

Mean or Average

$$\bar{x}$$

Add up all the data & divide by the # of data in the set.

$$2+1+1+5+4+4+4 = 21$$

$$21 \div 7 = 3$$

Median

The number in the *middle* when data set is in numerical order.

1, 1, 2, 4, 4, 4, 5

Mode

The number that occurs the *most*.

1, 1, 2, 4, 4, 4, 5

Range

Maximum# - Minimum#

1, 1, 2, 4, 4, 4, 5

$$5 - 1 = 4$$

Interquartile Range

$$Q3 - Q1$$

1, 1, 2, 4, 4, 4, 5

Q1 Median Q3

$$4 - 1 = 3$$

Outlier

Number unusually
distant from the others

1, 1, 2, 4, 4, 4, **25**

Mean Absolute Deviation

The average distance between each data value and the mean

$$1, 1, 2, 4, 4, 4, 5 \quad \bar{x} = 3$$

$$3 - 1 = 2 \quad 3 - 2 = 1 \quad 4 - 3 = 1 \quad 5 - 3 = 2$$

$$3 - 1 = 2 \quad 4 - 3 = 1 \quad 4 - 3 = 1$$

$$\frac{2 + 2 + 1 + 1 + 1 + 1 + 2}{7} = 1.43$$

7

Measures of Center

