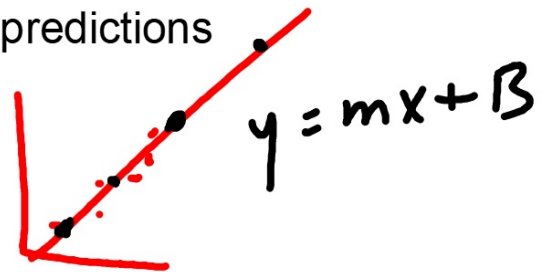


Algebra 1 4.5

Investigate relationships between quantities by using scatterplots

Use lines of fit to make and evaluate predictions

- ★ bivariate data
- ★ line of fit (prediction equation)
- independent variable (x)
- Dependent variable (y)
- [interpolation **prediction**
- extrapolation
- correlation

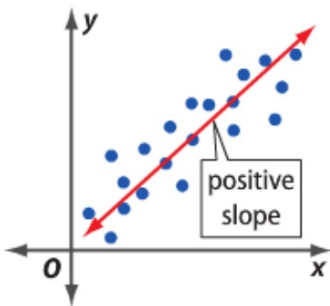


Vikings :)
9/15 (San Francisco) 23
9/22 (Houston) 34

Activity: Ht vs wingspan: measurements

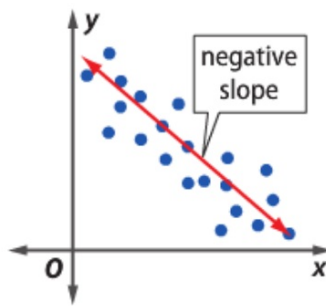
ConceptSummary Scatter Plots

Positive Correlation



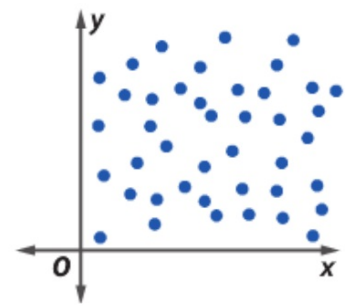
As x increases, y increases

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.

pos.

(16, 200)
(40, 600)

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

$$m = \frac{400}{24} = \frac{600 - 200}{40 - 16} \approx 16.7$$

$$y = mx + B$$

$$200 = 16.7(16) + B$$

$$200 = 267.2 + B$$

Write equation

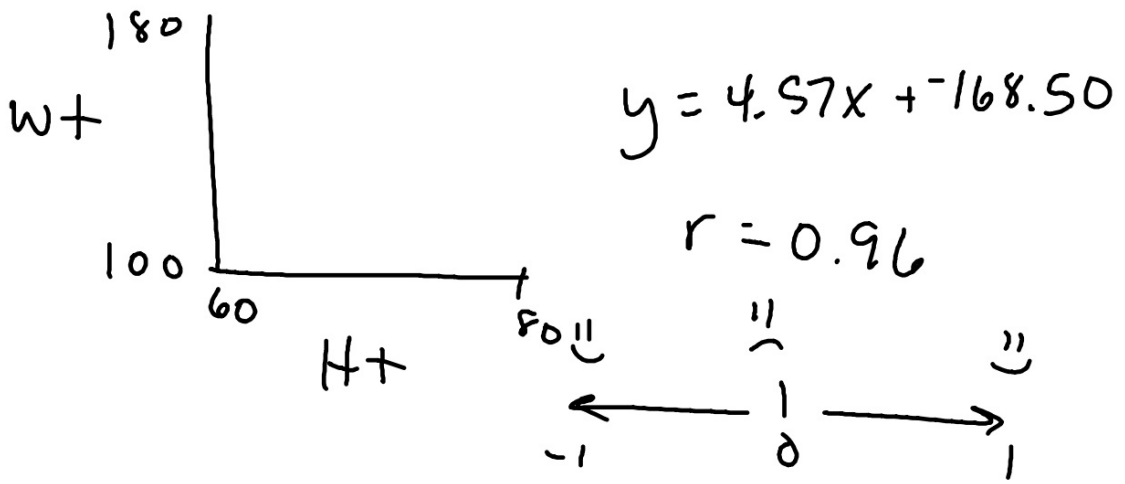
$$-267.2 \quad -267.2$$

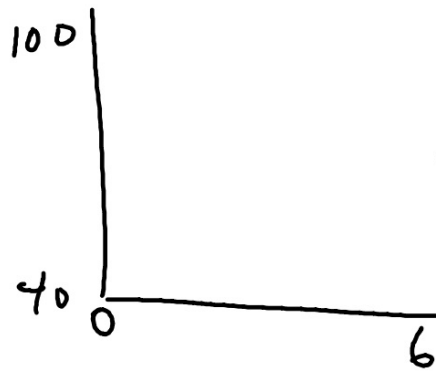
$$-67.2 = B$$



$$y = 16.7x - 67.2$$

Ht vs Wingspan





$$y = 14.10x + 28.44$$

$$r = 0.98$$