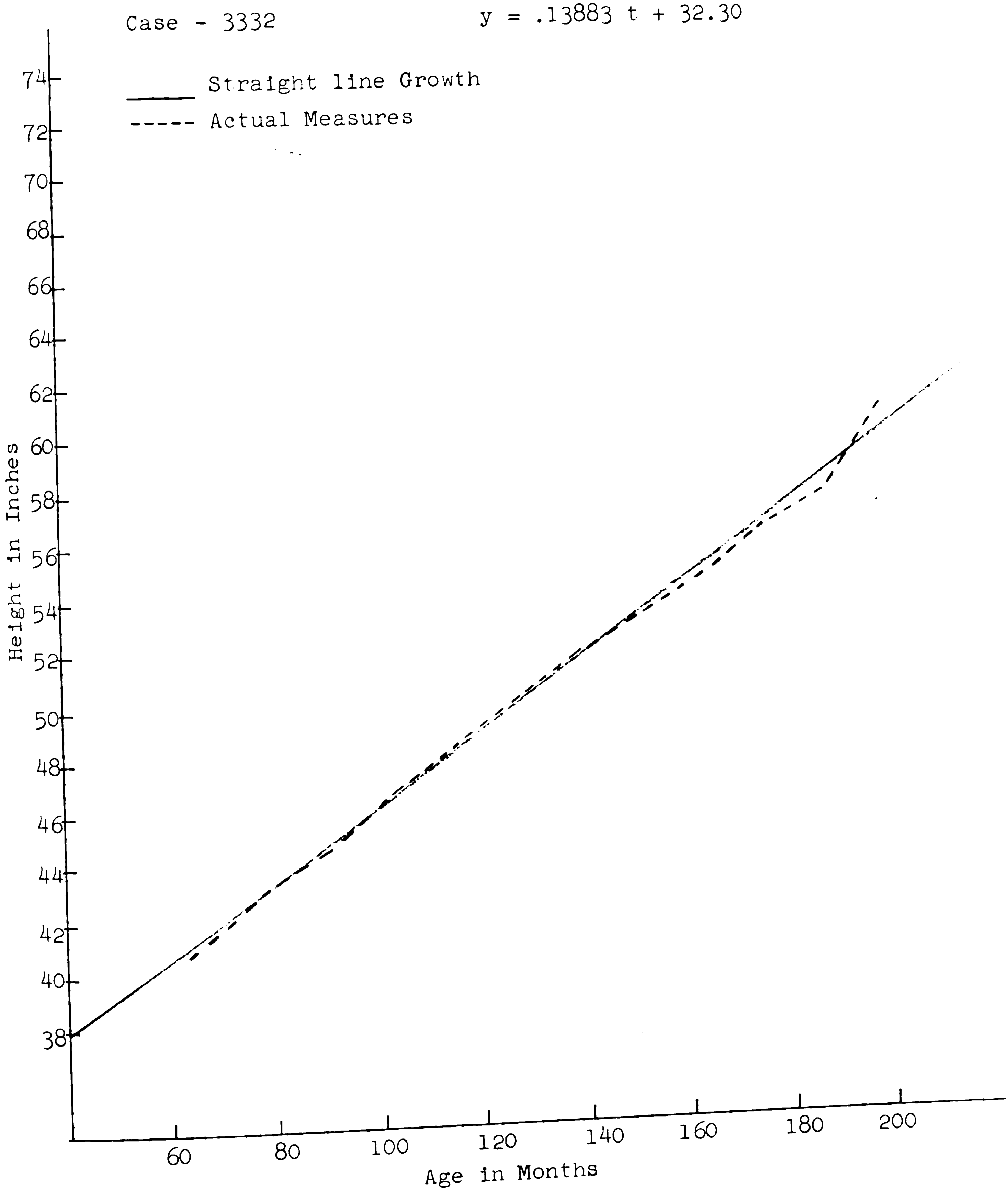


Case - 3279
y = .16092 t + 32.67
Straight line Growth
----- Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months


Case- 3291
y = .18139 t + 31.01
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

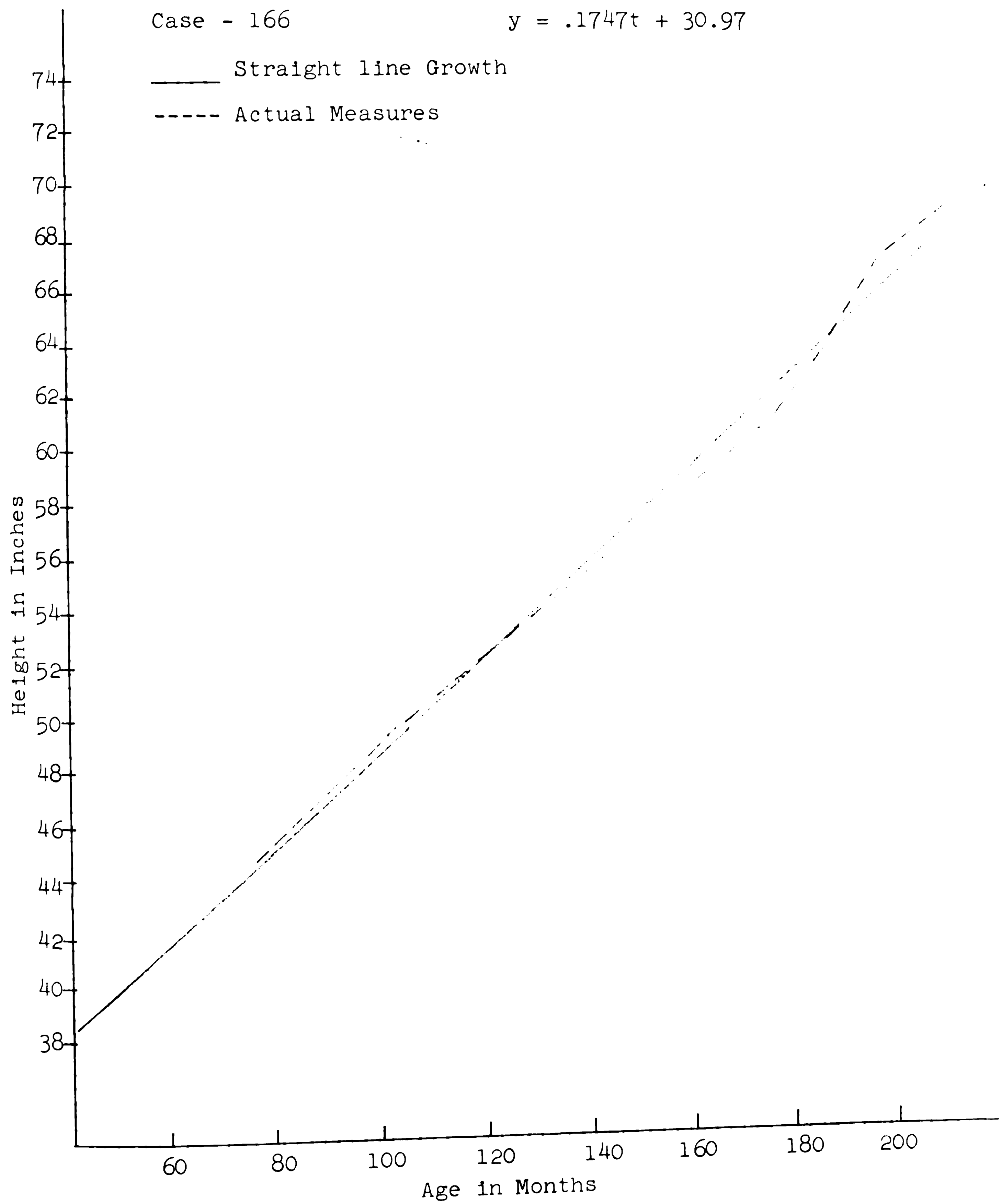
Case - 3317 $y = .18049\ t + 31.09$



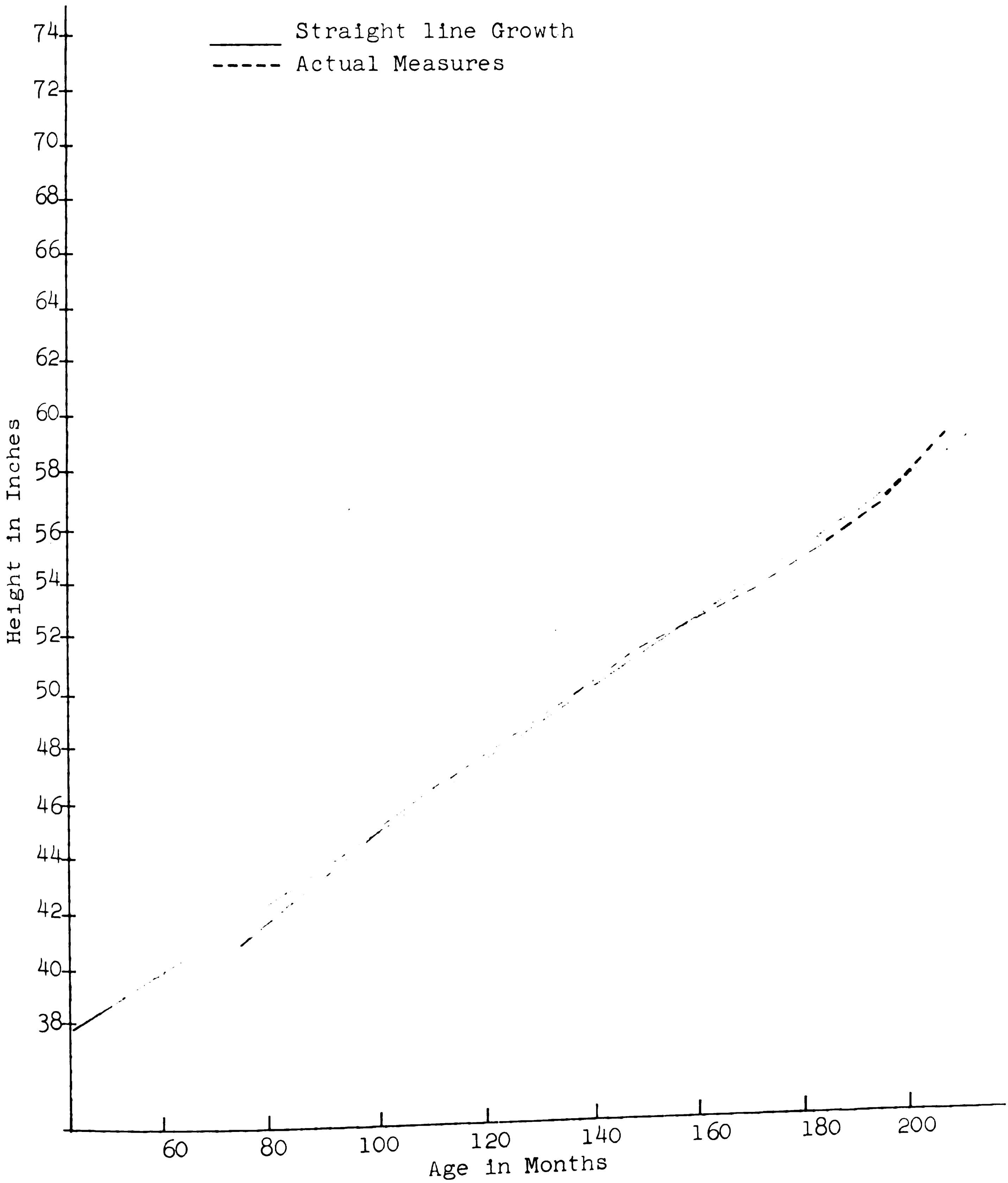

Case - 3332
y = .13883 t + 32.30
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

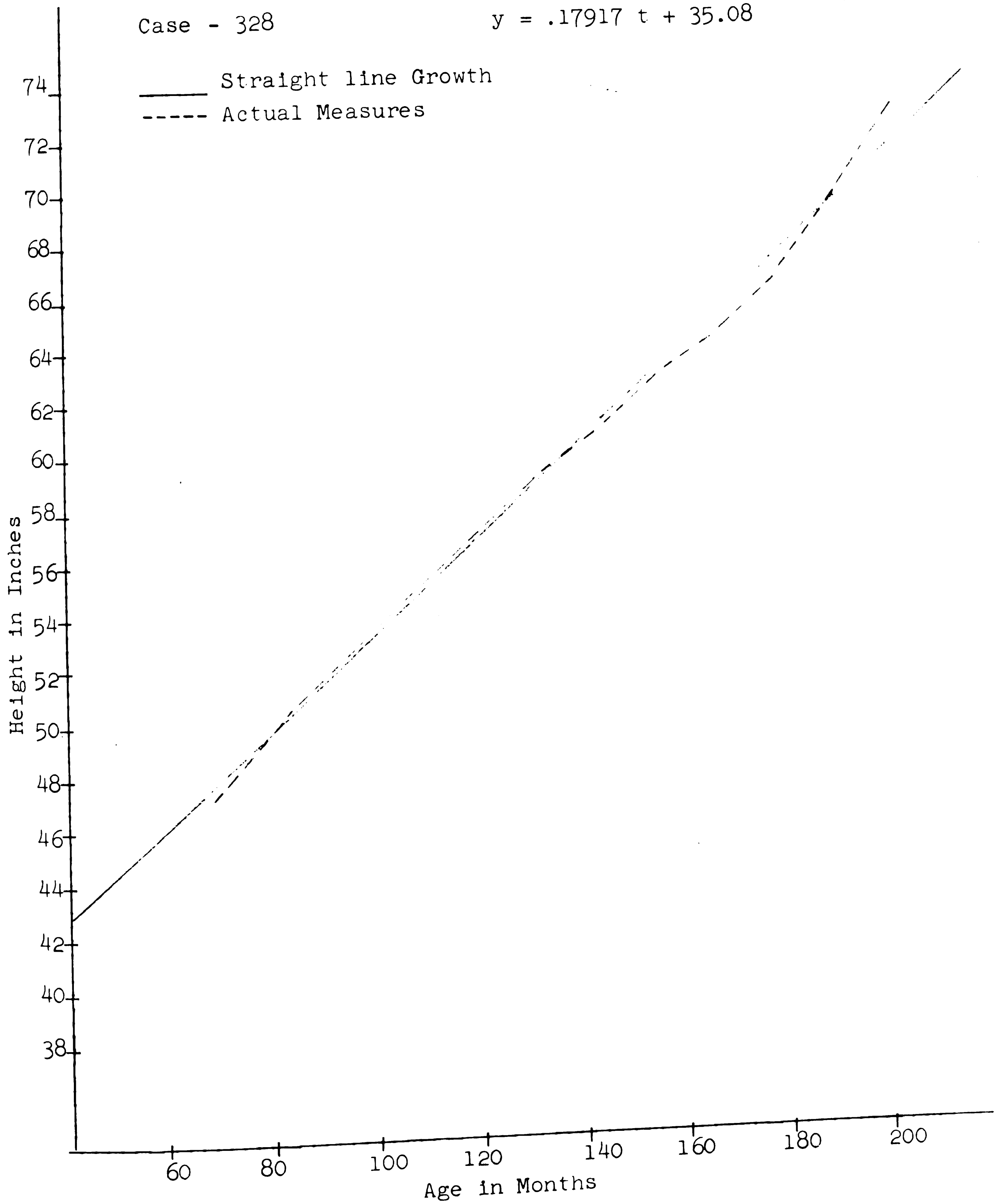
APPENDIX D

GRAPHIC ANALYSIS OF LATE MATURERS

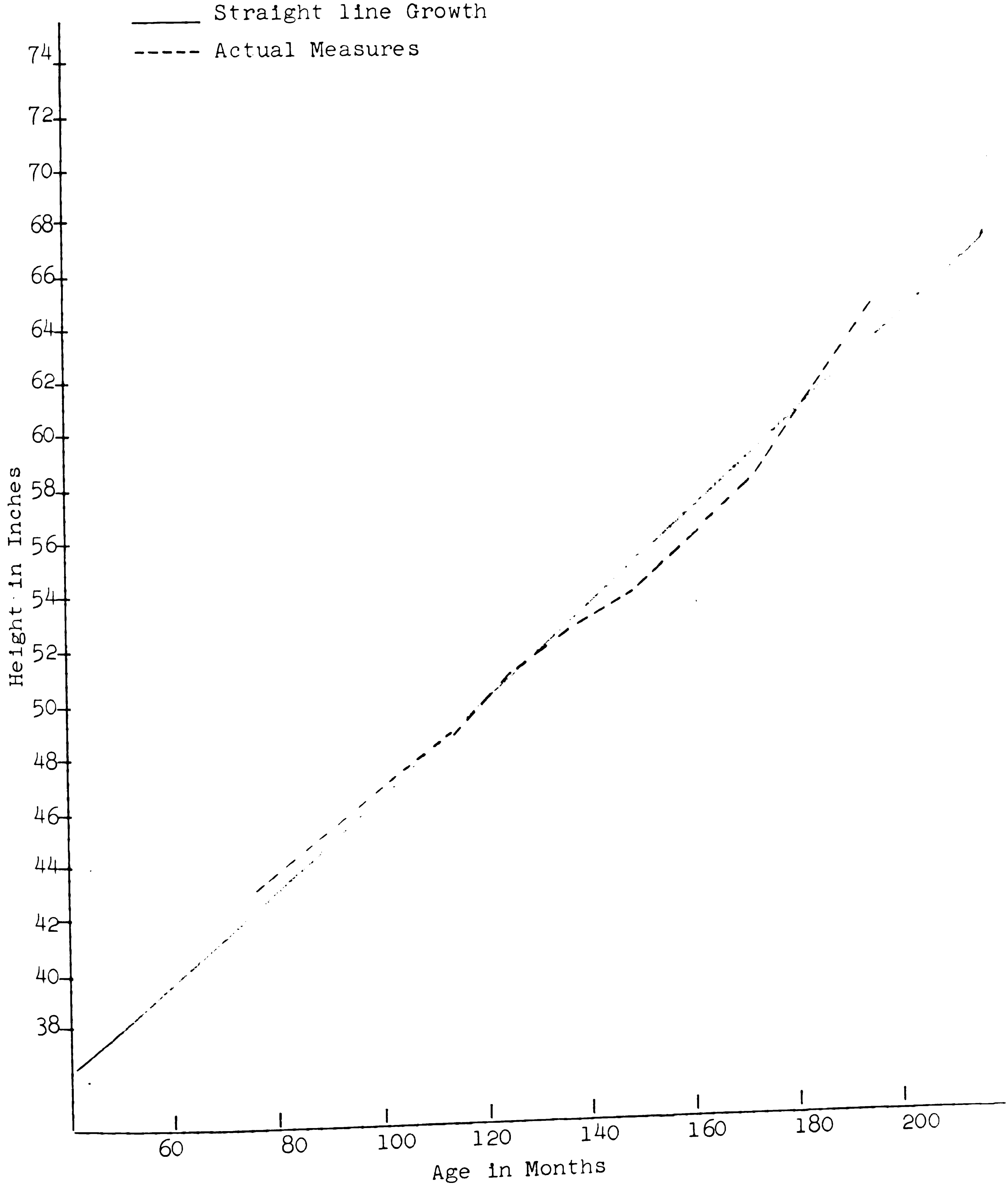

Case - 166
y = .1747t + 30.97
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

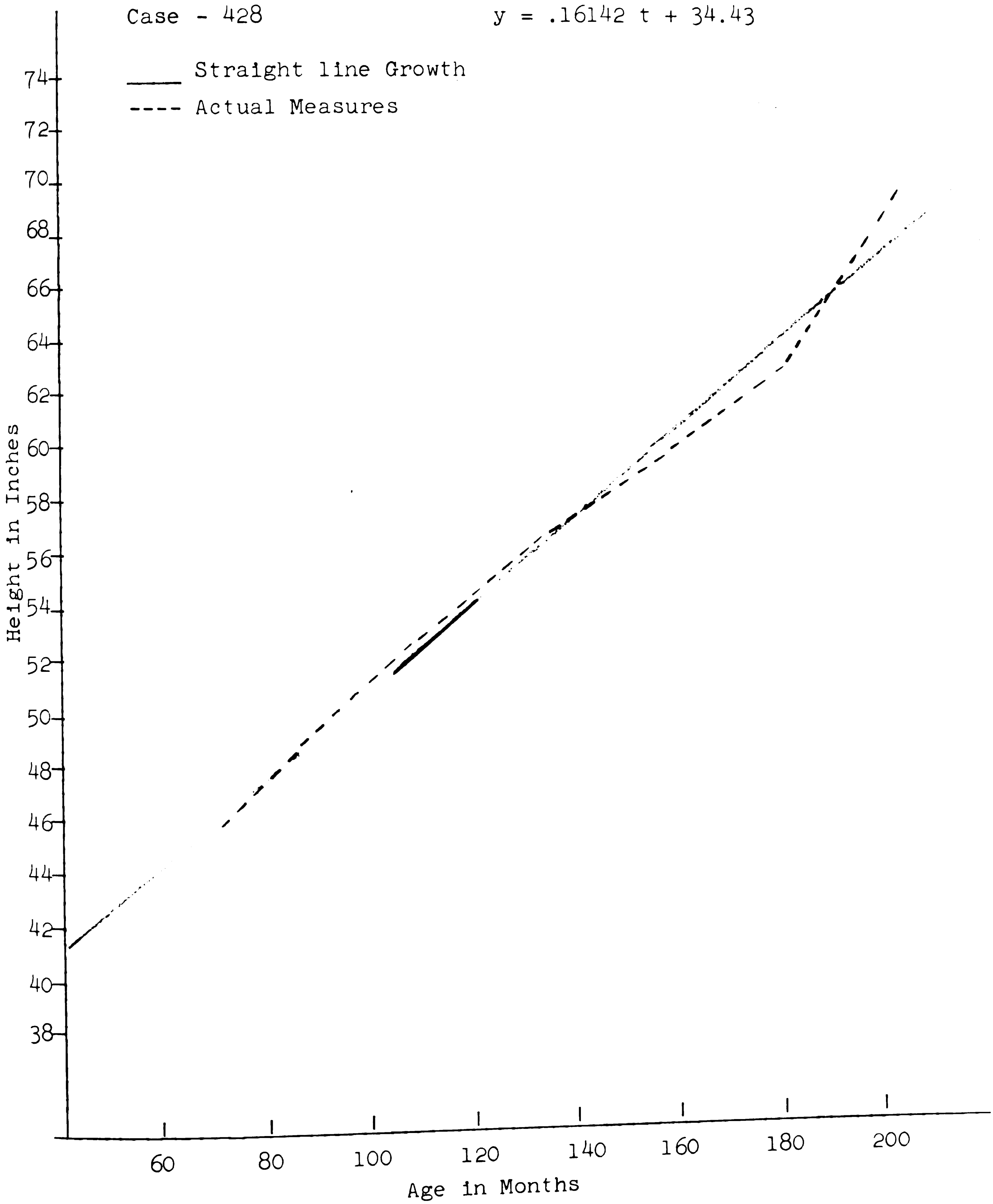
Case - 277 $y = .12804\ t + 31.93$




Case - 328
y = .17917 t + 35.08
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

