March 3, 2020

Warm Up

1. Find the slope of the line that passes through the points (4, -9) (-2, 3)

$\frac{y_2 - y_1}{x_2 - x_1}$ $\frac{3 + 9}{-2 - 4} = \frac{12}{-6} = -2$

2. Write the equation for the line above if the y-intercept is -1.

$y = mx + b$

$y = -2x - 1$

Scatterplots and Correlation

March 3, 2020

Scatter Plots-A graph of a set of data pairs (*x*, *y*) used to determine whether there is a relationship between the variables *x* and *y*.

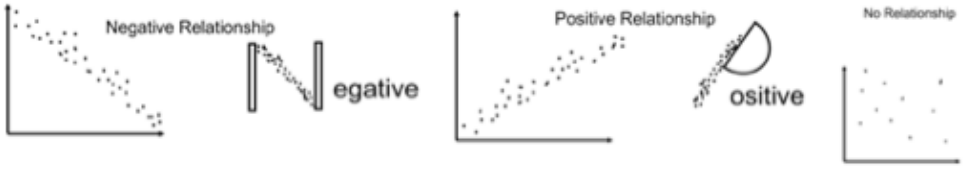
Bivariate data - data from two numbers

Correlations/Trends

Negative correlation/trend- In a set of data pairs (x, y) as x increases, y tends to decrease.

Positive correlation/trend- In a set of data pairs (x,y) as x increases, y tends to increase

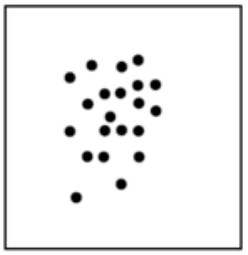
No correlation/trend- In a set of data pairs (x, y) where there is no obvious pattern between x and y.



March 3, 2020

Decide whether the scattorplot shows positive correlation, negative correlation or no correlation

Pos.



no

neg.

pos.

neg.

Tell whether a scatterplot made for each set of data would show a positive trend, negative trend, or no trend.

Rotations (x) of a tire and distance (y) traveled - positive

Test score (x) and shoe size (y) - None

Number of pages printed and ink left in a printer cartridge - neg

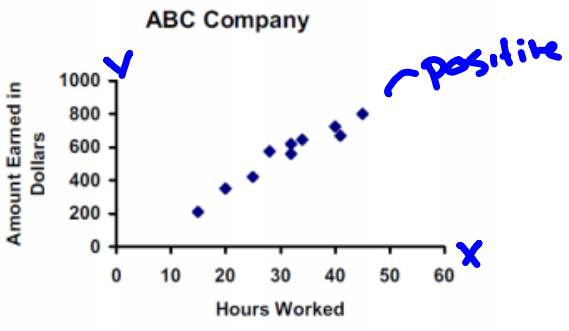
Number of siblings and shirt size - none

Length of a taxi ride and amount of taxi ride - positive

Correlation Statement:

As ***x*** increases, ***y*** increases/decreases

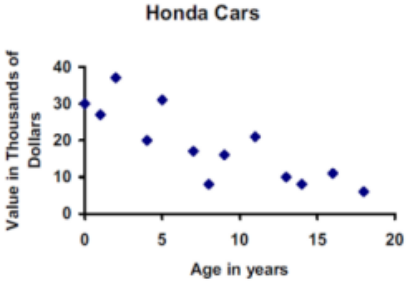
The scatter plot below shows a relationship between hours worked and money earned. Which best describes the relationship between the variables?



Correlation Statement:

At ABC Company, the amount of **hours worked** increases, the **money earned** increases.

This scatter plot shows the relationship between the age of a car and its value. Which best describes the relationship between the variables?

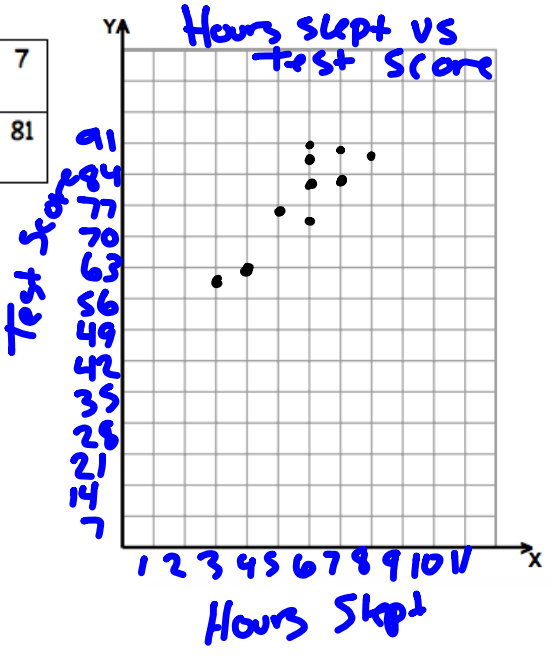


Correlation Statement:

