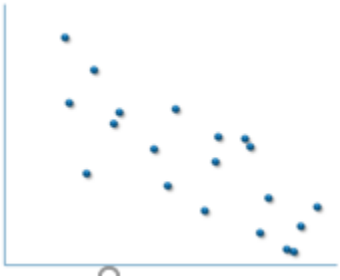
3379 Chapter 4 Section 1
Pearson Correlation

Two variables are _____ _ _____ if large values of one variable are associated with large values of the other



A numerical measure of the strength of the linear relationship between two variables is called the

_____

Given ordered pairs _____ with means __ & __

Correlation Coefficient =

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**Correlation Coefficient Properties**

Values are always between ____ & ___

It does not matter which variable is ____ or ____

Correlation Coefficient measures the _____ of the relationship

_____ can alter the results

Correlation **Does Not mean _____**

**Finding Correlation Coefficient with a calculator**

1) Turn _____ on:

TI84: MODE -> _____ -> ON

TI83: 2nd -> Zero (catalogue) -> _____ -> ON

2) Enter all values in the lists _____

3) STAT -> Calc -> LinReg(ax+b)

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A coach wants to see if player height and weight are related. Find and interpret the 2-decimal correlation coefficient

| Height (in) | Weight (lb) |
|---|---|
| 43 | 99 |
| 21 | 65 |
| 25 | 79 |
| 42 | 75 |
| 57 | 87 |
| 59 | 81 |

r = _____ means there is a _____relationship between player height and weight. This does not mean changing _____

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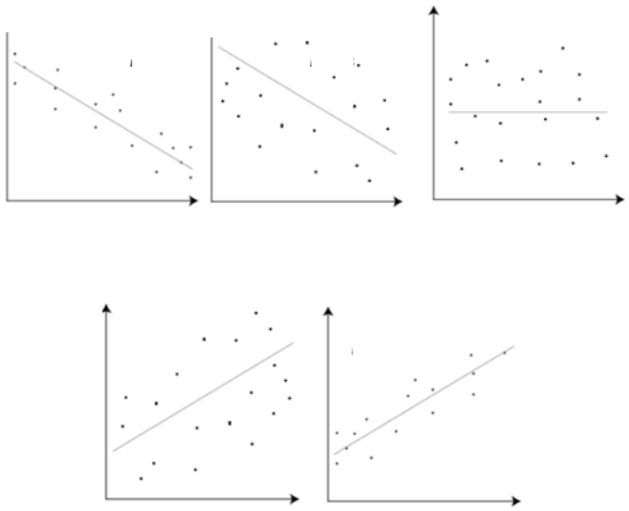
A group of elementary school children took a vocabulary test. It turned out that children with larger shoe sizes tended to get higher scores on the test, and those with smaller shoe sizes tended to get lower scores. As a result, there was a large positive correlation between vocabulary and shoe size.

Does this mean that learning new words causes one's feet to grow, or that growing feet cause one's vocabulary to increase?



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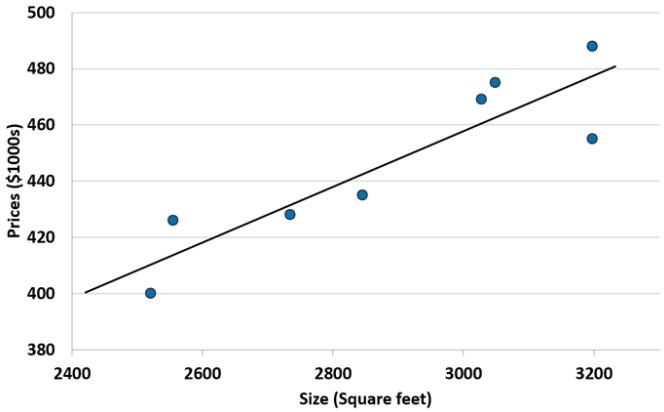
A _____ _____ regression line is a line generated from a set of points that most closely represents the plot of the points




The _____ _____ (__) is the outcome variable and _____ _____ is the predictor variable.

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**Finding regression line with a calculator**

Enter all values in the lists:

STAT -> _____ -> _____

The line y = _____
is the linear regression or best-fit line

Find the 3-decimal regression line equation

| Size (Square Feet) | Selling Price ($1000s) |
|---|---|
| 2521 | 400 |
| 2555 | 426 |
| 2735 | 428 |
| 2846 | 435 |
| 3028 | 469 |
| 3049 | 475 |
| 3198 | 488 |
| 3198 | 455 |

What would the price be for a 2400 square foot home?

How large is a $375,000 home?