Algebra 1 4.5

Investigate relationships between quantities by using scatterplots

Use lines of fit to make and evaluate predictions

bivariate data (x, y)

line of fit (prediction equation)

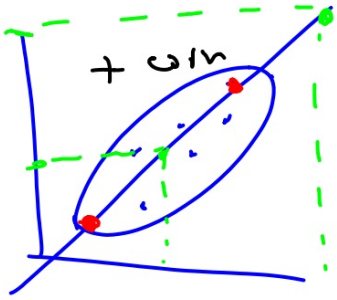
independent variable (x)

Dependent variable (y)

interpolation

extrapolation

correlation

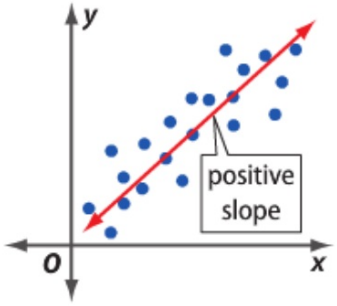


pos neg 0

Activity: Ht vs wingspan

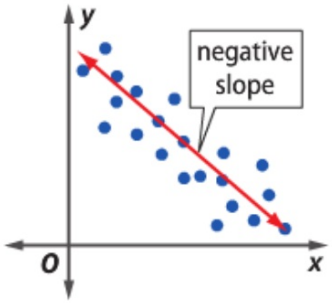
ConceptSummary Scatter Plots

Positive Correlation



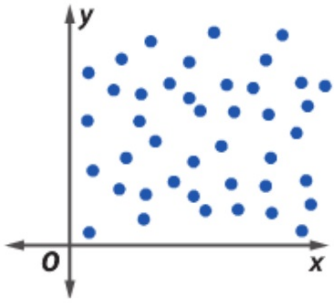
As x increases, y increases

Negative Correlation



As x decreases, y decreases

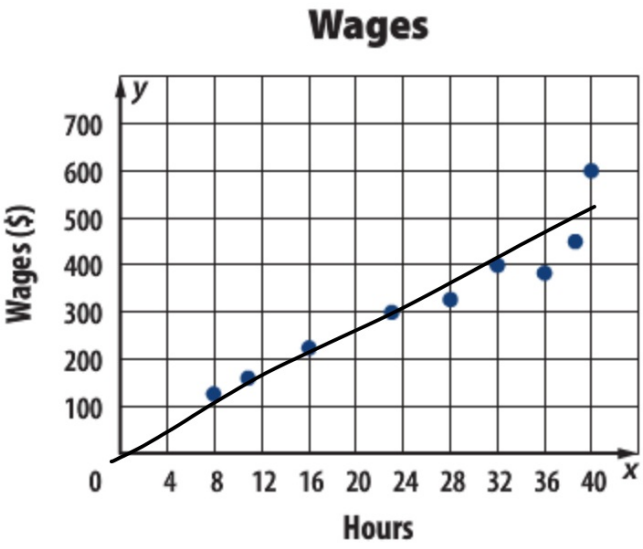
No Correlation



x and y are not related

Real-World Example 1 Evaluate a Correlation

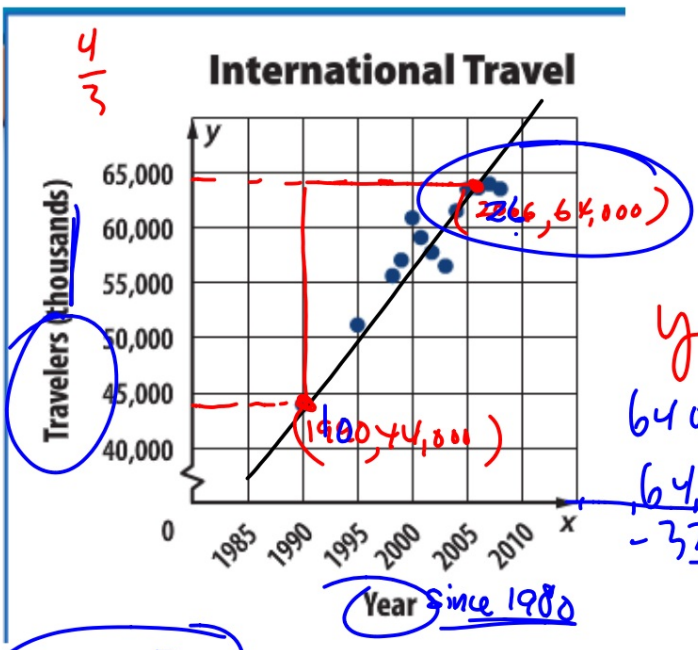
WAGES Determine whether the graph shows a *positive*, *negative*, or *no* correlation. If there is a positive or negative correlation, describe its meaning in the situation.



"It goes up" is not the kind of answer I am looking for.

Write equation

1. Refer to the graph on international travel. Determine whether the graph shows a *positive*, *negative*, or *no* correlation. If there is a positive or negative correlation, describe its meaning.



4/3

(2006, 64,000)

(1980, 44,000)

2025?

$y = mx + B$

$m = \frac{20,000}{16} = 1250$

$y = 1250x + B$

$64000 = 1250 \cdot 26 + B$

$64,000 = 32,500 + B$

$-32500 \quad -32500$

$31500 = B$

$y = 1250x + 31500$

travelers $= 1250 \cdot \text{year} + 31500$

$= 1250 \cdot 45 + 31,500$

$= 87,750,000$

Write equation