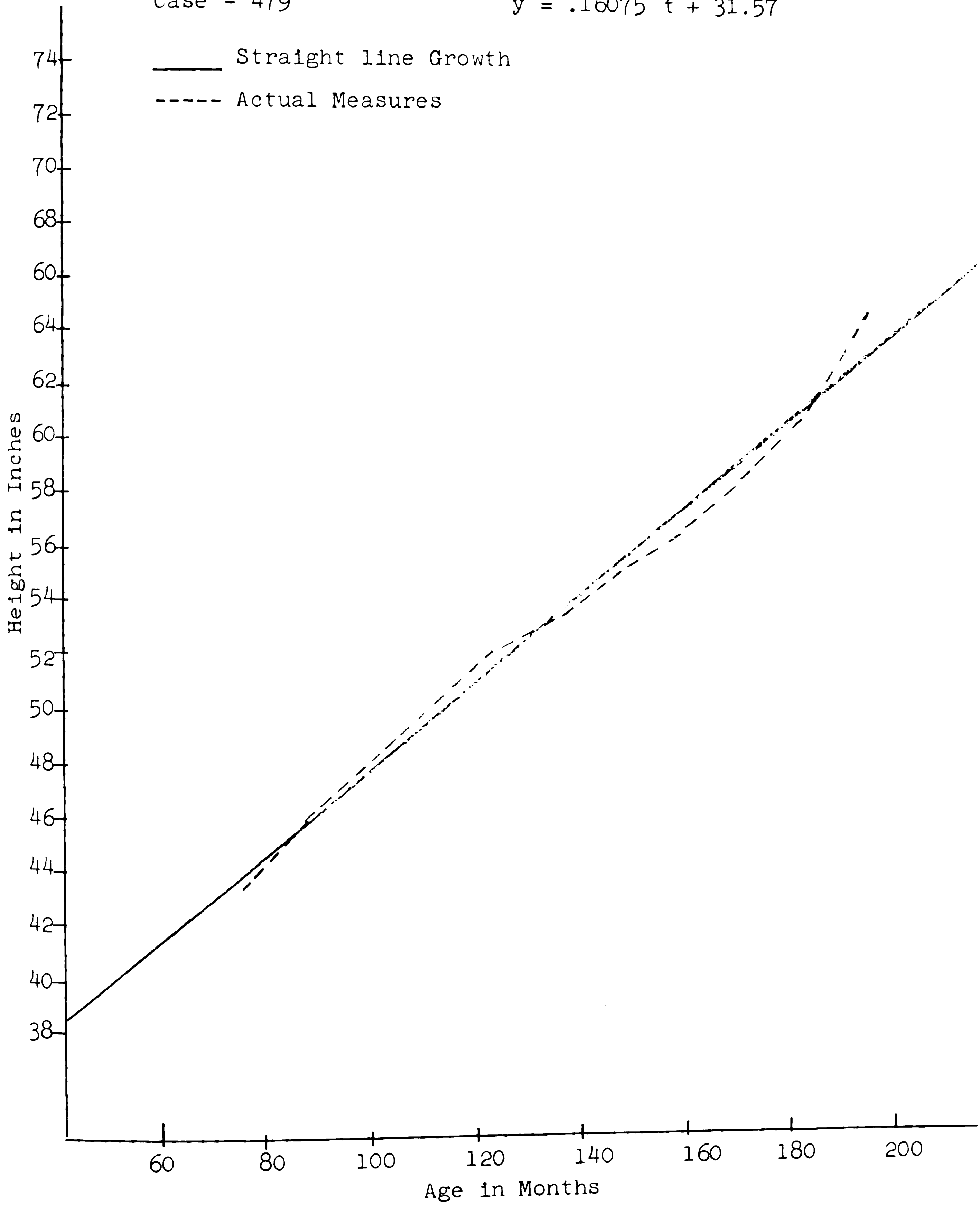
Case - 393 $y = .17121\,t + 29.21$

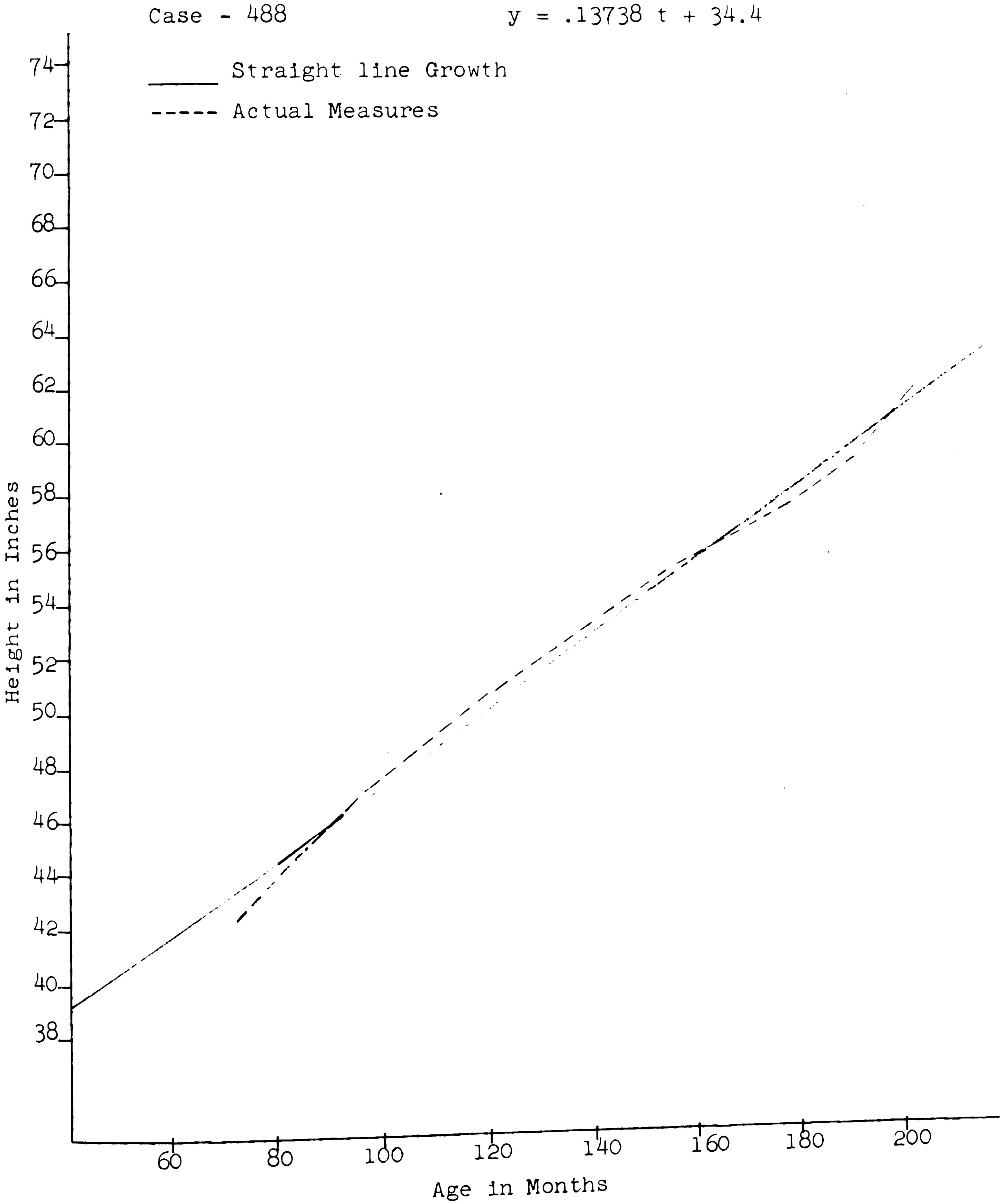




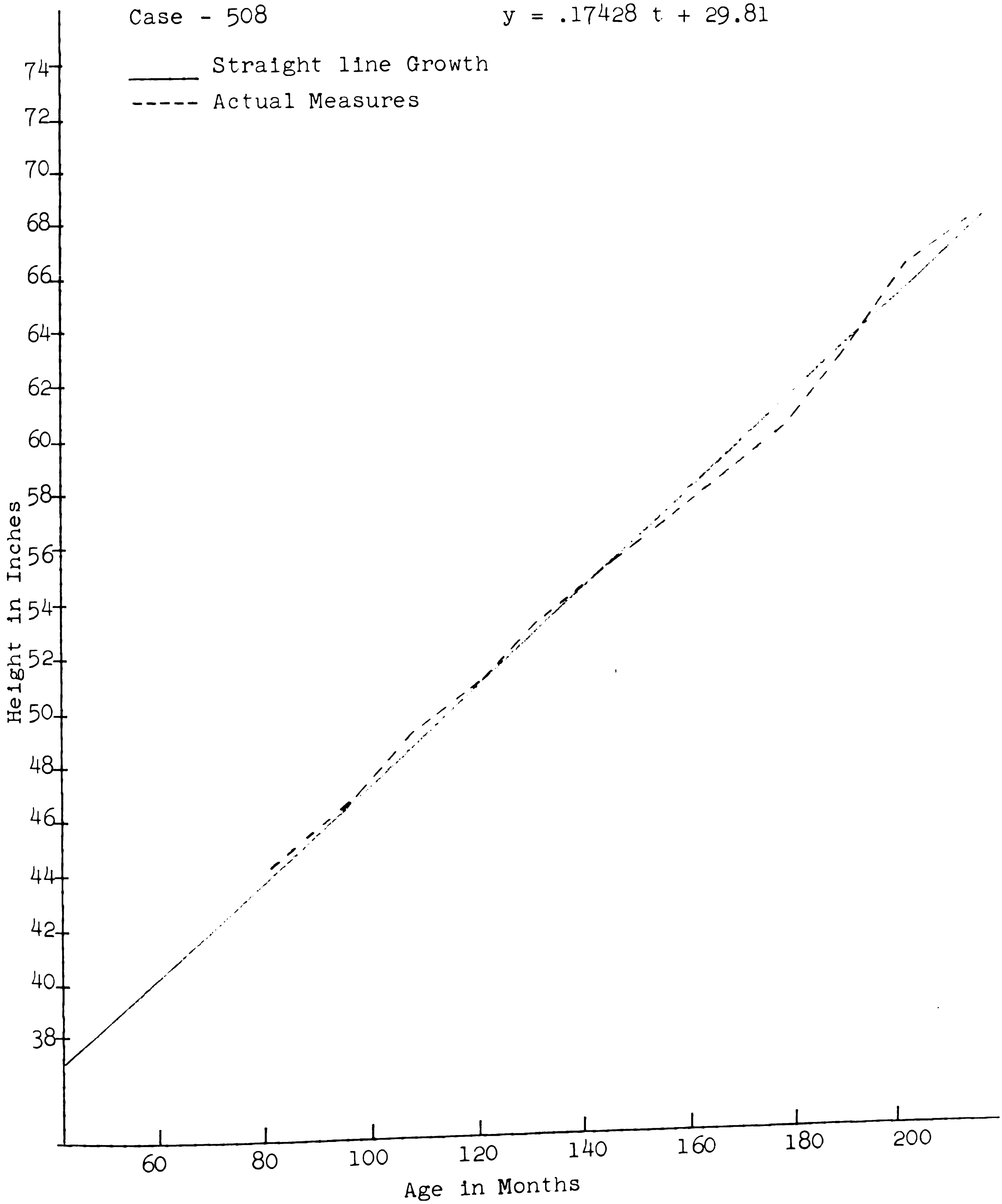
Case - 428
y = .16142 t + 34.43
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

