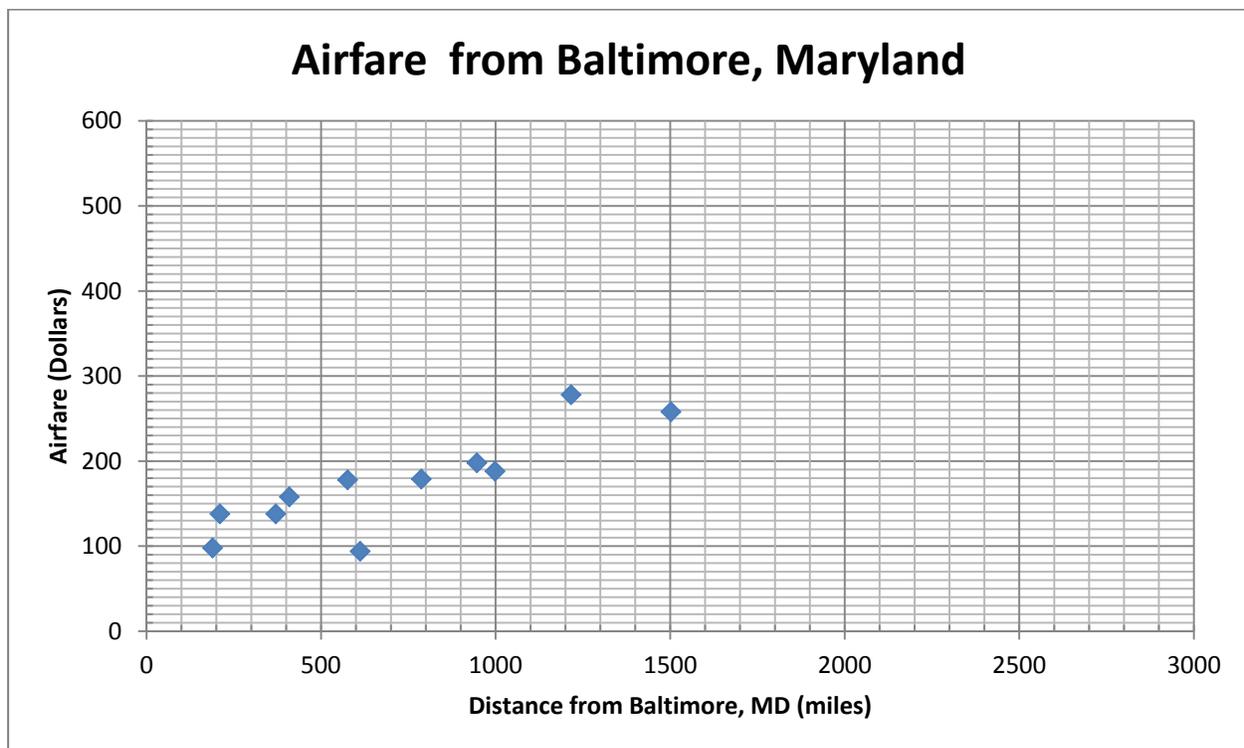


Exploring Regression

NAMES:

The following table gives the airfare from Baltimore, Maryland to several destinations. We are interested in finding the relationship between distance and airfare.

<b>Destination</b>	<b>Distance (miles)</b>	<b>Airfare (dollars)</b>
Atlanta	576	178
Boston	370	138
Chicago	612	94
Dallas	1216	278
Detroit	409	158
Denver	1502	258
Miami	946	198
New Orleans	998	188
New York	189	98
Orlando	787	179
Pittsburgh	210	138



1. Draw on the scatter plot a straight line that mimics the pattern of the points. Use a straight edge and continue the line across the entire graph. This line is called a line of best fit or regression line.

2. Do you think the line fits the data well? Are there points that are not well represented by the line? Explain.

3. St. Louis, Missouri is 837 miles from Baltimore, Maryland. Use the line you drew on the graph to estimate the airfare from Baltimore to St. Louis. You will need to round your values as you use the graph. (Hint: Find the distance on the horizontal axis, and follow it up to the line you drew. What is the airfare for this point?)

4. San Francisco, California is 2820 miles from Baltimore, Maryland. Use the line you drew on the graph to estimate the airfare from Baltimore to San Francisco. You will need to round your values as you use the graph.

5. You used interpolation and extrapolation on questions 3 and 4. Which was interpolation and which was extrapolation? Which estimate is more reliable?