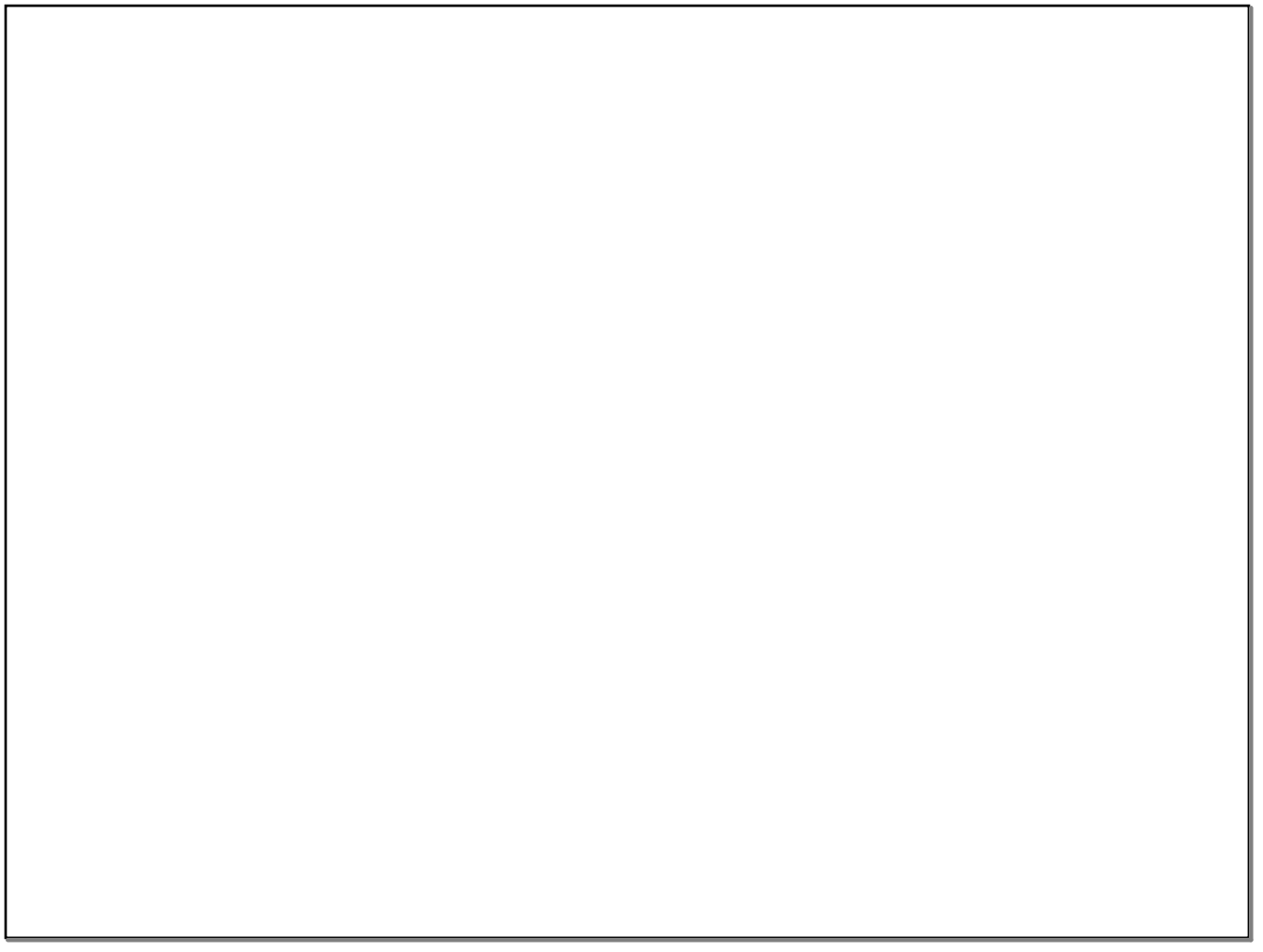
When the Honda cars age increases the value decreases.

A history teacher asked their students how many hours of sleep they got the night before a test. Make a scattor plot out of the results

Hours Slept	8	7	7	8	6	5	7	4	9	7
Test Score	83	86	74	88	76	63	90	60	89	81



Correlation:

The more sleep you get, the better the test scores tends to be.

March 3, 2020