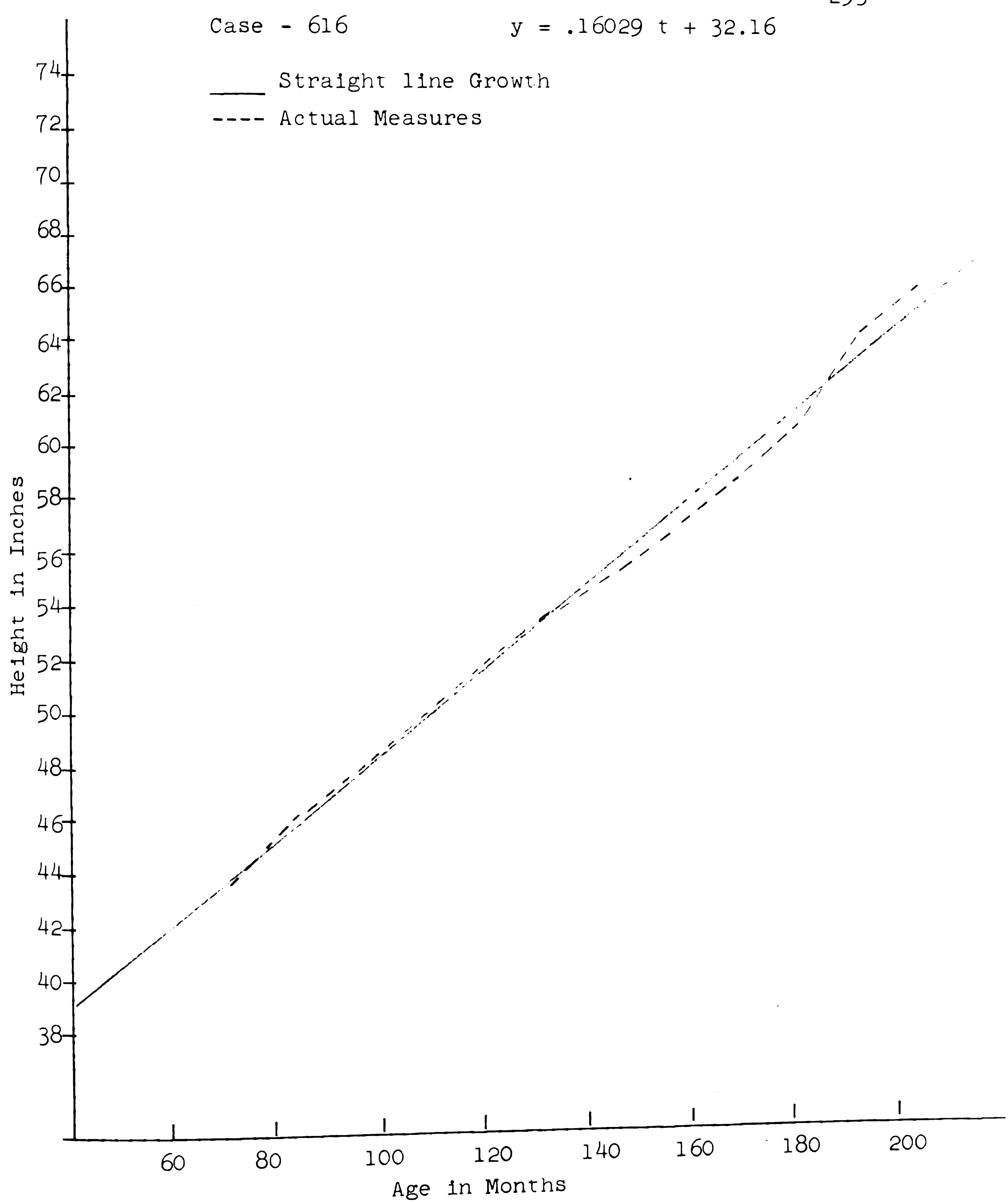
Case - 479 $y = .16075\ t + 31.57$

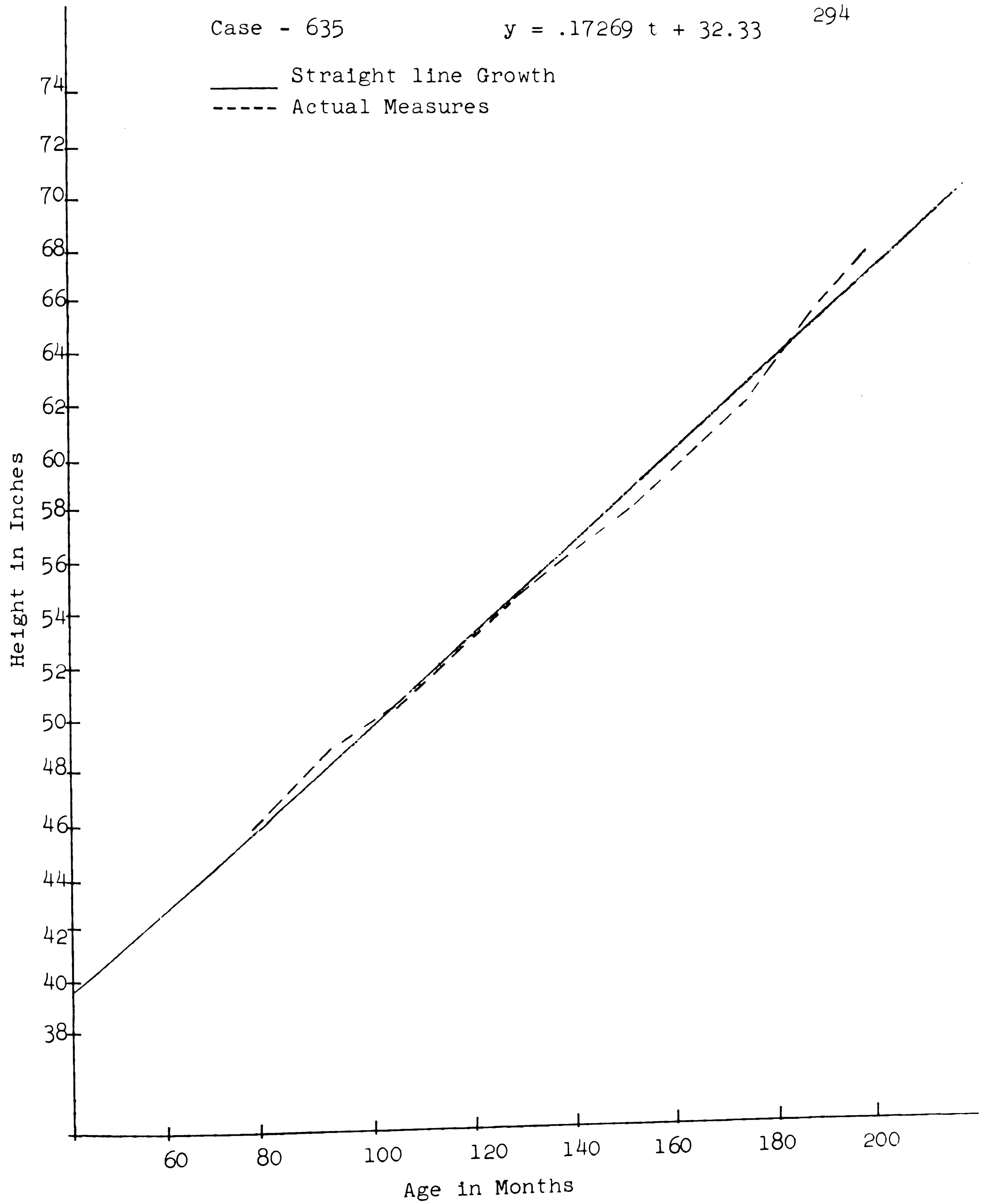


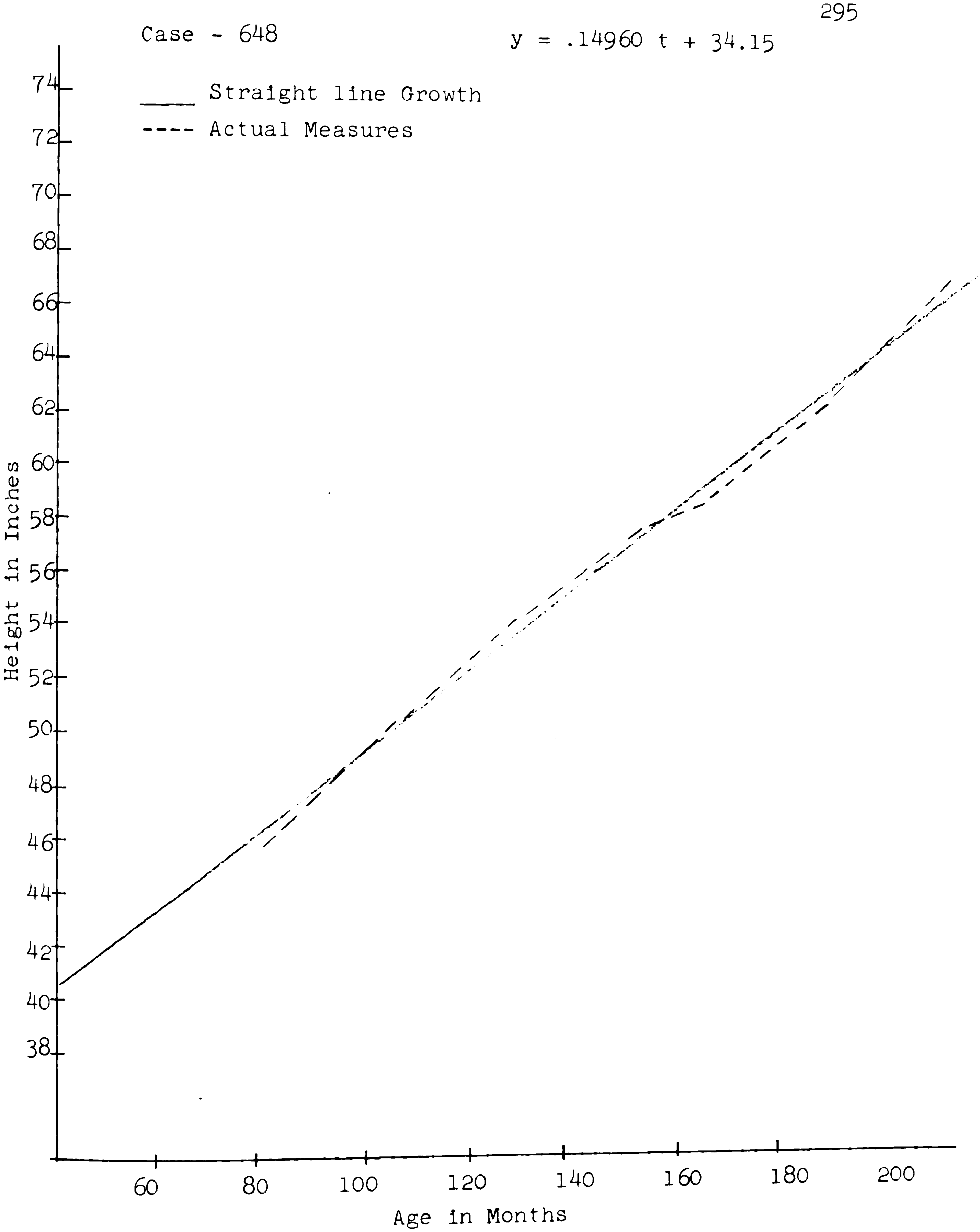


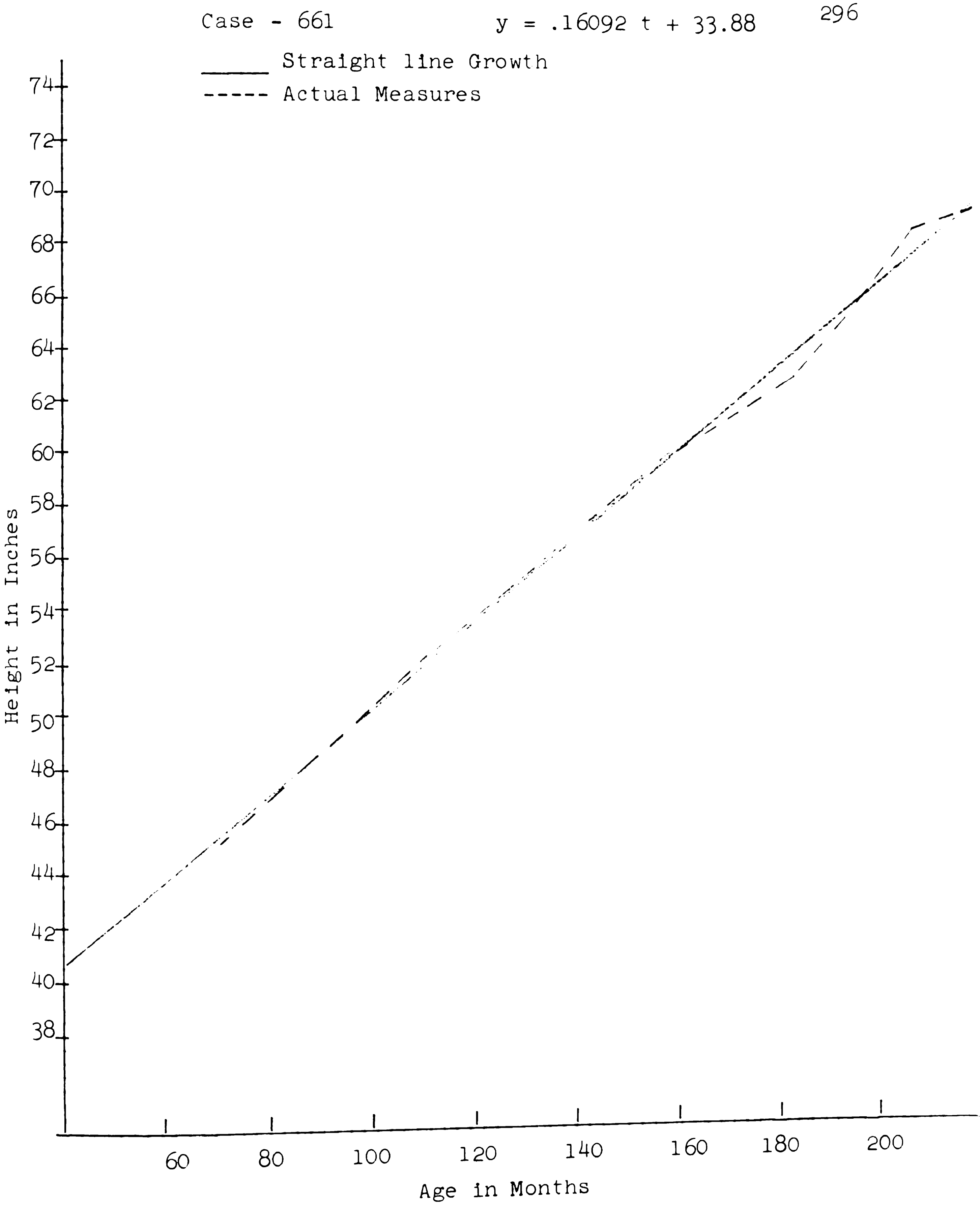
Case - 488
y = .13738 t + 34.4
Straight line Growth
----- Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

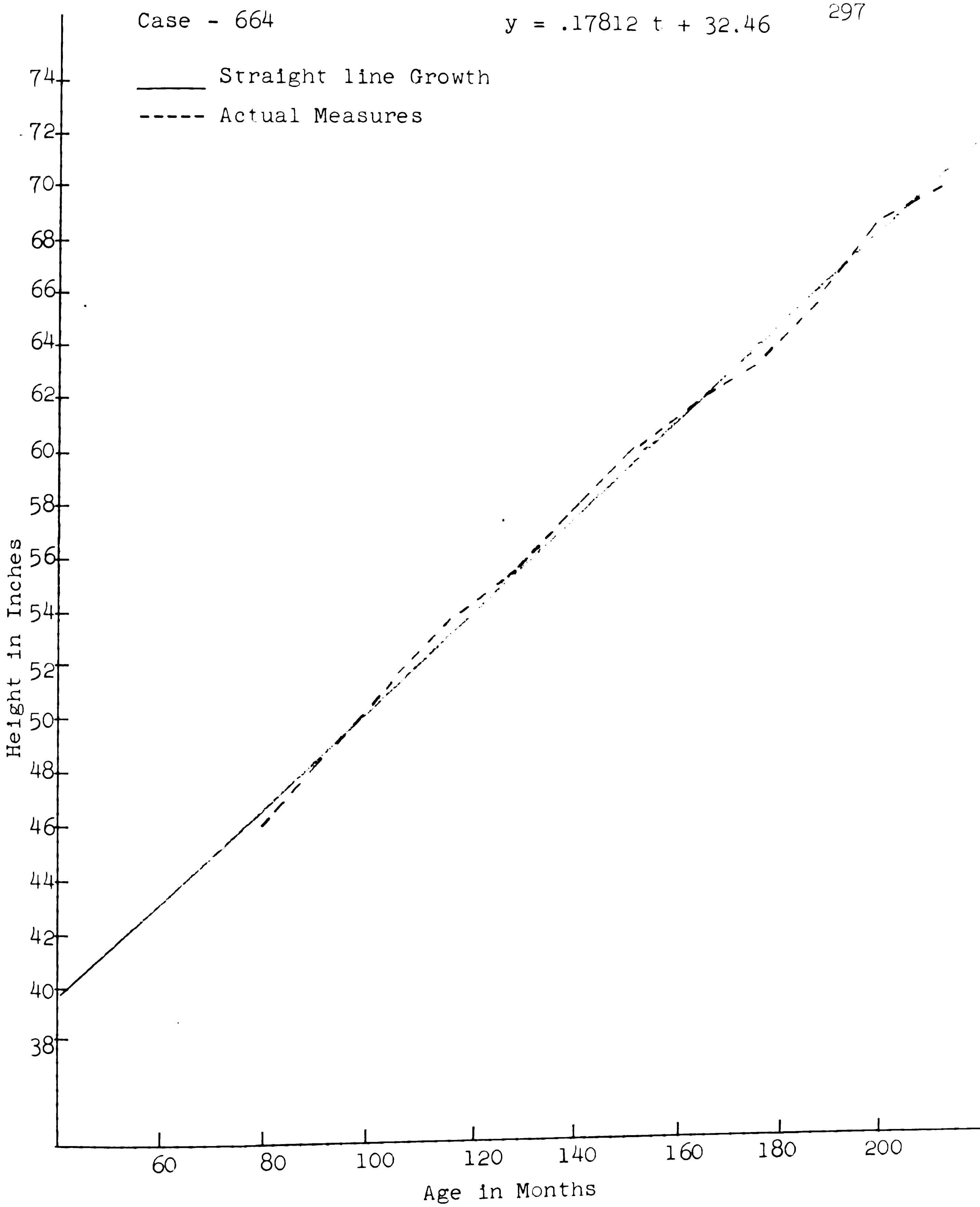

Case - 508
y = .17428 t + 29.81
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

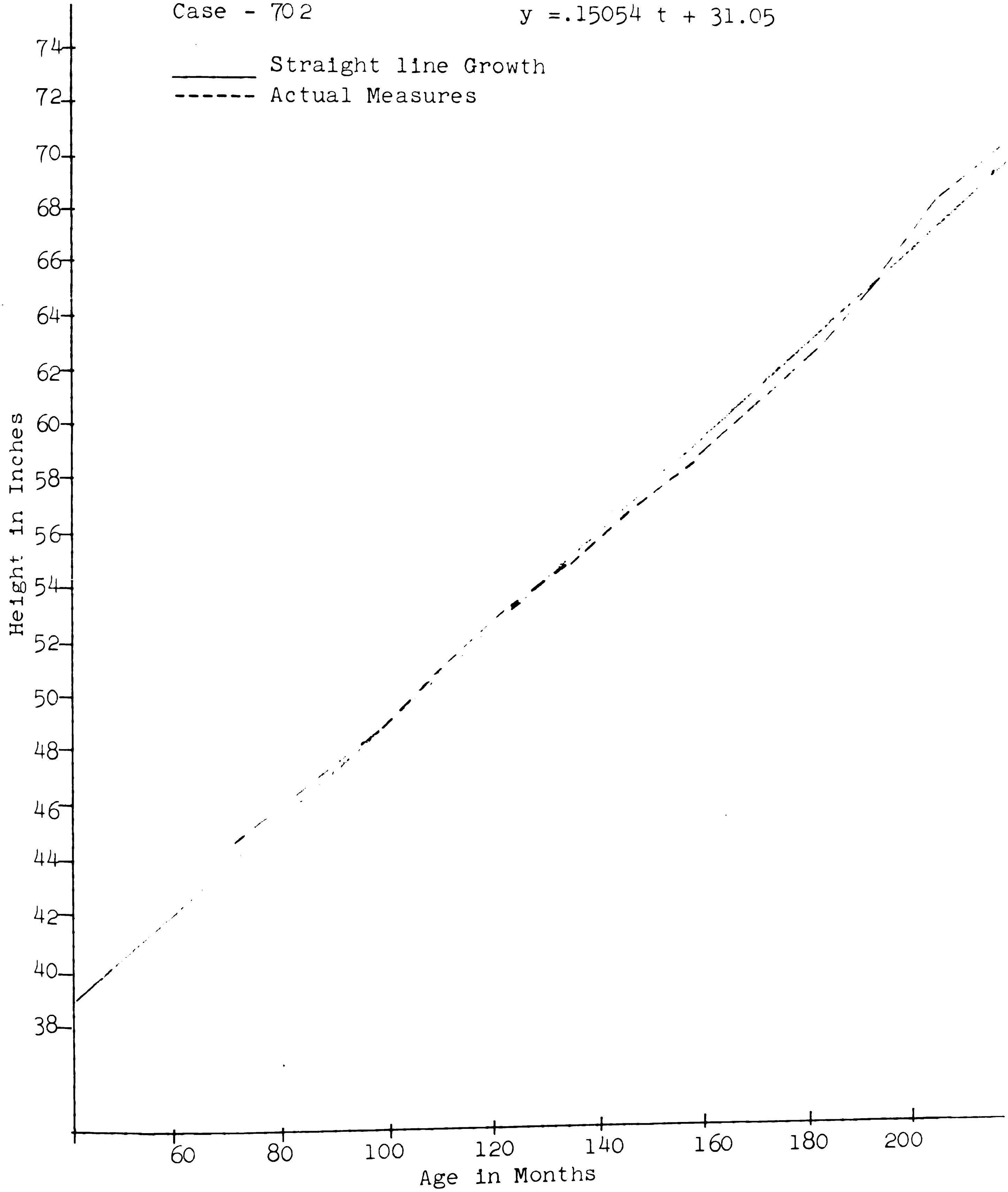

Case - 616
y = .16029 t + 32.16
Straight line Growth
---- Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

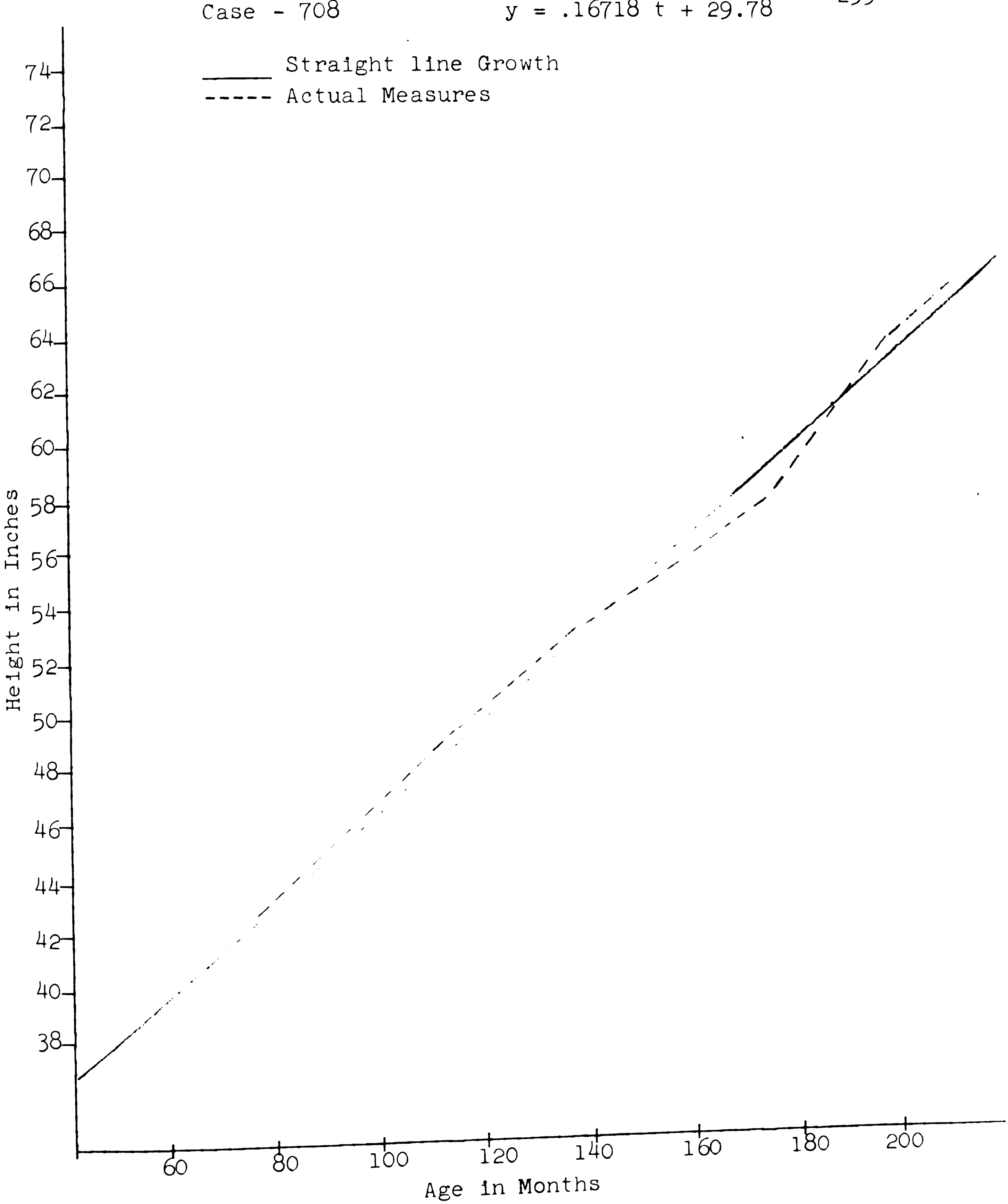

Case - 635
y = .17269 t + 32.33
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

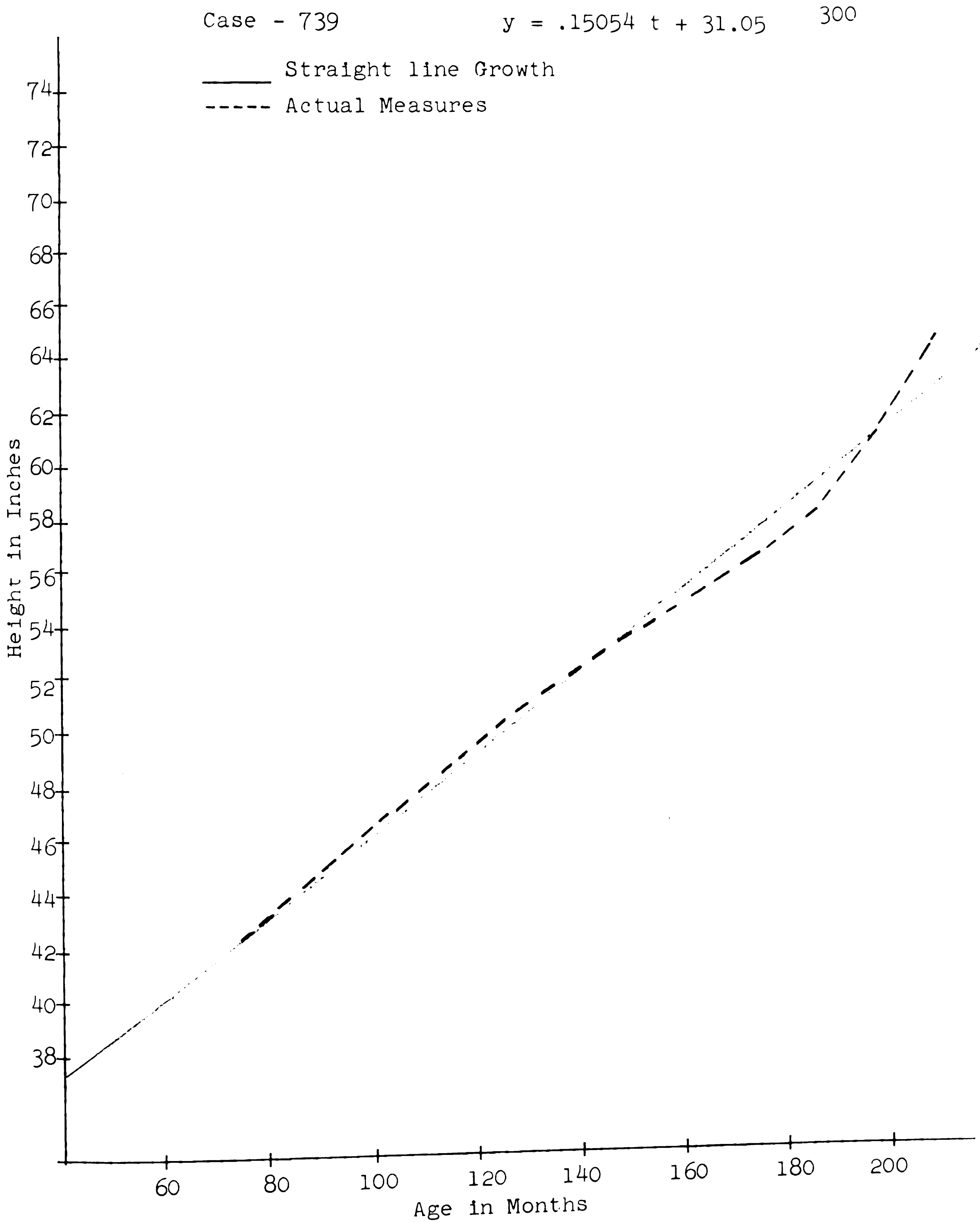

Case - 648
y = .14960 t + 34.15
Straight line Growth
---- Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

