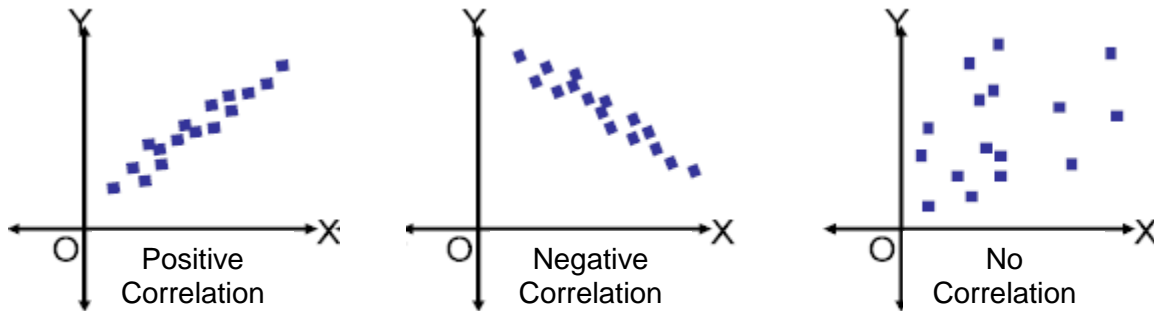# SCATTER PLOTS

A **scatter plot** is a graph with points plotted to show a possible relationship between two sets of data. You can use scatter plots to find trends in data. There are three types of relationships two sets of data may have:

Positive Correlation   Negative Correlation   No Correlation

When the data has a positive or negative correlation, you can use a **trend line** to predict or estimate data that is unavailable.

Example 1: The graph shows the altitude of an airplane and the temperature outside the plane.

a) What is the outside temperature when the altitude of the plane is 2500 meters?

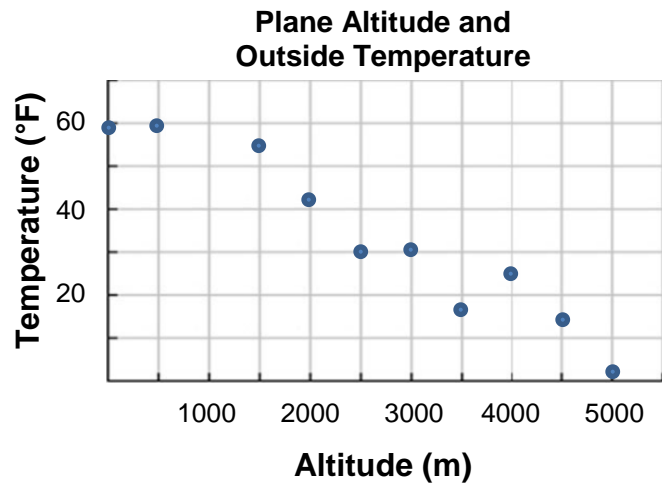b) What is the altitude of the plane when the outside temperature is 25°F?

c) As the altitude of the plane increases,

_____.

d) Draw a trend line.

Plane Altitude and Outside Temperature

e) What type of relationship does the scatter plot show?

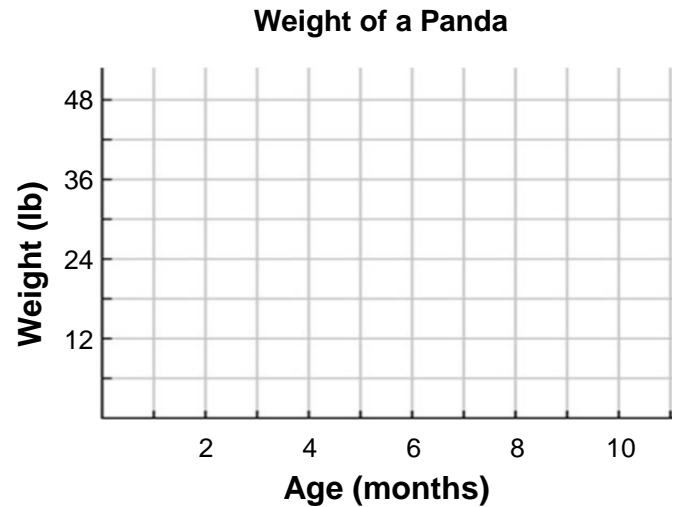f) According to the trend, what outside temperature seems reasonable at a height of 1000 m?

g) It is reasonable to conclude that when the plane flies higher than 5500 meters,

_____.

Example 2: The table shows the relationship between the weight of a panda and its age.

Age (months)	1	2	3	4	6	8	10
Weight (lb)	2.5	7.6	12.5	17.1	24.3	37.9	49.2

a) Make a scatter plot of the data in the table.

b) Draw a trend line.

c) What type of relationship does the scatter plot show?

d) As the age of the panda increases,

_____.

e) What is the approximate weight of a 7-month-old panda?

Weight of a Panda

(graph with y-axis labeled "Weight (lb)" marked 12, 24, 36, 48; x-axis labeled "Age (months)" marked 2, 4, 6, 8, 10)

Example 3: The graph below shows the amount of water remaining in a pool that is being drained.

a) How many gallons of water remain in the pool after 10 hours?

b) After how many hours are there 150 gallons in the pool?

c) As time increases,

_____.

d) Draw a trend line.

e) What type of correlation does the data have?

f) Predict the number of hours needed to completely drain the pool.

g) Approximately how many gallons of water were in the pool initially?

(scatter plot with y-axis labeled "Amount of Water in Pool (gallons)" marked 50, 100, 150, 200, 250, 300, 350, 400, 450, 500; x-axis labeled "Time (hours)" marked 2, 4, 6, 8, 10, 12, 14, 16, 18, 20)