MTH1W – Unit 9: Statistics

Lesson #9.4: Scatter Plots and Lines of Best Fit

Learning Goal: We are learning to create a line of best fit from a scatter plot.

Remember watching Adam and Jamie gather data points on the length of time it took for a bullet to travel to a target? After they had three data points, Adam was able to draw a graph known as a scatter plot. He was extremely fortunate that the three data points sat perfectly in a line. Taking this one step farther, we could also determine the equation of this line, thus allowing us to calculate any time or distance.



Name:

Today, we will take data from a table and plot it on a scatter plot. Then, we will determine the **line of best fit**. This is a line in y = mx + b form. We will also utilize $y - y_1 = m(x - x_1)$ to create that line. The line of best fit best describes the relationship between the data points. This, like standard deviation, is not difficult, but it is a long and tedious task. However, on small data sets, it is completely possible to do by hand.

This process is called 5 $\frac{5}{6}$ $\frac{6}{6}$ $\frac{6}{6}$ $\frac{6}{6}$ $\frac{6}{6}$ We are only looking at creating a line, but you can do this with curves and make models of the trajectory of a rocket launch, the growth of a virus, the housing market, the sales for your company, and so much more! This is IMMENSLEY useful.

Example: Plot the points, calculate the line of best fit, then draw the line.



ιι

7

ι

Success Criteria:

1

- I can plot points on a scatter plot ٠
- I can calculate the line of best fit •