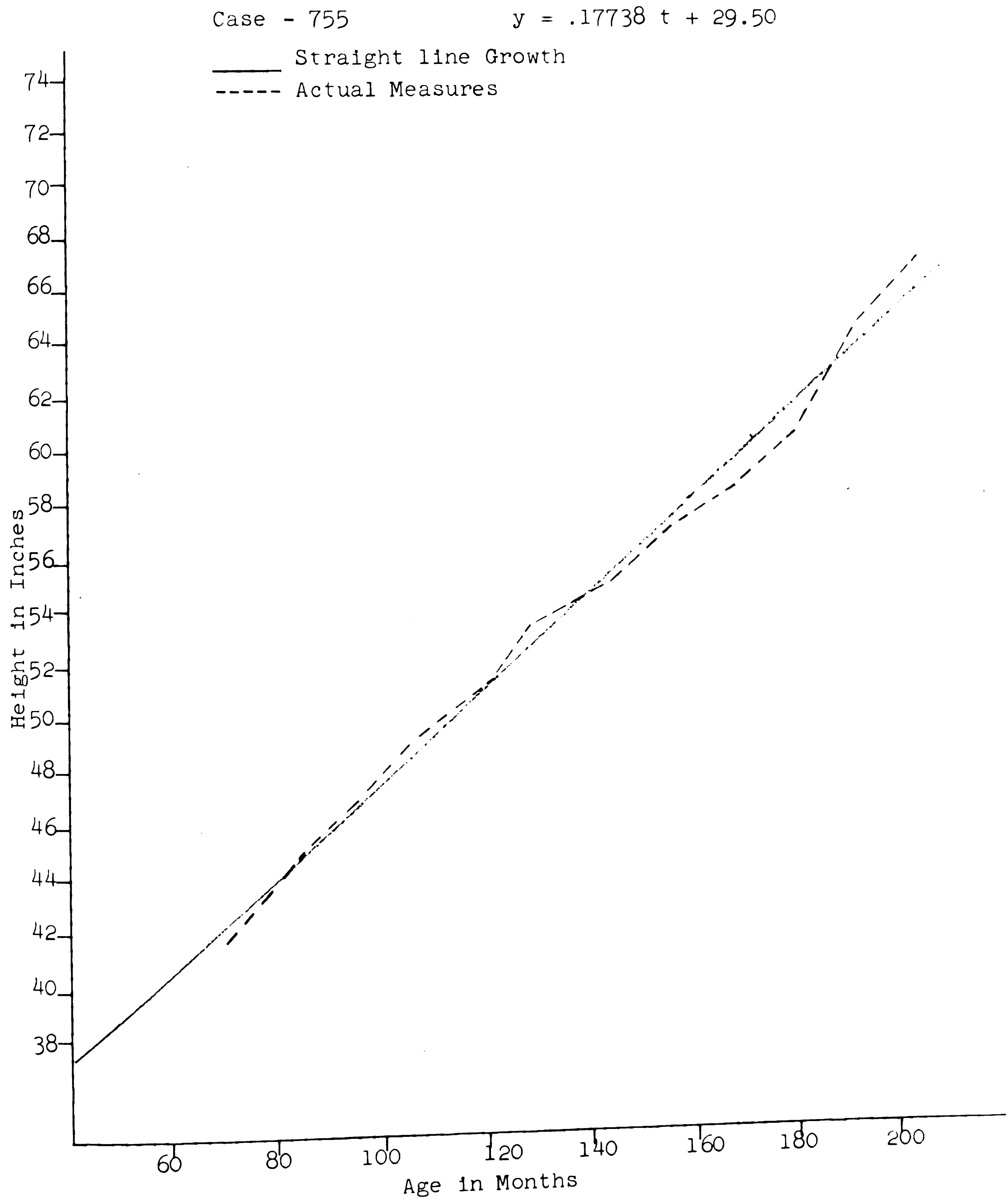

Case - 661
y = .16092 t + 33.88
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 664
y = .17812 t + 32.46
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months


Case - 702
y =.15054 t + 31.05
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

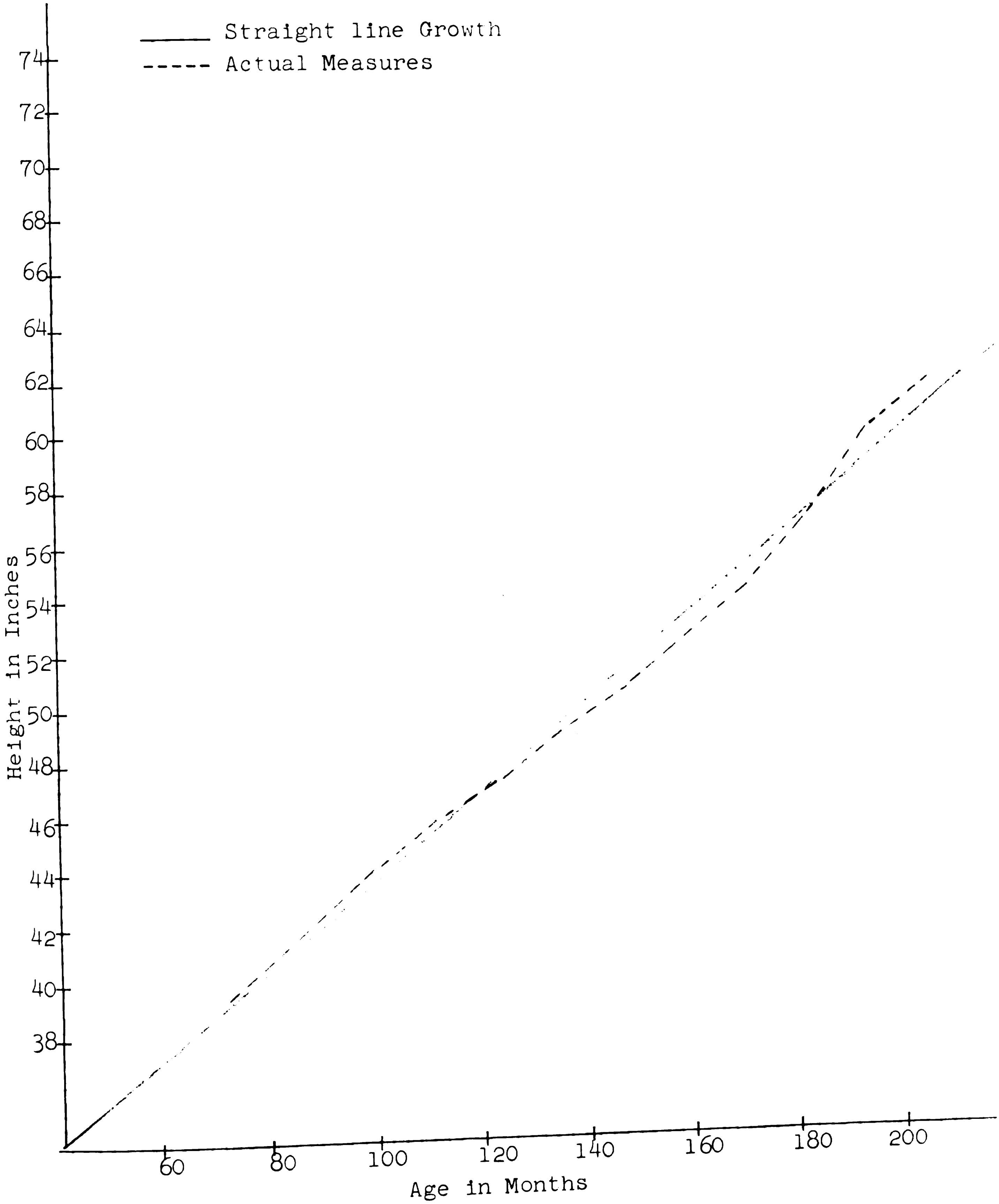

Case - 708
y = .16718 t + 29.78
Straight line Growth
----- Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

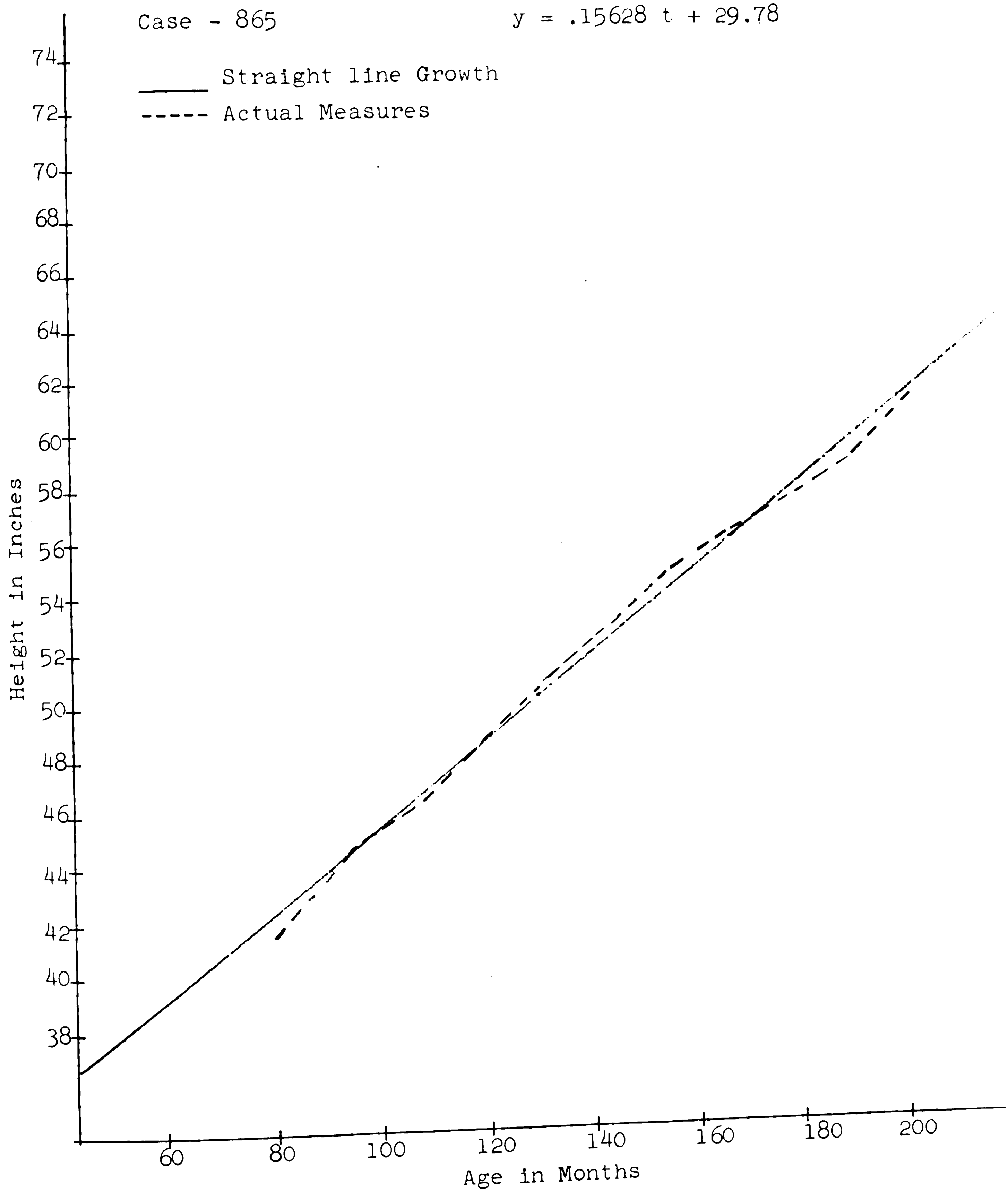

Case - 739
y = .15054 t + 31.05
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

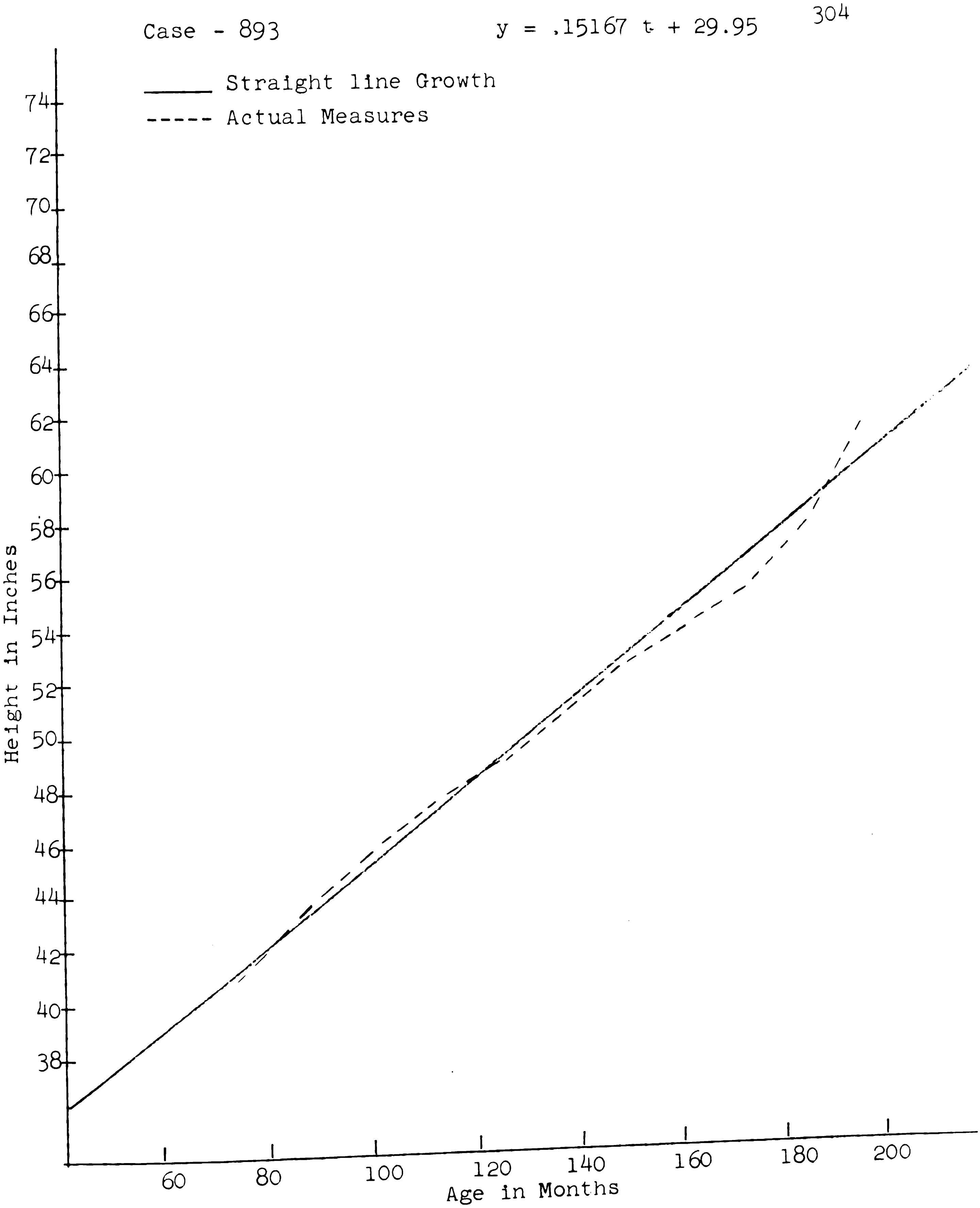

Case - 755
y = .17738 t + 29.50
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

