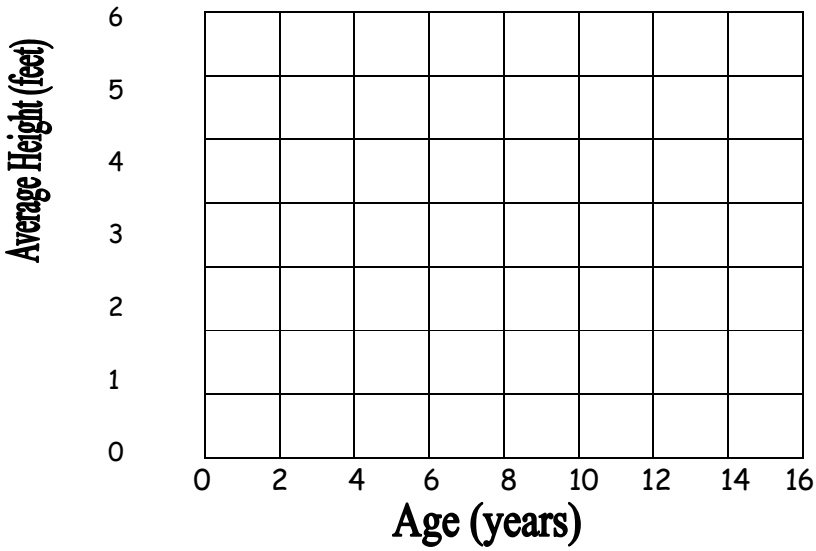
Linear Regression Name _____

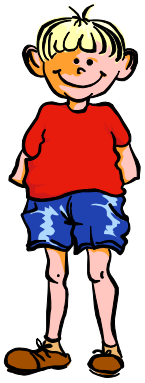
Algebra 1 Hour _____

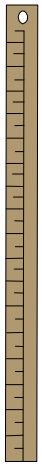
1. **This table gives the average height, at seven ages, for boys in the United States (*Physician's Handbook*, Los Altos, CA: Lang Medical Publications, 1990)**

Age (years)	2	4	6	8	10	12	14
Average Height (feet)	2.8	3.3	3.8	4.2	4.5	4.8	5.2

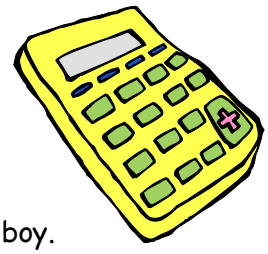
a) Make a scatterplot and draw a linear model that fits the data.







b) Estimate the correlation coefficient you would expect between age and average height. Find the correlation coefficient and see how it matches your expectation.



c) Use your graphing calculator to find the **linear regression line**.

Linear regression line: y = _____

d) Use your answer from c) to find the average height of a 17 year old boy.

e) What does the slope of the regression line mean in the context of this date?