**2.5 Correlation and Best Fitting Lines**

Find your shoe size (if your shoe size is in women’s, convert it to men’s by subtracting 1.5 from the women’s size):

With a partner, measure your height in inches:

Collect the data for a total of 20 students in your class:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Shoe Size |  |  |  |  |  |  |  |  |  |  |
| Height |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Shoe Size |  |  |  |  |  |  |  |  |  |  |
| Height |  |  |  |  |  |  |  |  |  |  |

Make a scatter plot for the data. Be sure to set up the x and y axis smartly.

Describe the correlation.

Find the equation of a line of best fit.

What is the slope of the line of best fit? What does this slope mean for this data?

Use the equation of the line of best fit to predict the height of someone who has a shoe size of 15.

Use the equation of the line of best fit to predict the height of someone who has a shoe size of 7.

Use the equation of the line of best fit to predict the height of someone who has a shoe size of 0.

Use the equation of the line of best fit to predict the shoe size of someone who is 6’7”

Use the equation of the line of best fit to predict the shoe size of someone who is 4’11”.