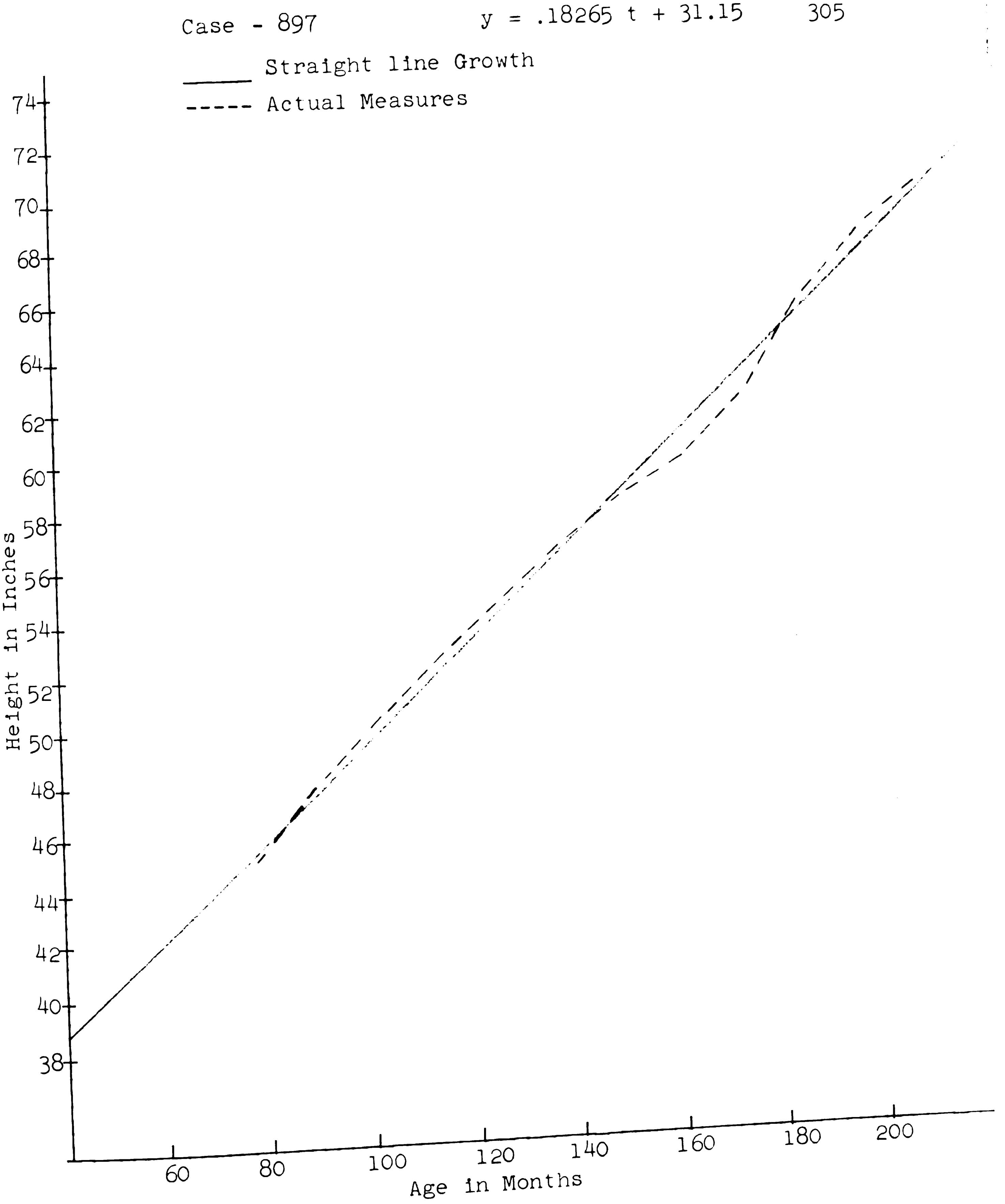
Case - 804

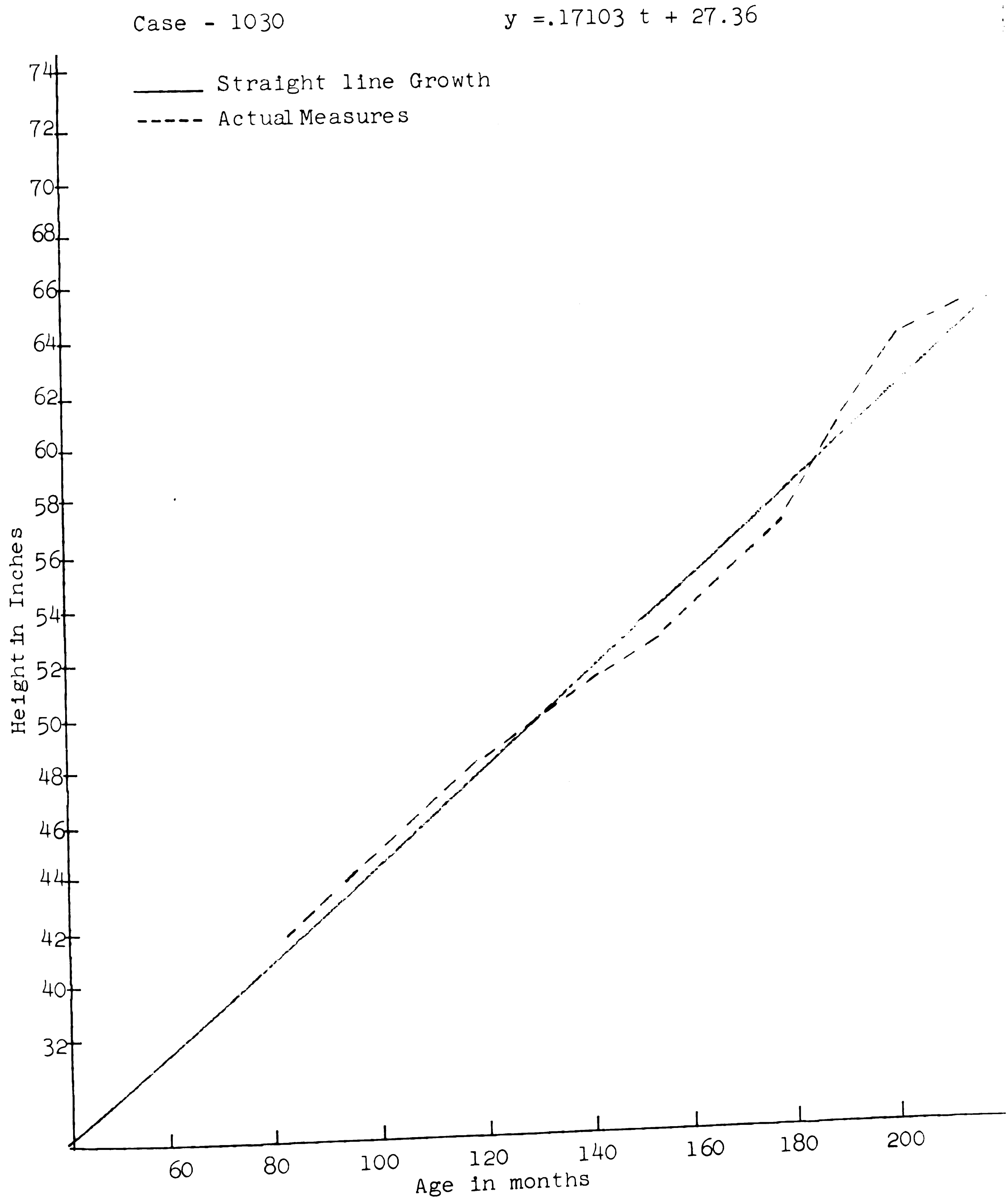
$y = 15973\ t + 27.63$

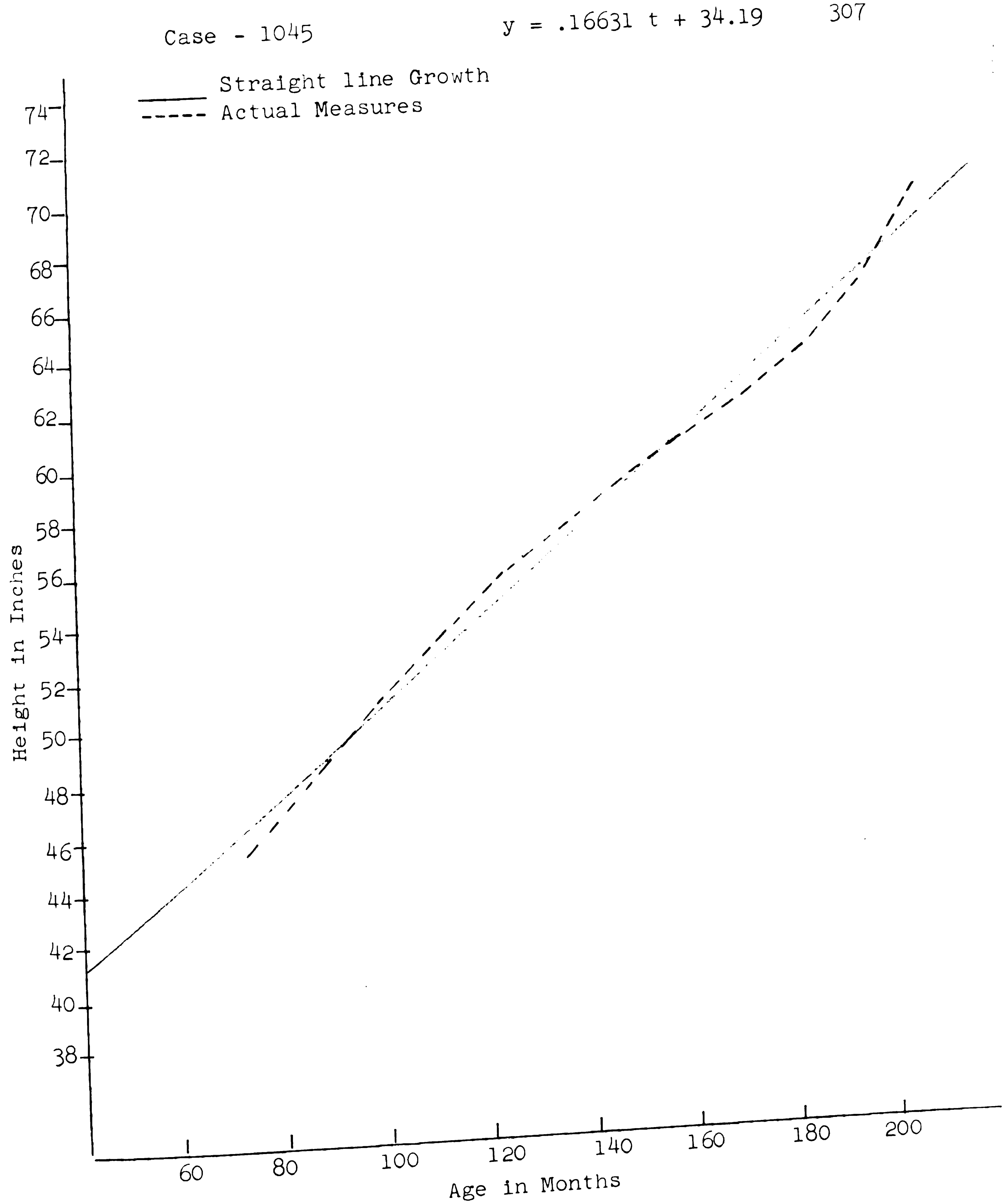



Case - 865
y = .15628 t + 29.78
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 893
y = .15167 t + 29.95
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 897
y = .18265 t + 31.15
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

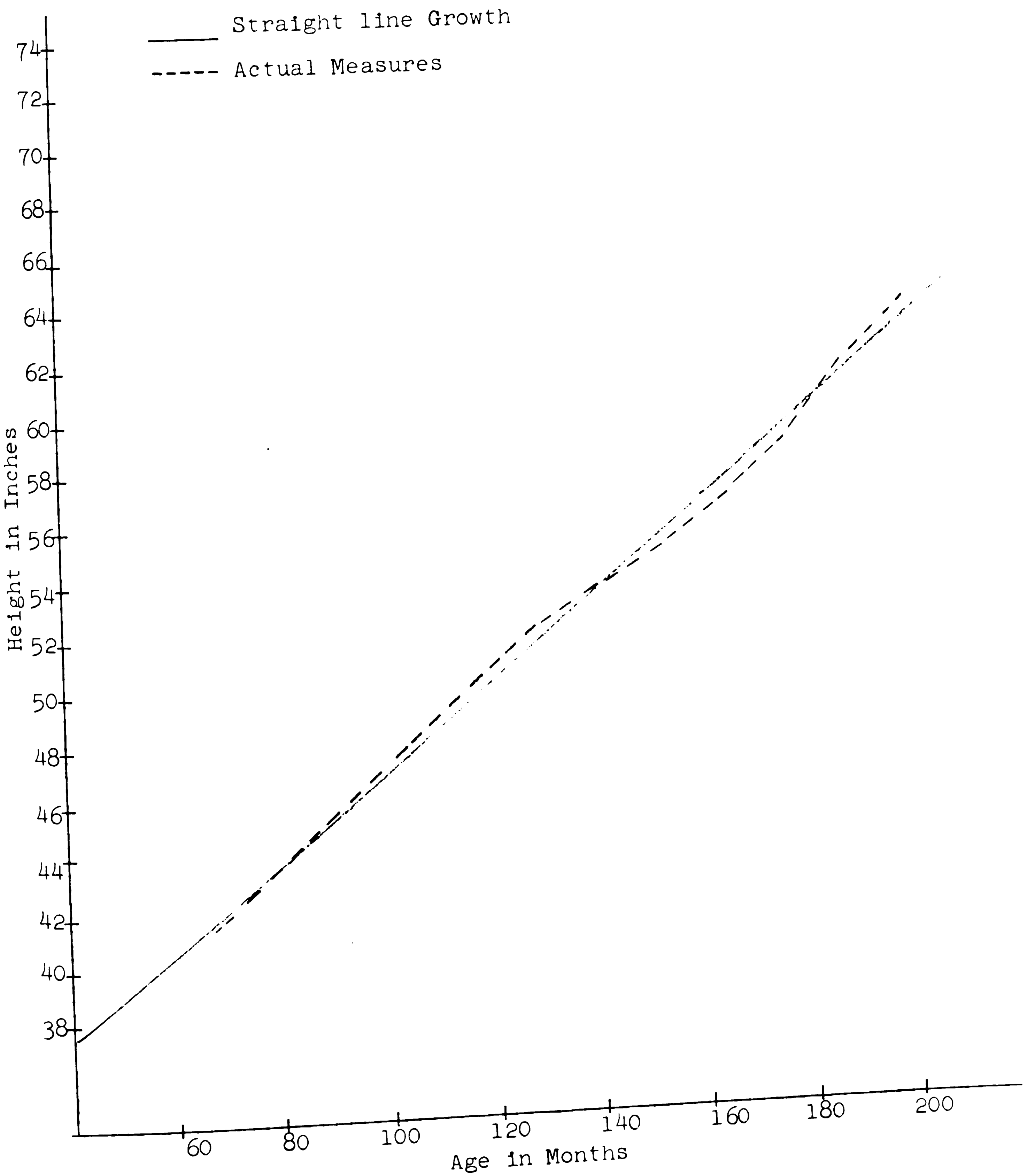

Case - 1030
y =.17103 t + 27.36
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
32
Height in Inches
60
80
100
120
140
160
180
200
Age in months



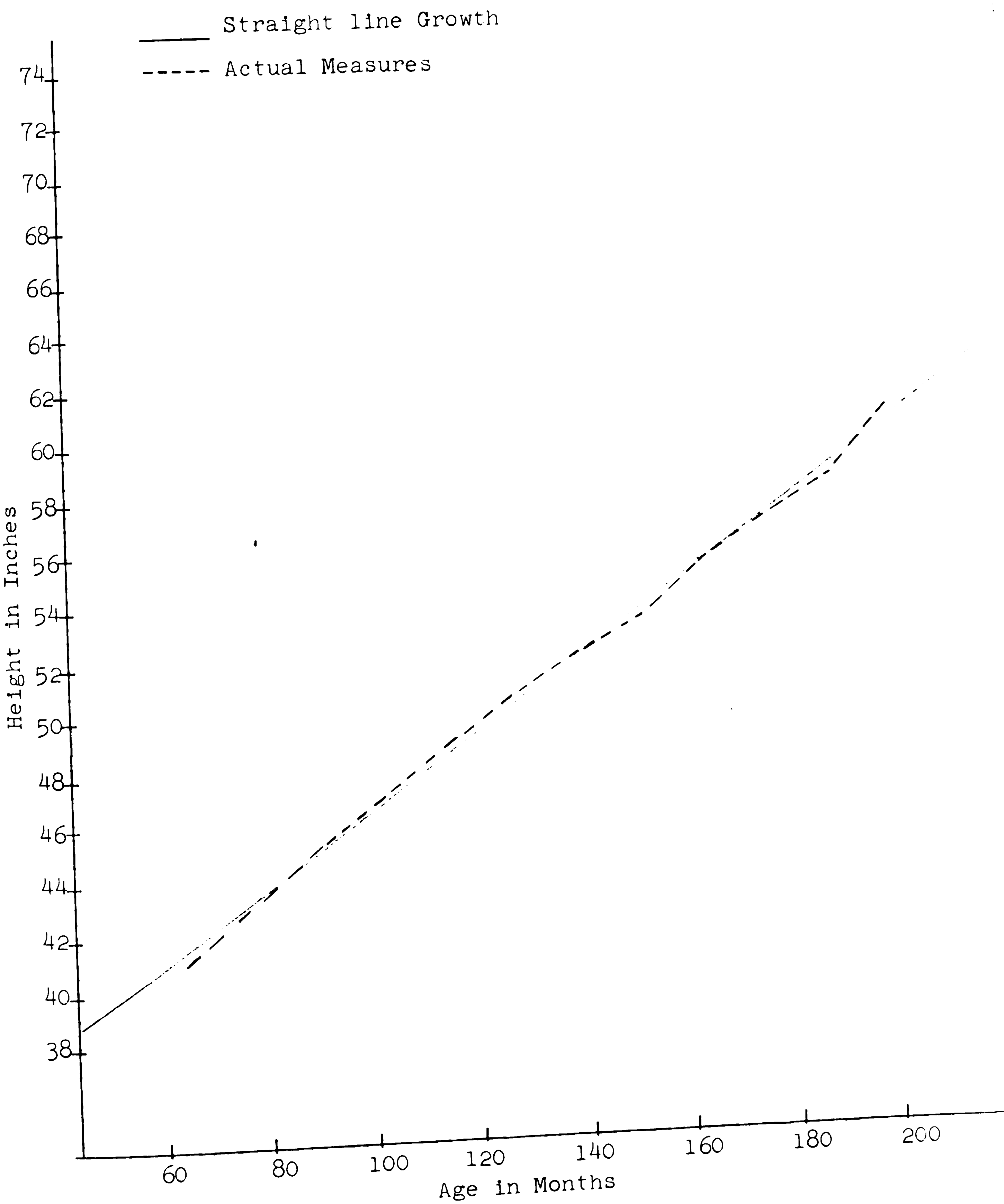
Case - 1045
y = .16631 t + 34.19
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

