Introduction to Linear Regression

Name _____ Pd. _____

Algebra I – DASOTA

A pediatrician took a random sampling of 7 of her patients in order to analyze their ages and heights. The ages and heights are listed below:

Age	Height
7 yrs.	45”
15 yrs.	62”
10 yrs.	55”
2 yrs.	36”
18 yrs.	72”
13 yrs.	63”
8 yrs.	44”

1) Which variable in this situation is the independent variable?

2) Which variable is the dependent variable?

3) On the grid provided, create a title for your graph, label each axis clearly and graph each data point.

4) Draw a “line of best fit” for the data you plotted.

5) Find two lattice points on your line-of-best-fit and use the slope formula to calculate the slope of your line.

(Remember $m = \frac{y_2 - y_1}{x_2 - x_1}$)

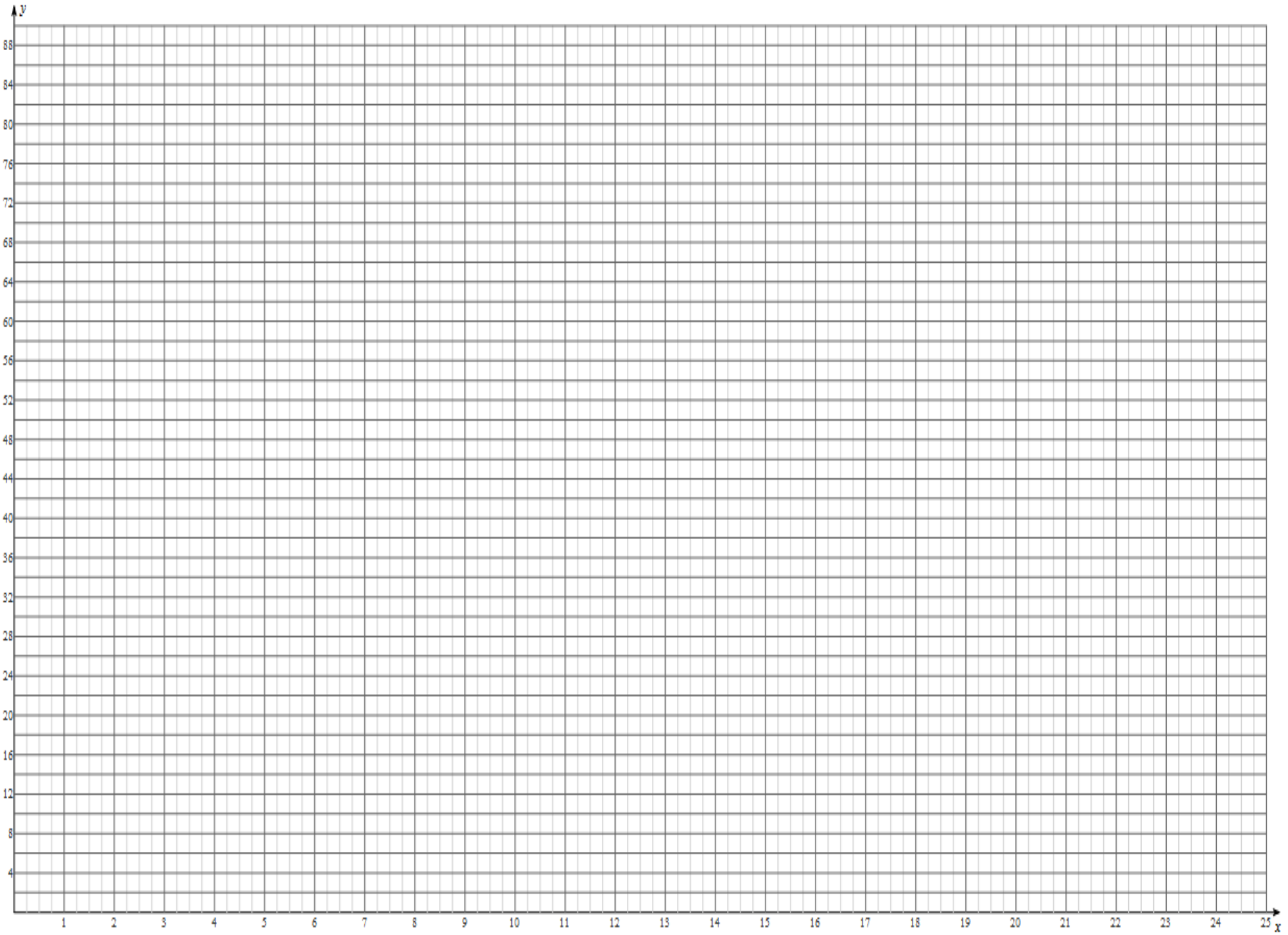
6) What is the y-intercept of your Line-of-Best-Fit?

7) Write the equation of your Line-Of-Best-Fit in Slope-Intercept form.

8) Based on your line, how tall would you expect a 5 year old child to be? Explain how you used either your graph or your equation to answer this question.

9) Based on your line, how tall would you expect a new-born baby to be? Explain how you used either your graph or your equation to answer this question.

10) Based on your line, how tall would you expect a 23 year old to be? Do you think that the linear model is a good predictor of height?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