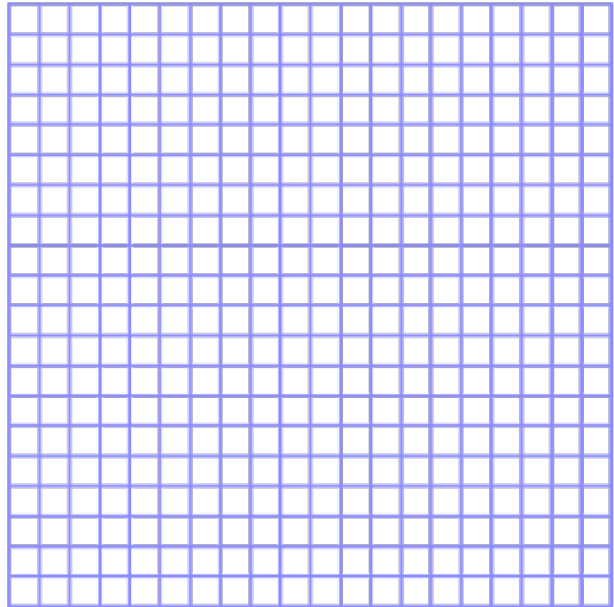


Bellwork

Use the table provided to create a scatter plot.

Temperature (°C)	# of Ice Cream Cones Sold
0	10
10	8
14	12
22	40
12	10
28	65
35	78
20	30
28	35
32	70
8	2



Which variable is the dependent variable? Independent variable?

Are there any outliers in the data set? Explain.

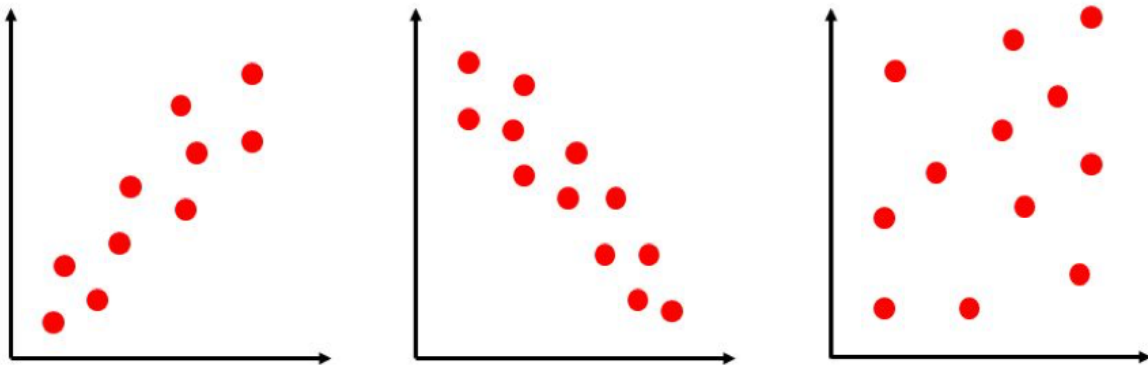
Please submit this to me by taking a picture and submitting it on Edsby. If you are in class I will help you scan it to a PDF so that you know how to do that for the future.

Date: _____

2.4 Trends, Interpolation, and Extrapolation

Scatter plots are used to show us the relationship between two data sets, as we discussed last week. These relationships are often called **trends** in the data, and we can draw a **line of best fit** so that we can see the trend more clearly (more on that to come 😊).

How would you describe the trends shown on the scatter plots below?



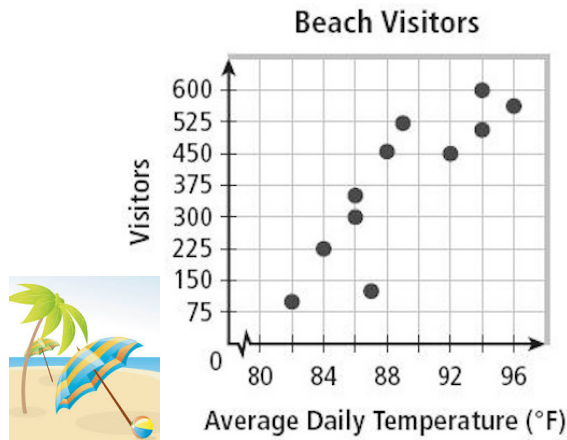
Predicting Values: Interpolation and Extrapolation

Once you have identified the trend in the data, you can use the scatter plot to predict values that are not included in the set of data points that you gathered/used to make your graph.

If you are predicting a value that falls **within** the data set, you are **interpolating**. This means that the value you are using to make your prediction falls between the first and last number in the data set you started with.

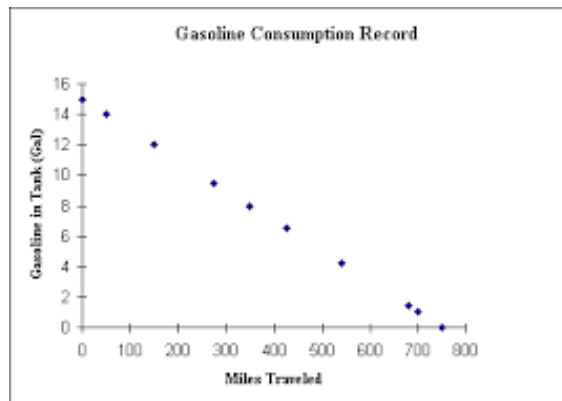
If you are predicting a value that falls **outside** the data set, you are **extrapolating**. This means that you are extending your data set, or adding "extra" points beyond the original information.

Example 1: Use the scatter plot below comparing beach visitors and temperature to predict the number of visitors when the average daily temperature is 90 degrees and 98 degrees. Did you interpolate or extrapolate?



Why would it be difficult to use this graph to predict the average number of visitors when the average daily temperature is 70 degrees?

Example 2: Use the scatter plot below to estimate the volume of gasoline in the tank at 200 km and 600 km. Did you interpolate or extrapolate?



Is it possible to extend this graph? Why or why not?

Do you think that interpolating or extrapolating is more reliable when making predictions?