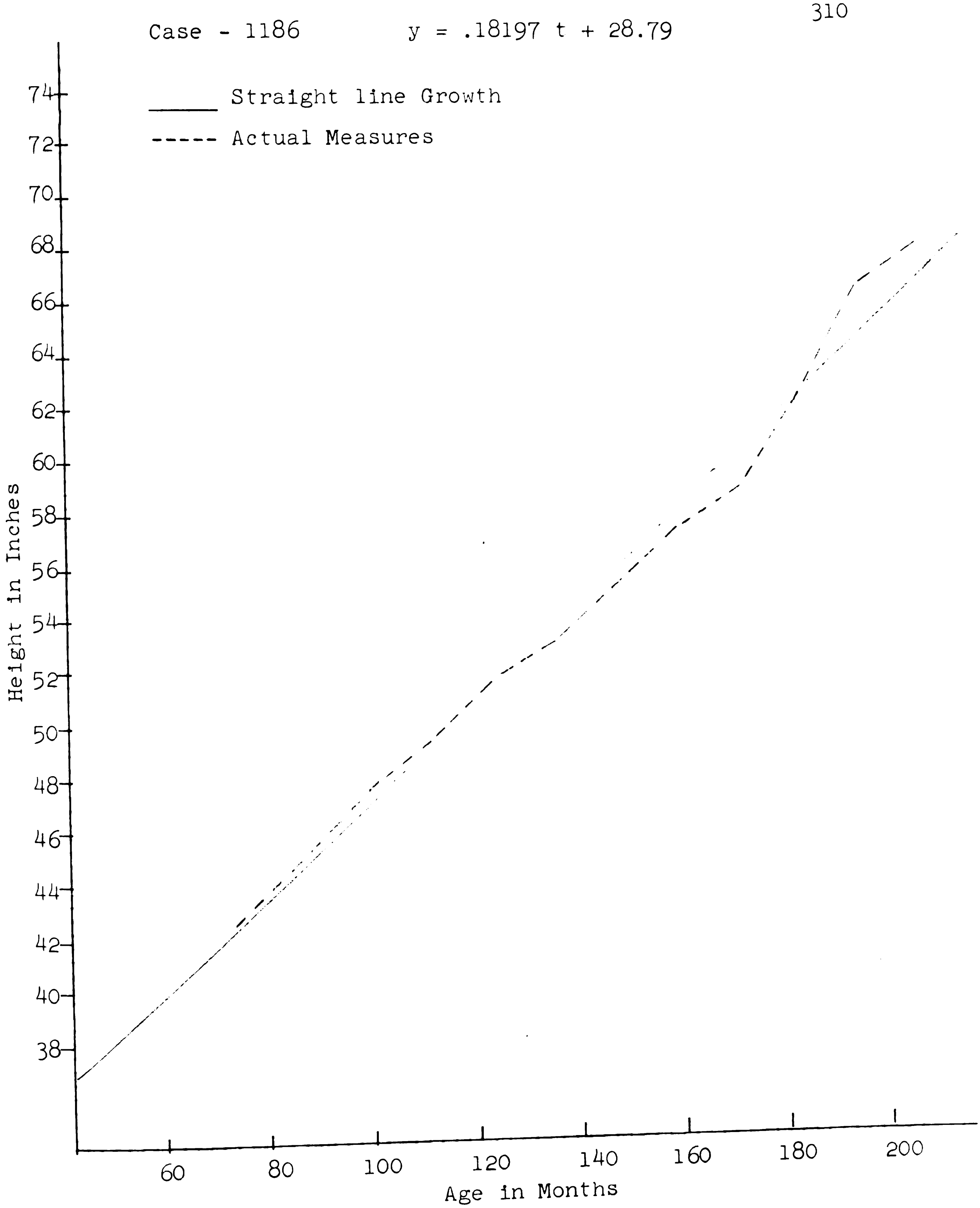
Case - 1091

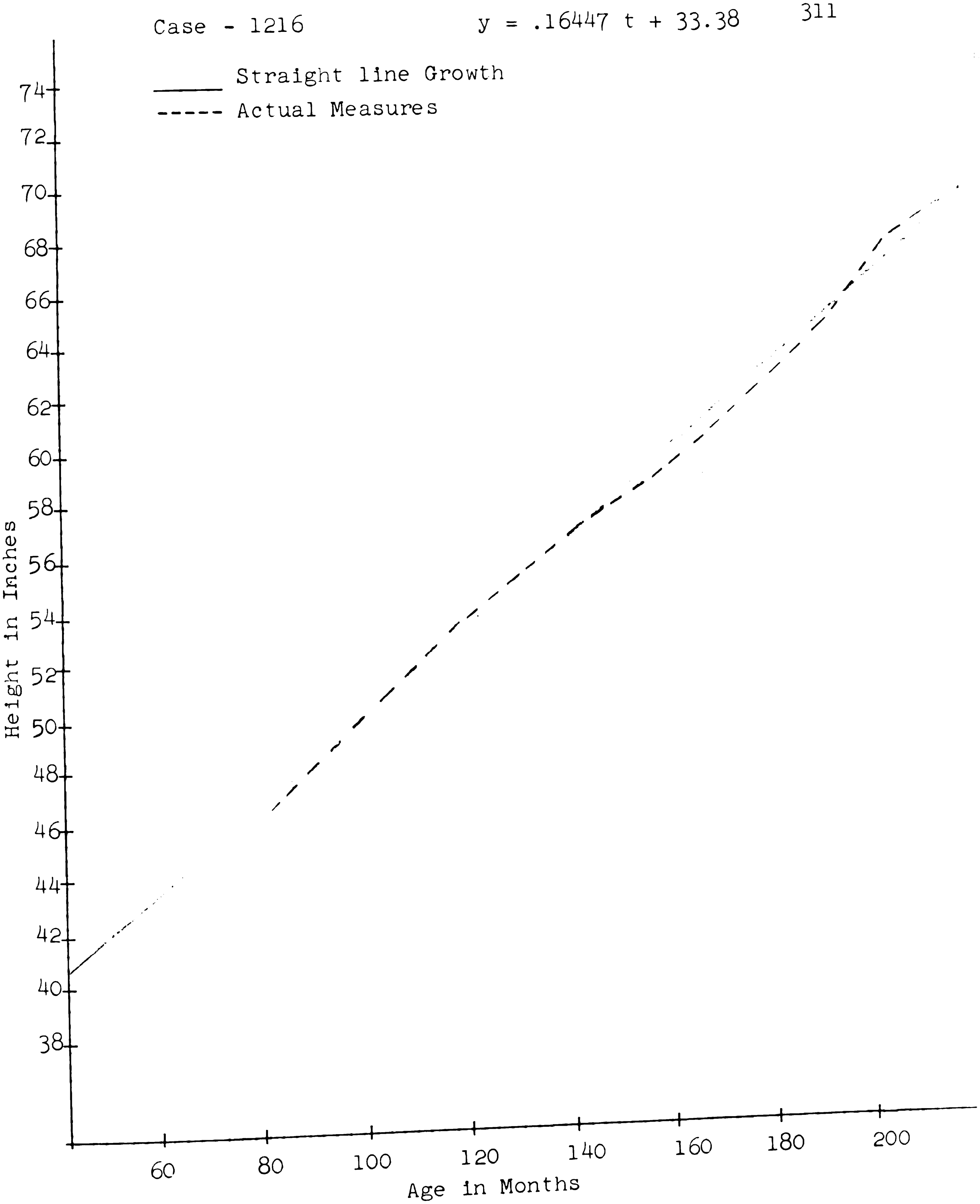
$y = .15854\ t + 31.10$



Case - 1180 $y = .14048\ t + 32.55$

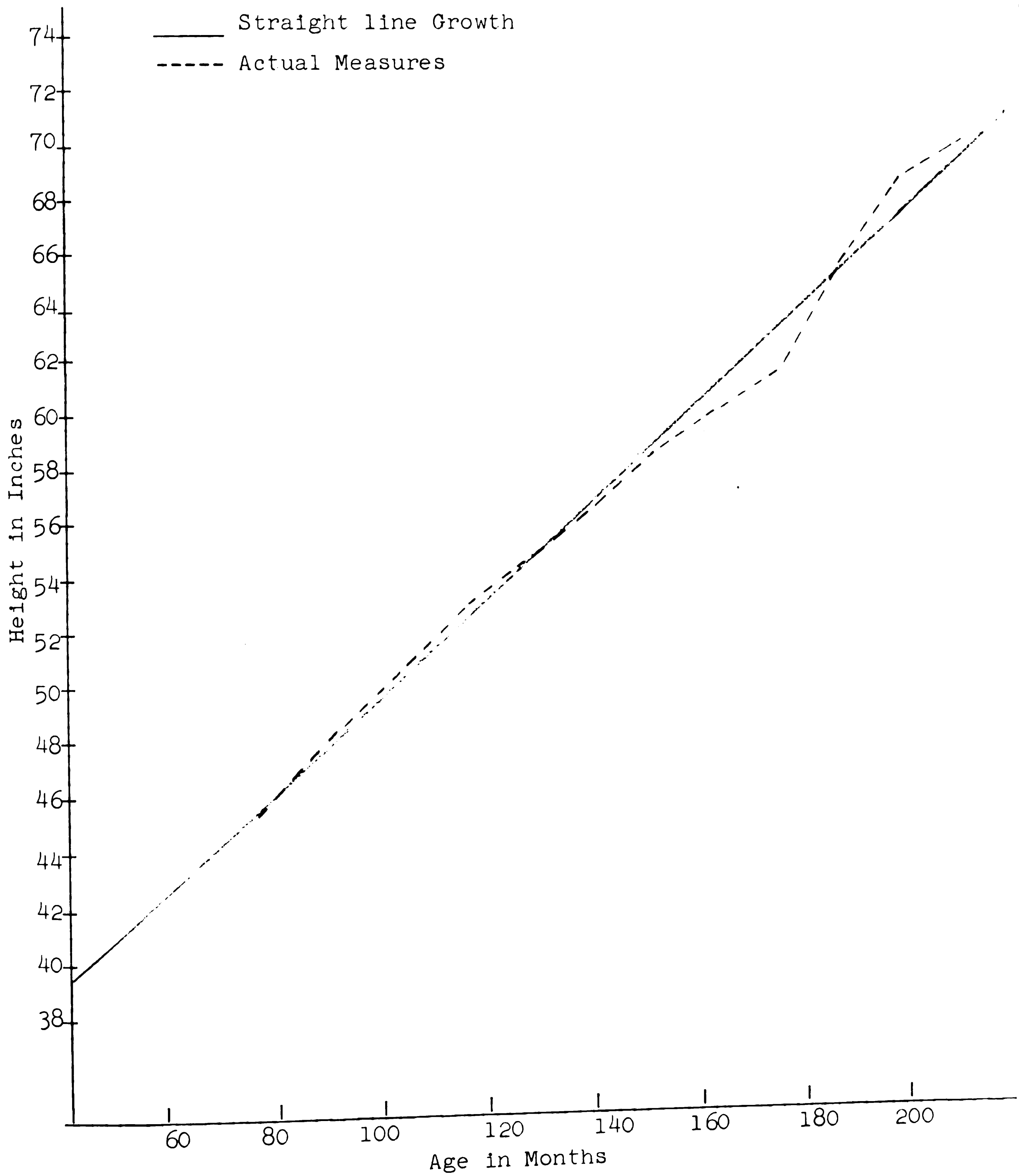


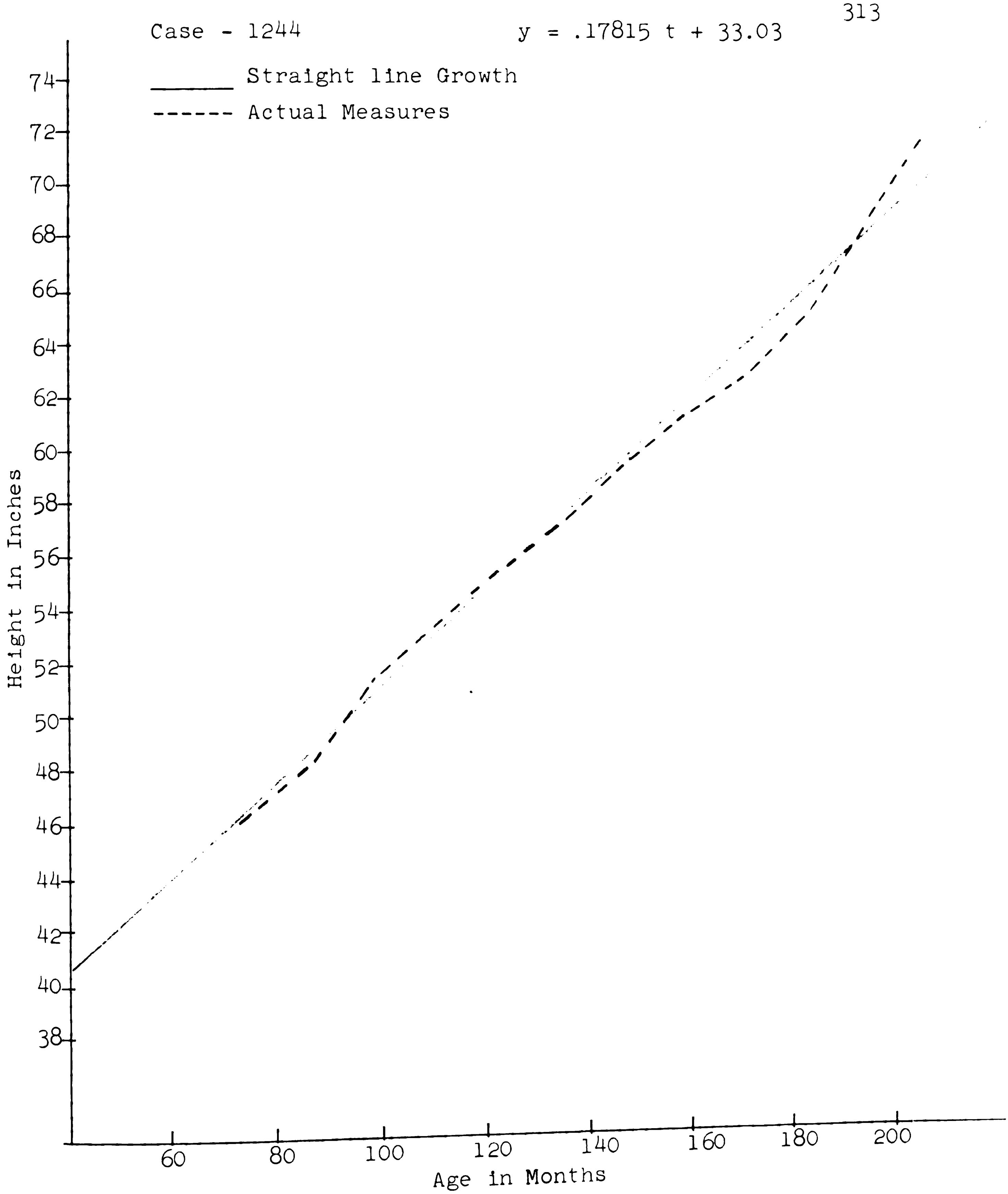

Case - 1186
y = .18197 t + 28.79
Straight line Growth
----- Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months



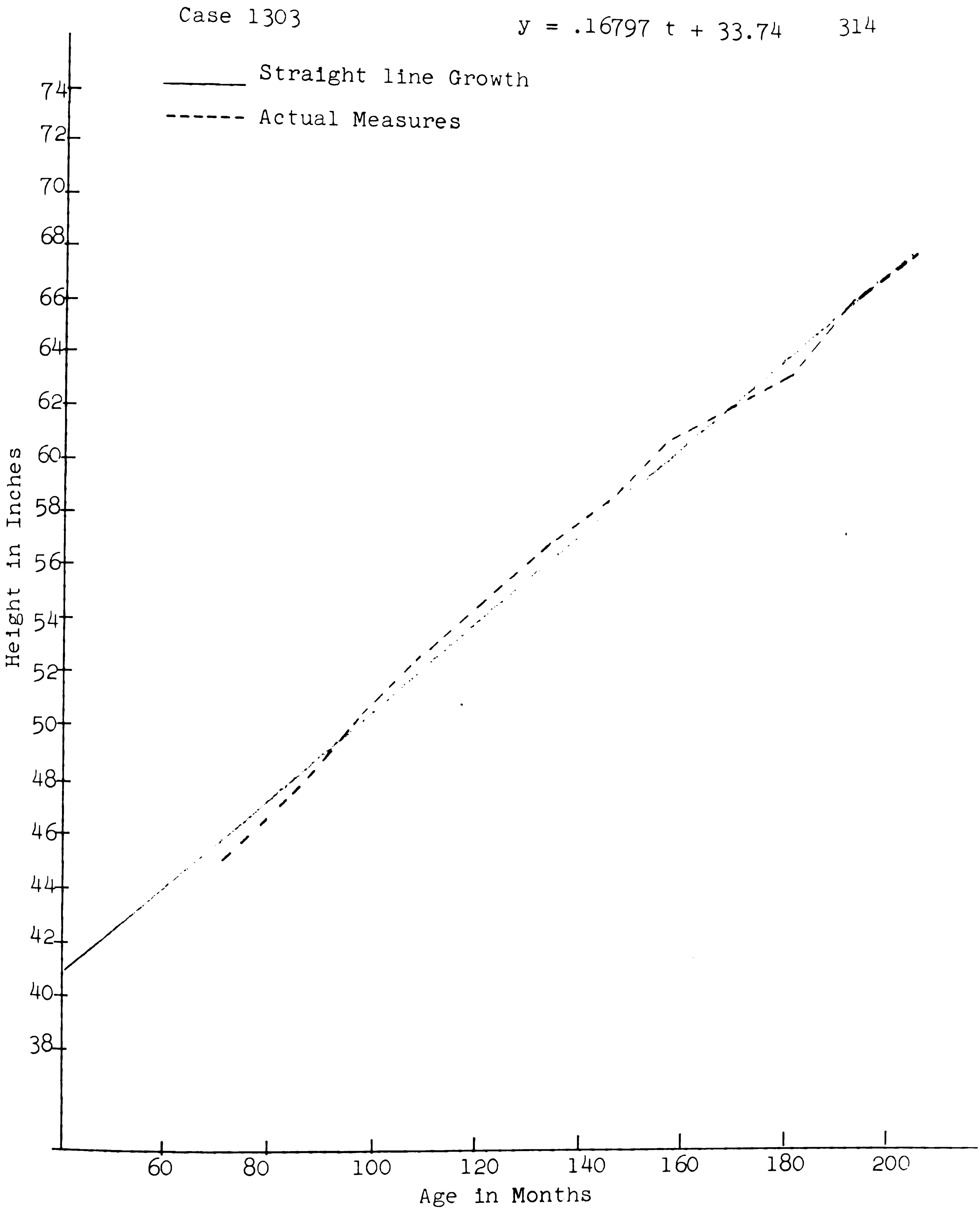
Case - 1216
y = .16447 t + 33.38
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

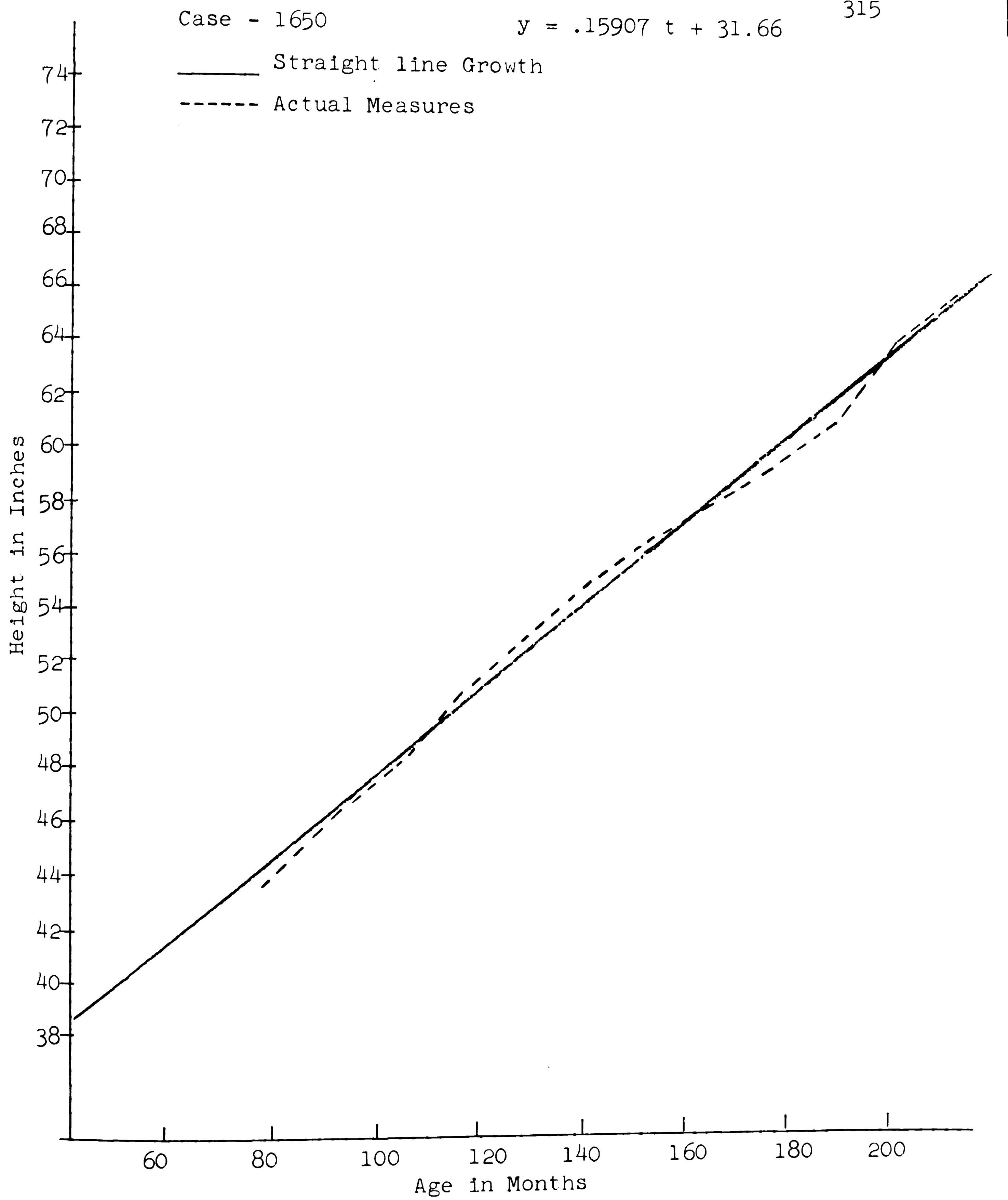
Case - 1224 $y = .17715\ t + 31.90$

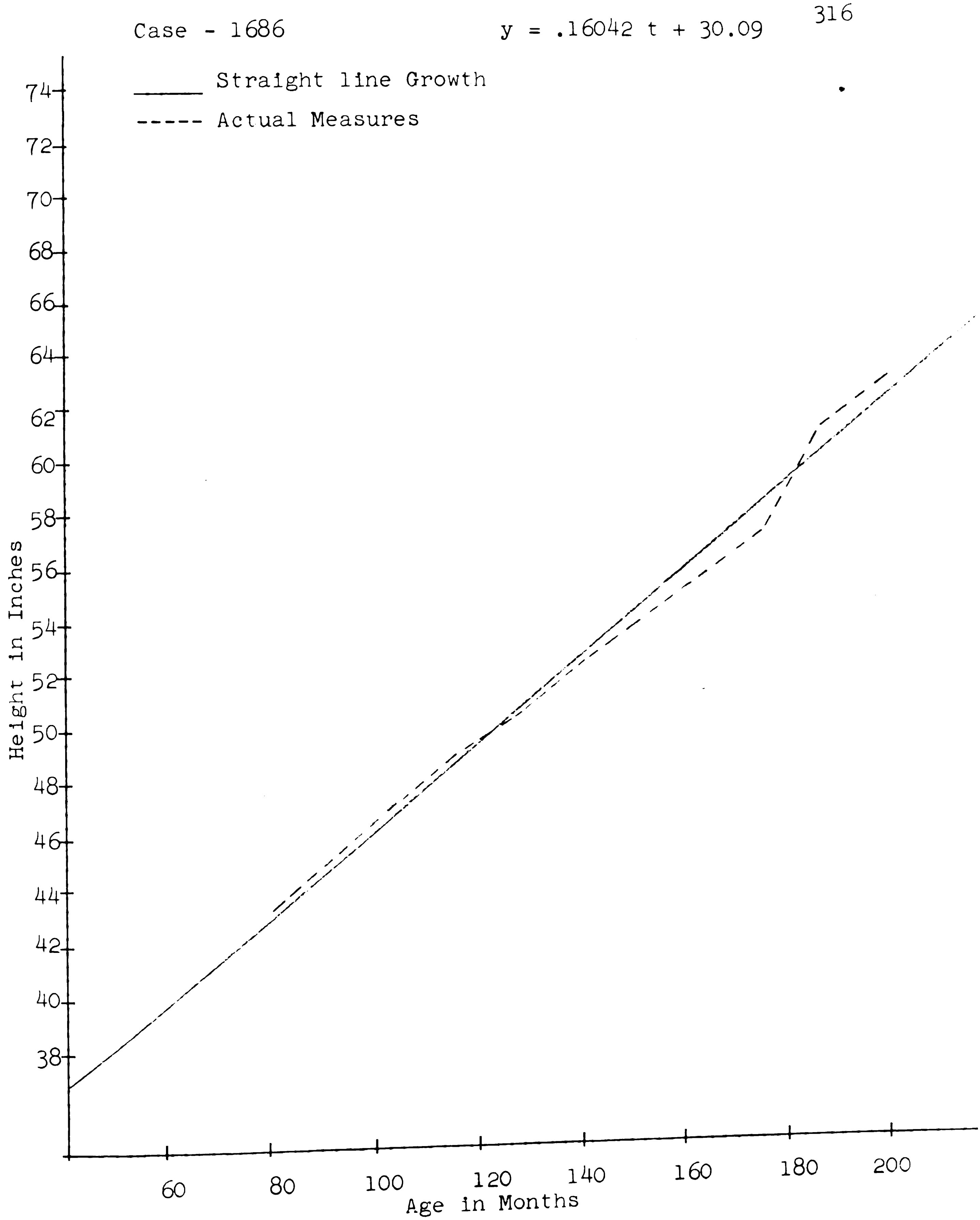


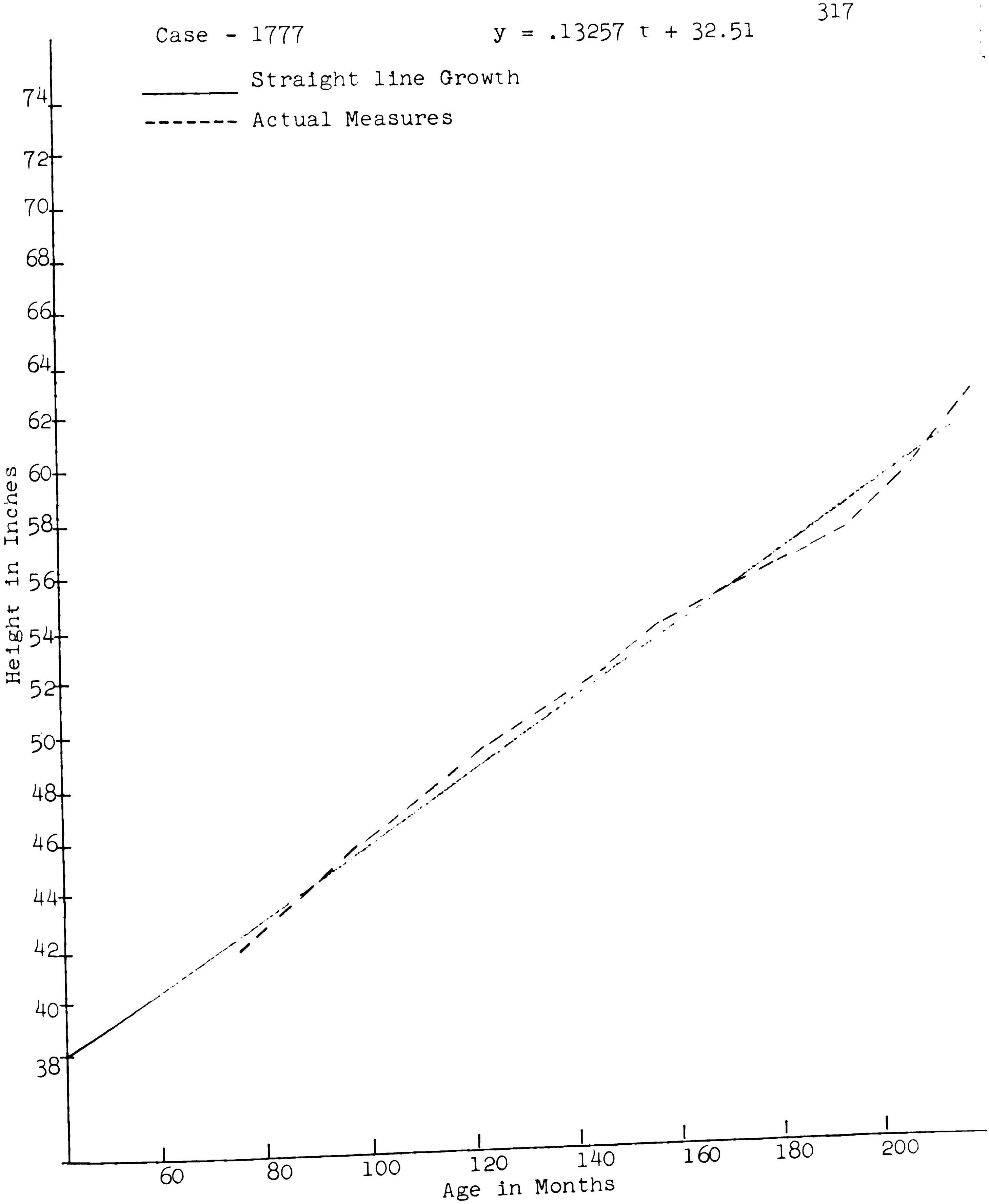


Case - 1244
y = .17815 t + 33.03
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months


Case 1303
y = .16797 t + 33.74
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 1650
y = .15907 t + 31.66
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 1686
y = .16042 t + 30.09
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 1777
y = .13257 t + 32.51
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
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38
60
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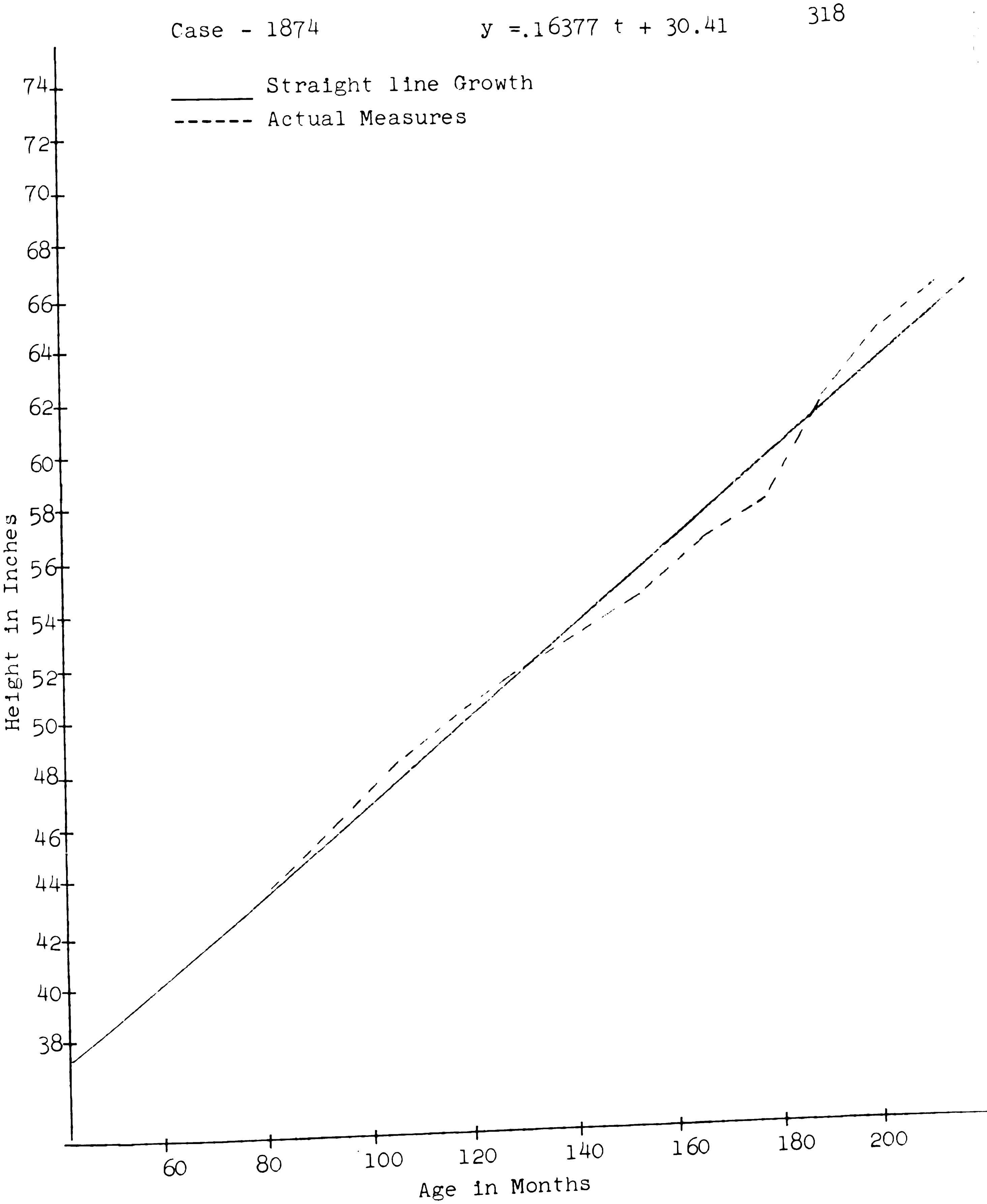
100
120
140
160
180
200
Age in Months


Case - 1874
y =.16377 t + 30.41
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
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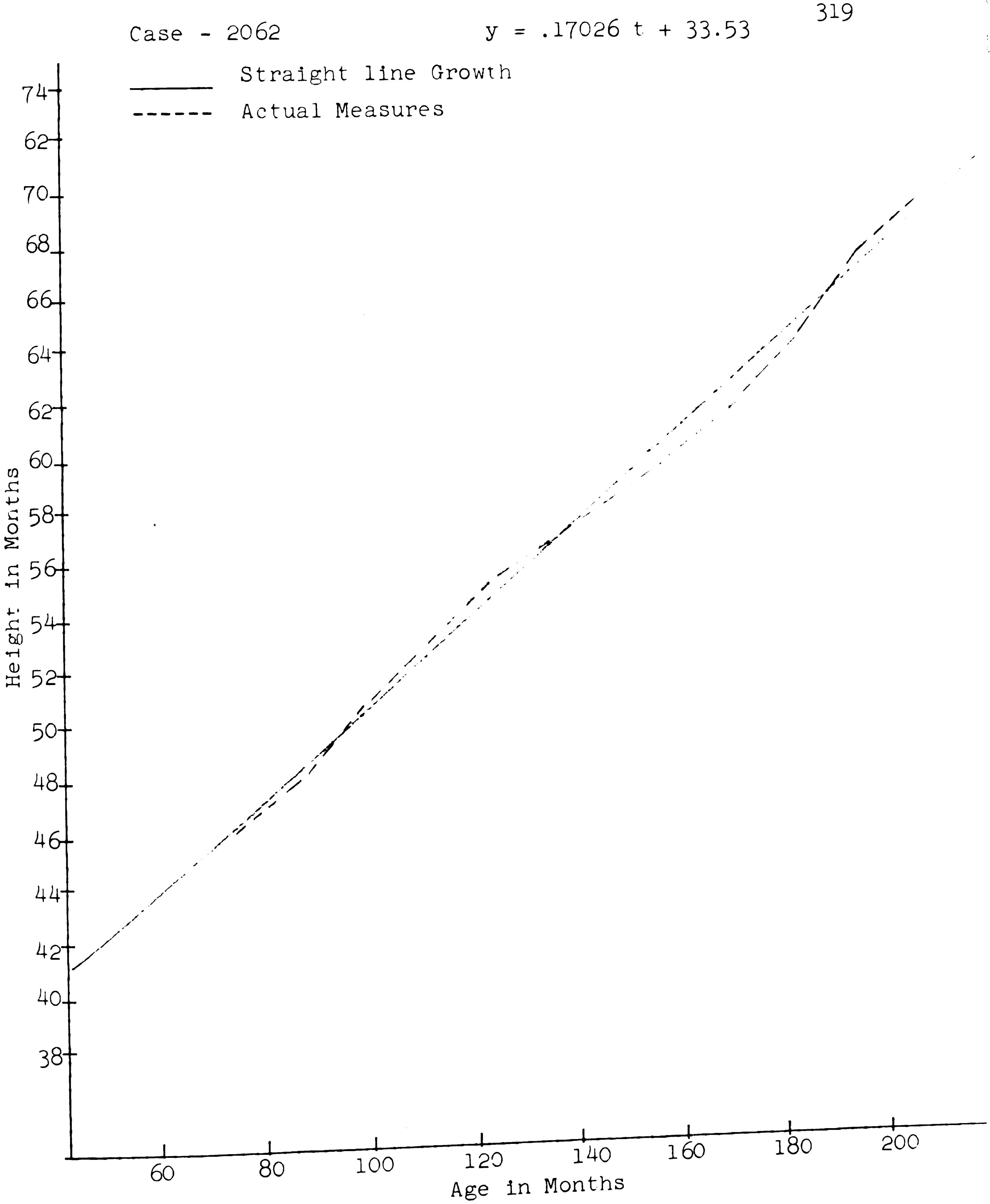
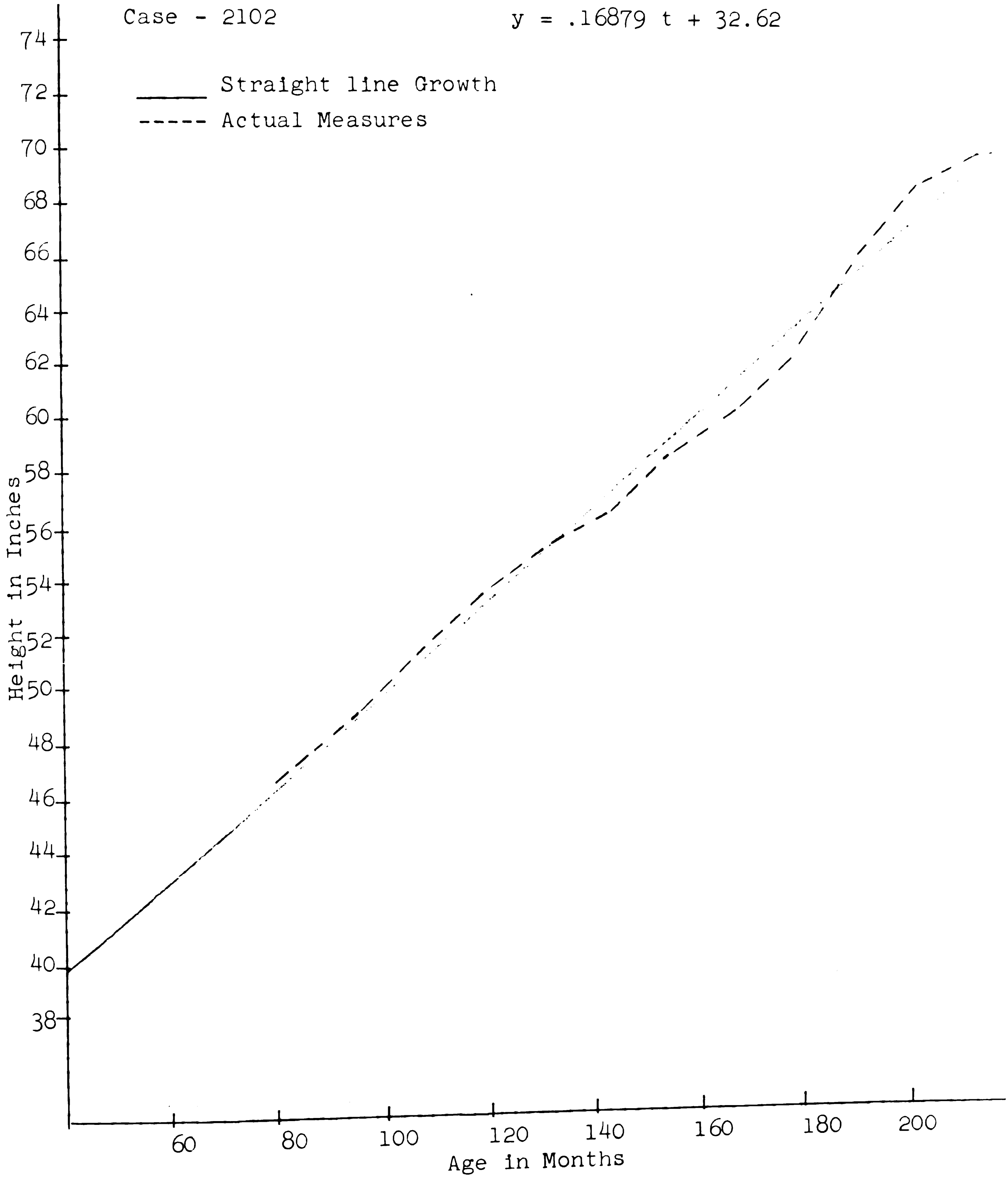
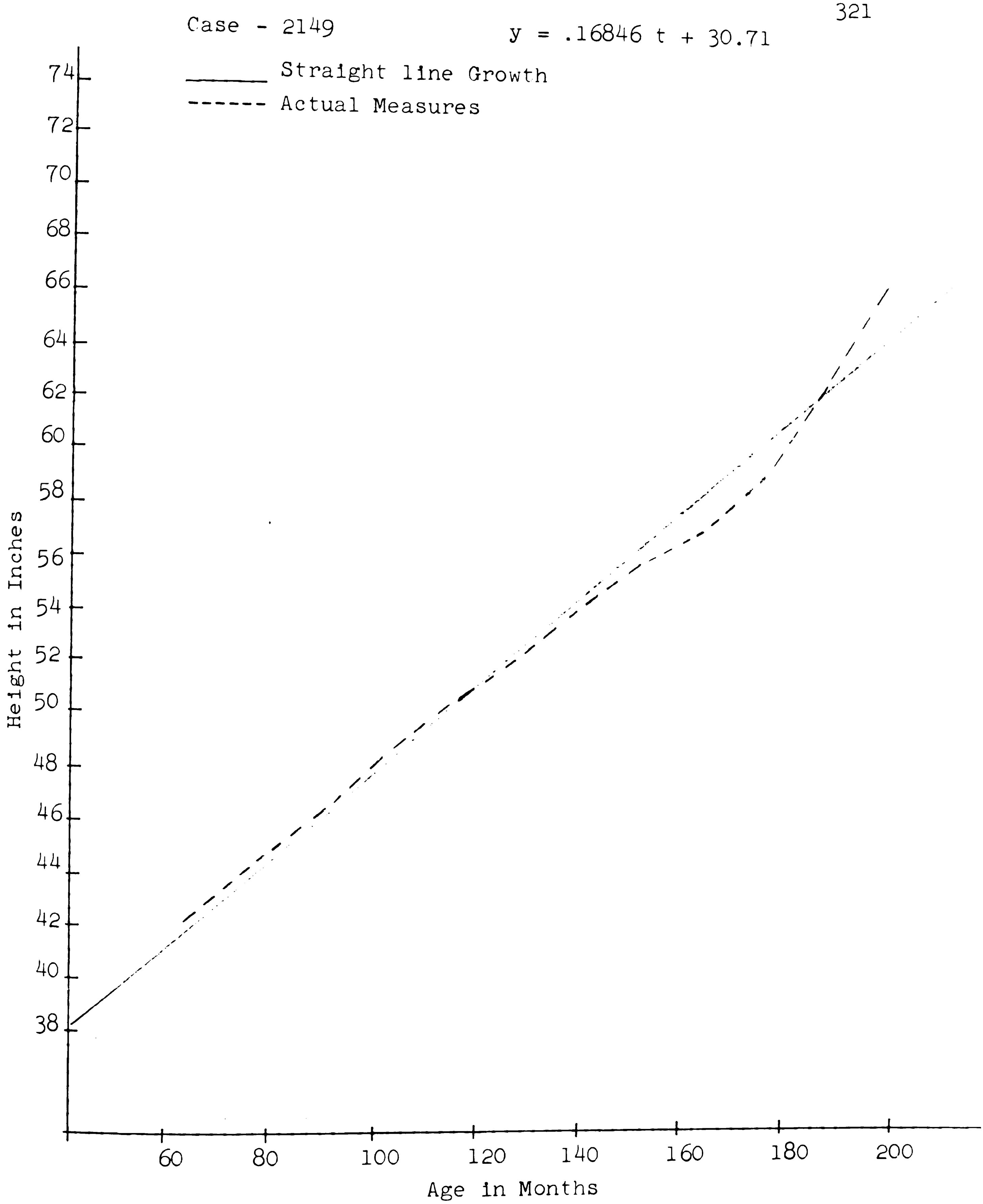
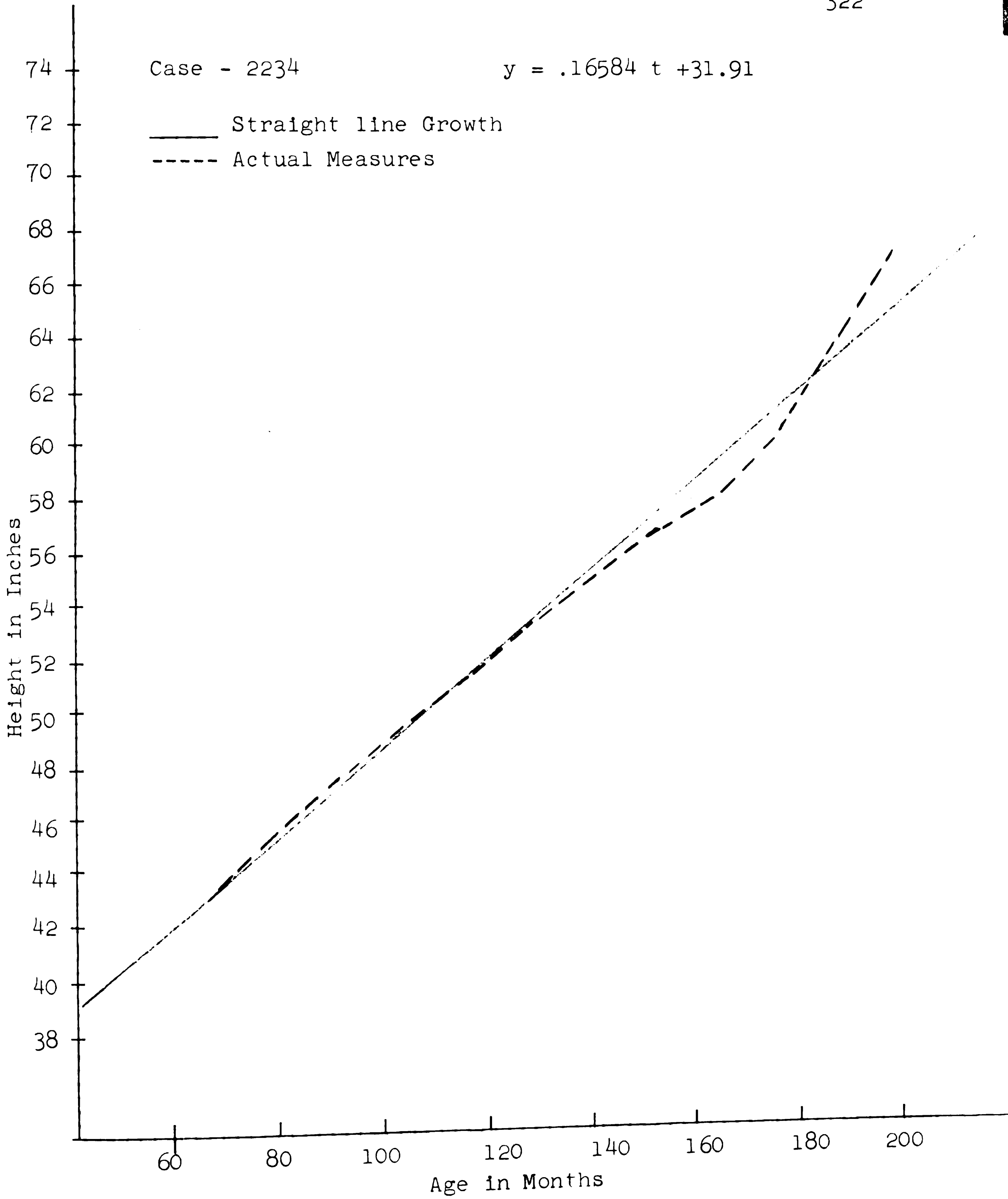
120
140
160
180
200
Age in Months


Case - 2062
y = .17026 t + 33.53
Straight line Growth
Actual Measures
Height in Months
74
62
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

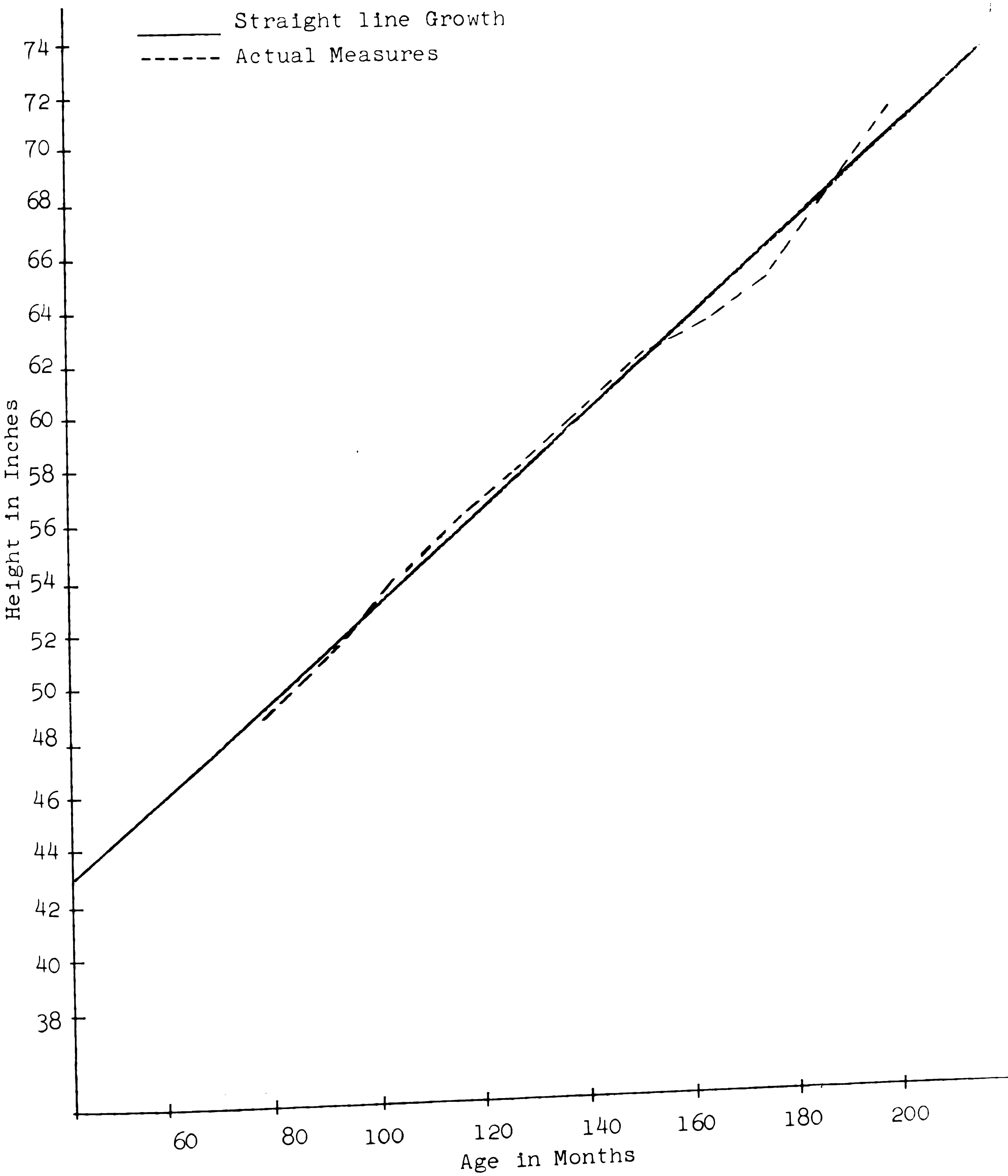

Case - 2102
y = .16879 t + 32.62
Straight line Growth
----- Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months



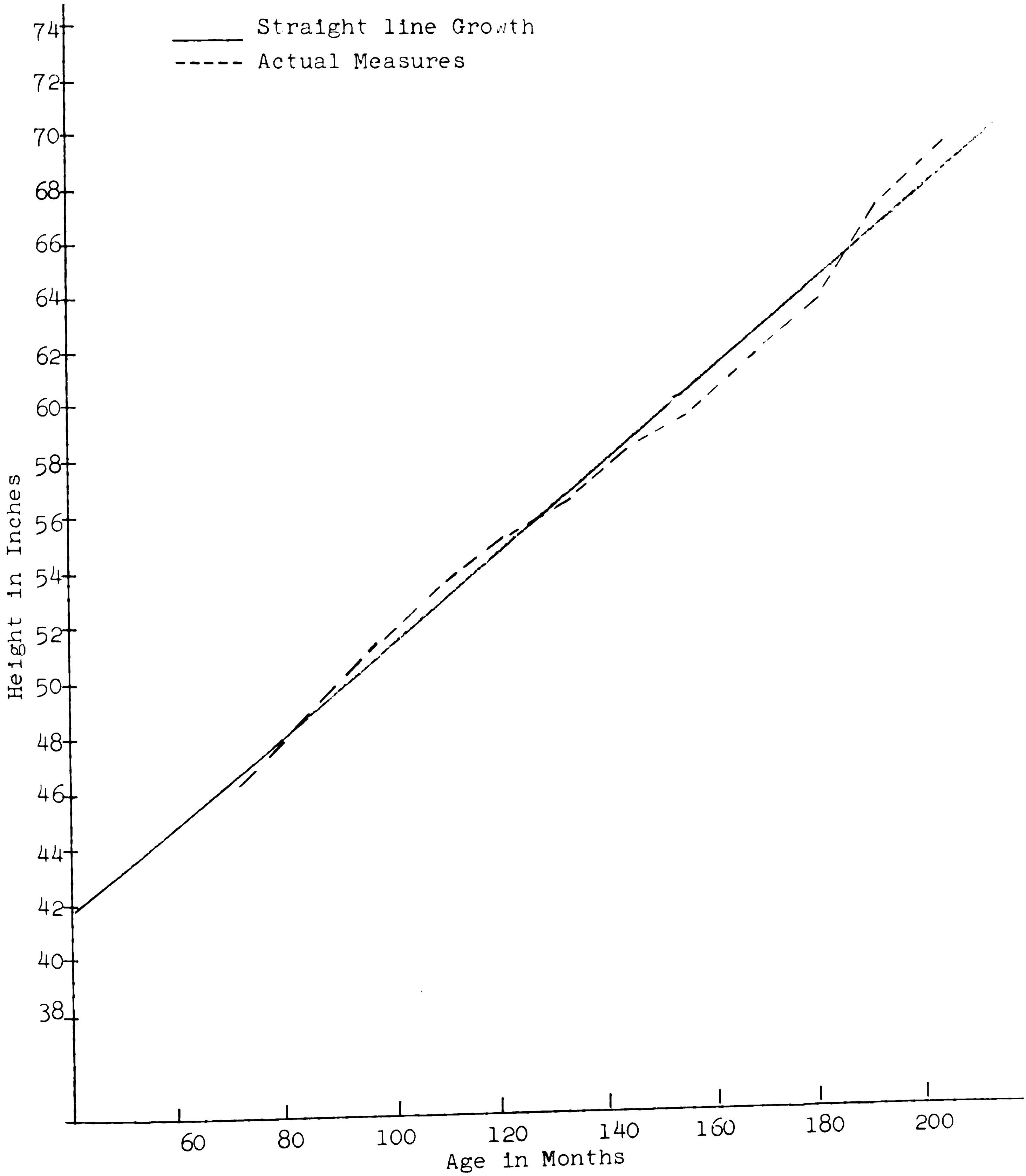
Case - 2149
y = .16846 t + 30.71
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

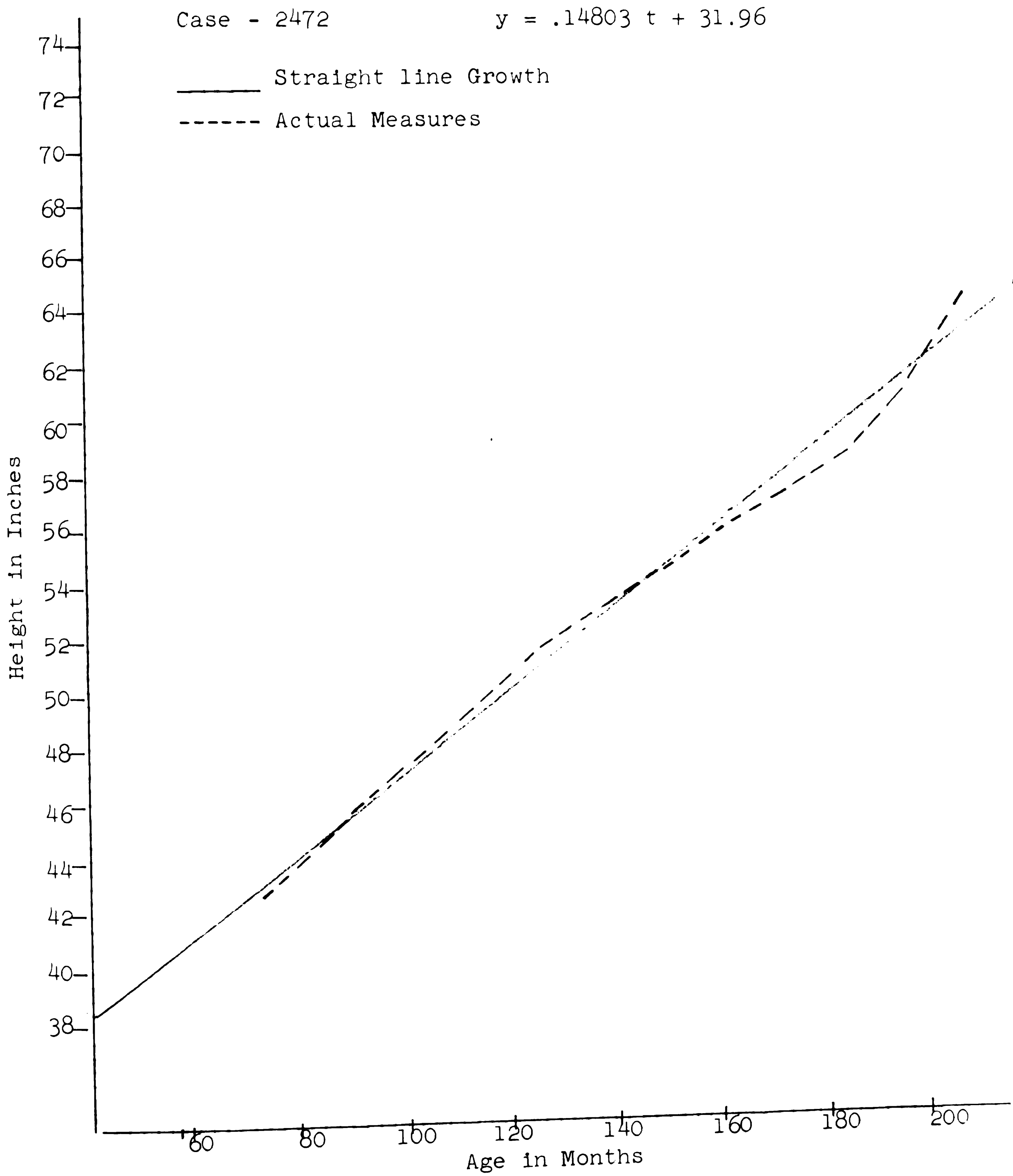

Case - 2234
y = .16584 t +31.91
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months

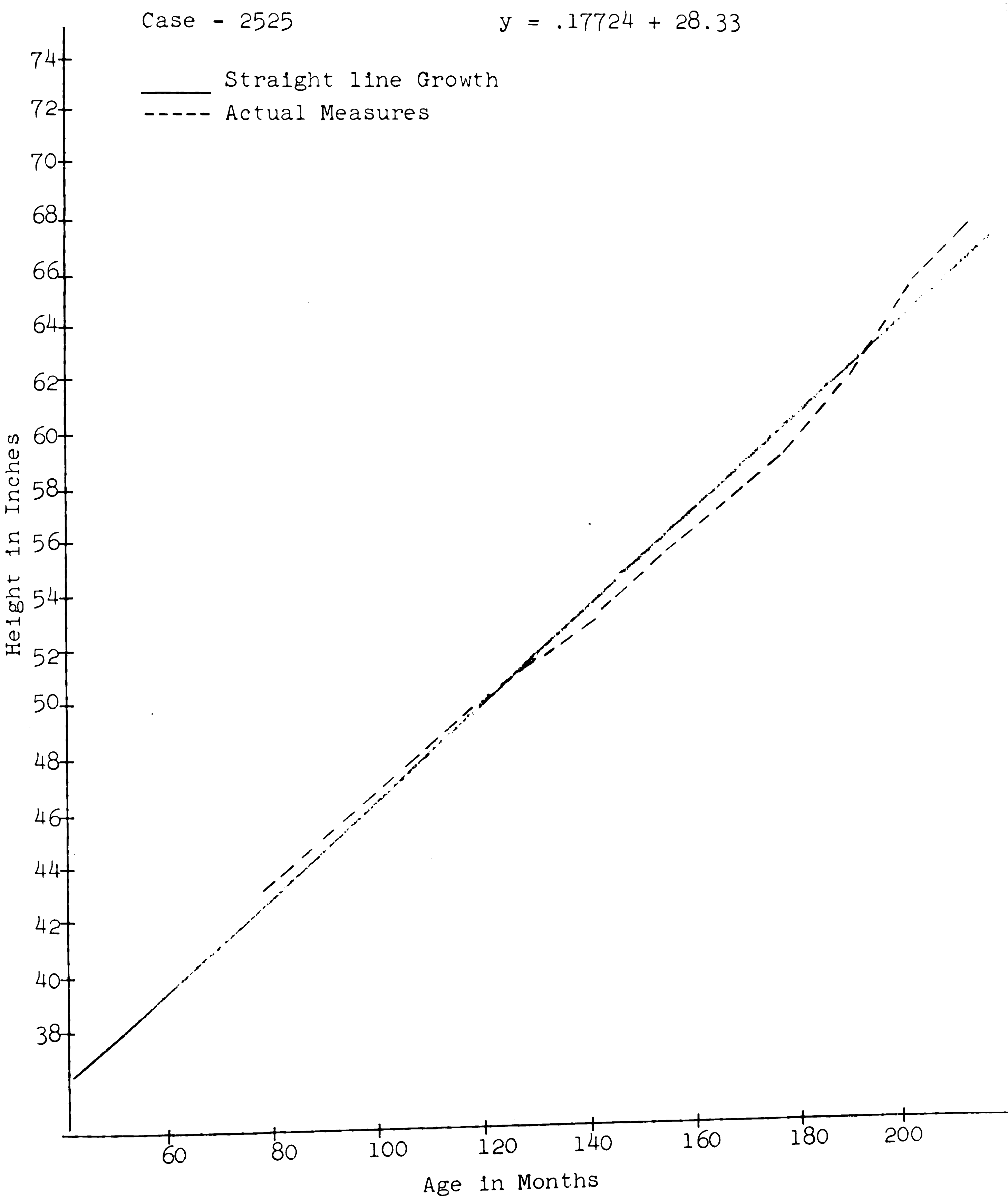
Case - 2282 $y = .17294\ t + 35.35$

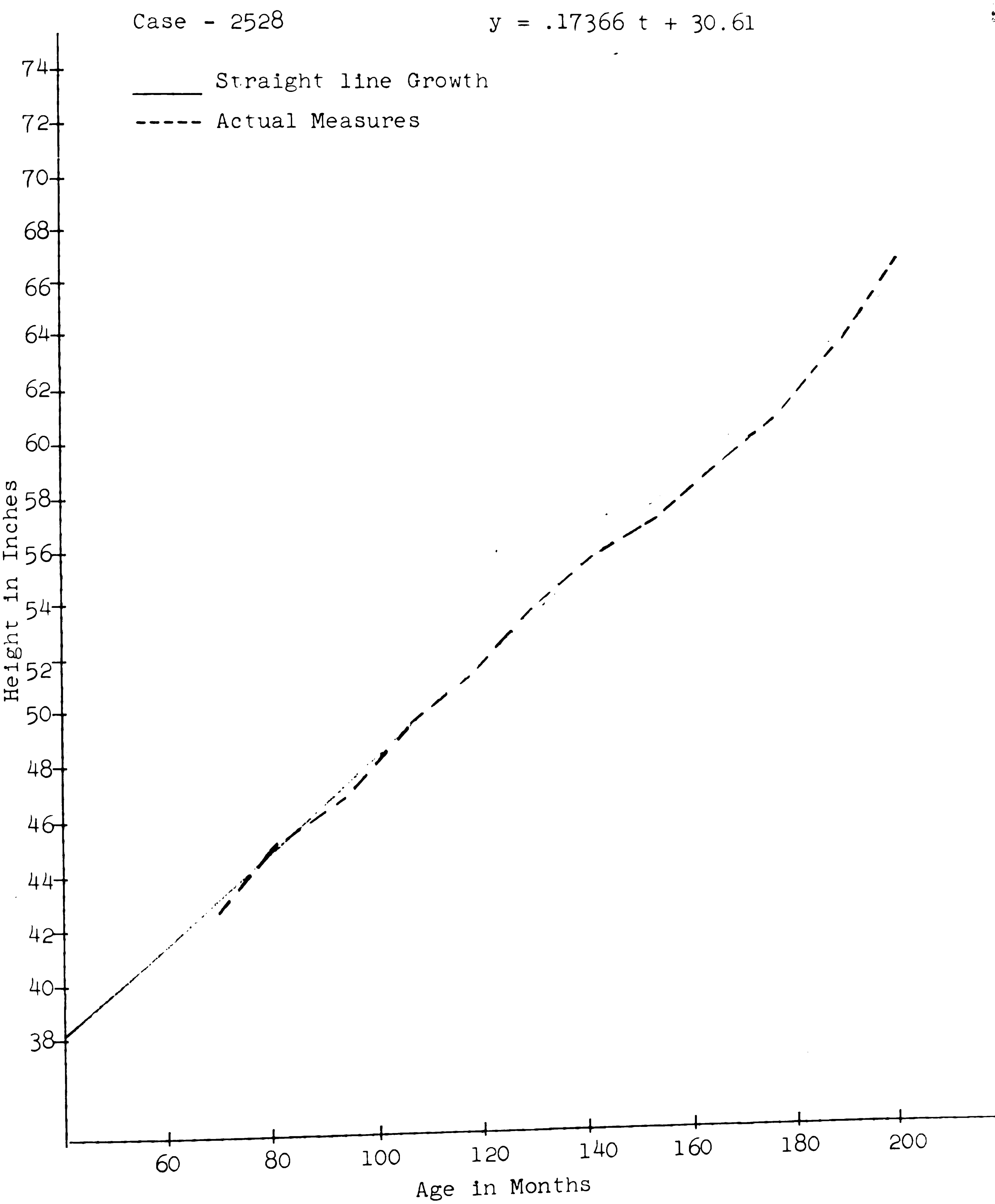


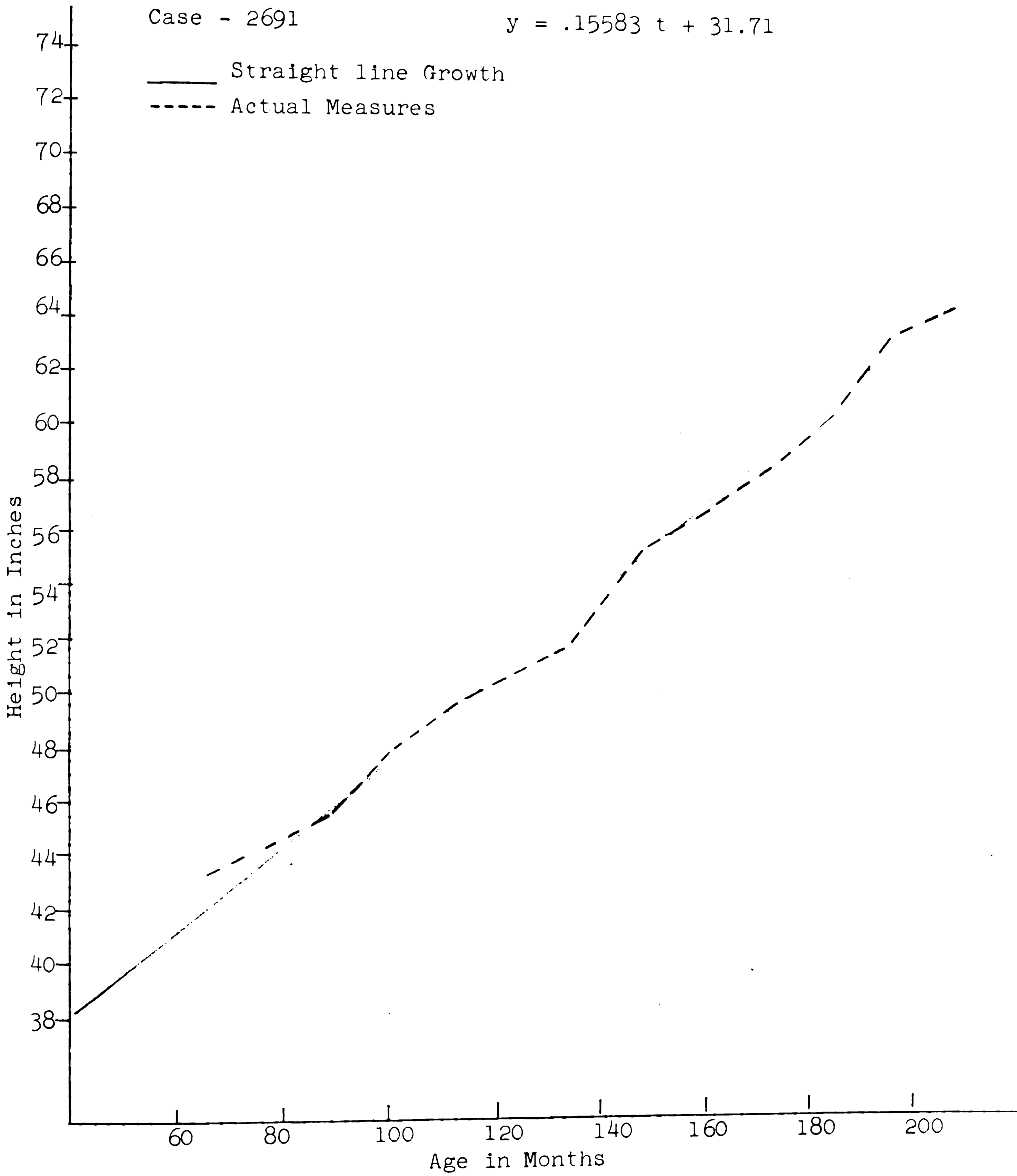
Case - 2465 $y = .16401\ t + 34.75$




Case - 2472
y = .14803 t + 31.96
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months


Case - 2525
y = .17724 + 28.33
Straight line Growth
----- Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months


Case - 2528
y = .17366 t + 30.61
Straight line Growth
Actual Measures
Height in Inches
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
60
80
100
120
140
160
180
200
Age in Months



Case - 2691
y = .15583 t + 31.71
Straight line Growth
Actual Measures
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
Height in Inches
60
80
100
120
140
160
180
200
Age in Months

Date Due

JAN 24 1961			

Demco-293