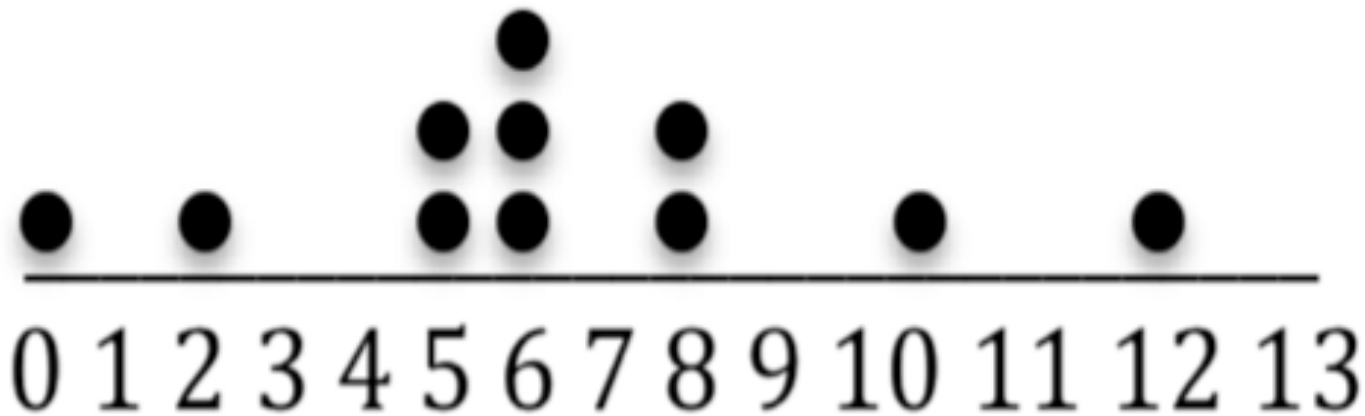
- Mean
- Median

Measures of Spread

- Range
- Mean Absolute Deviation
- Standard Deviation

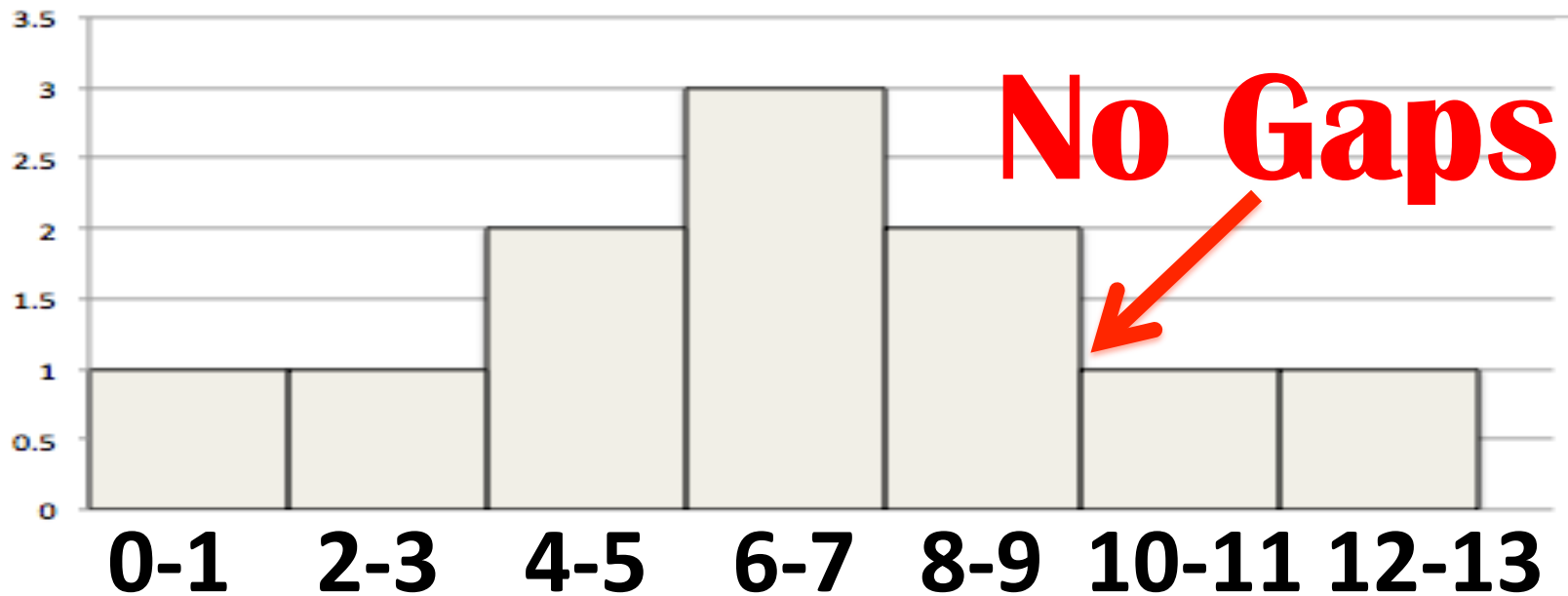
Dot Plot

Shows data on a number line with a dot for every occurrence



Histogram

Shows data using bars

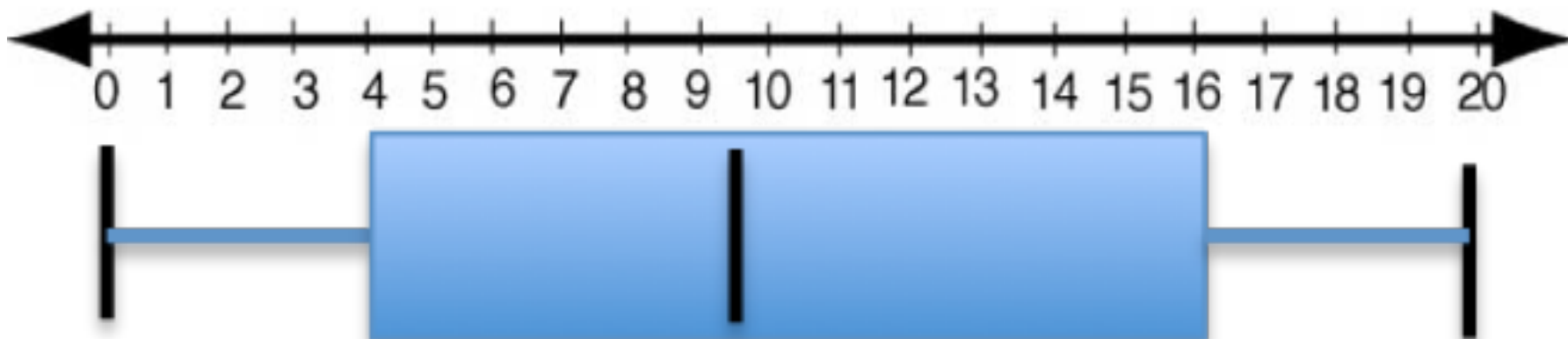


No Gaps

Number Ranges

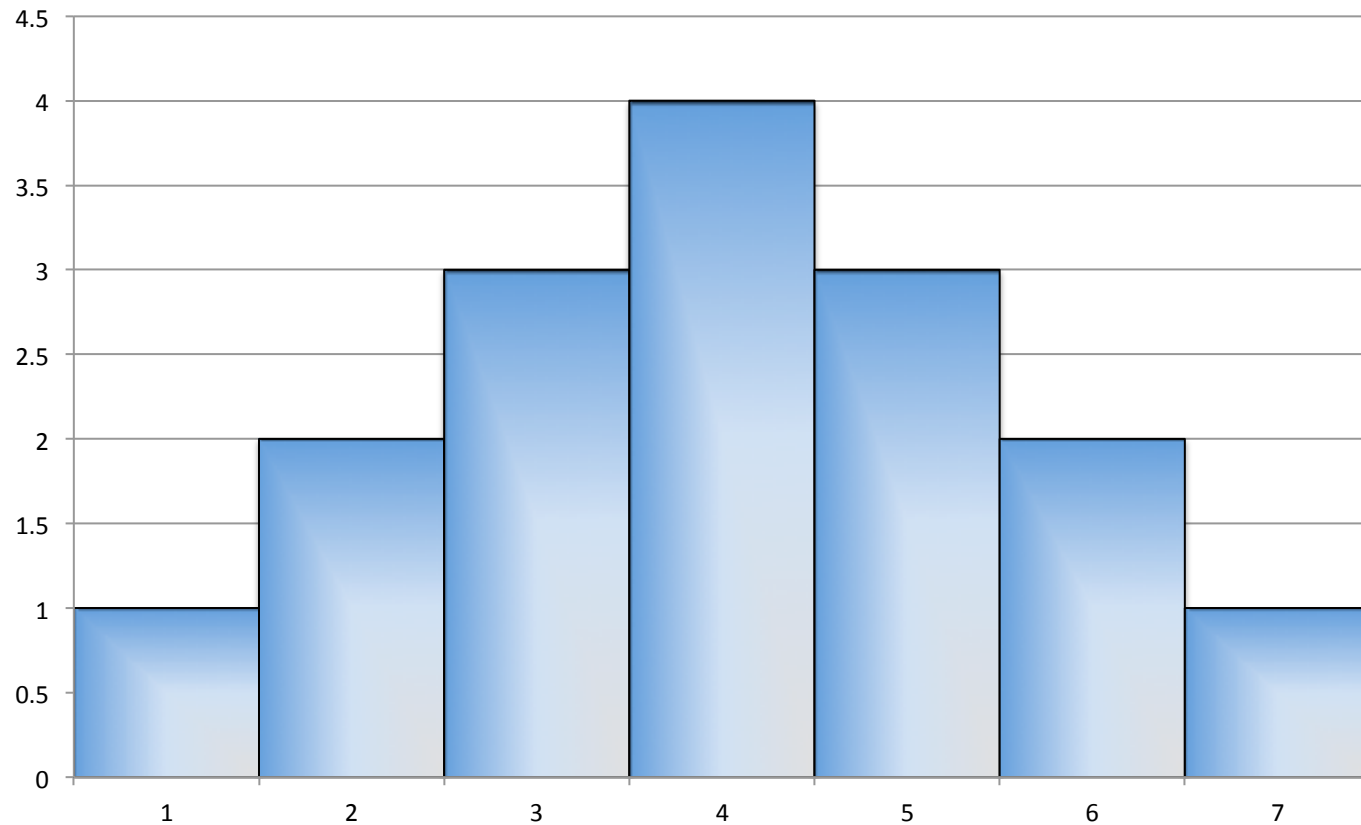
Box Plot

5 number summary

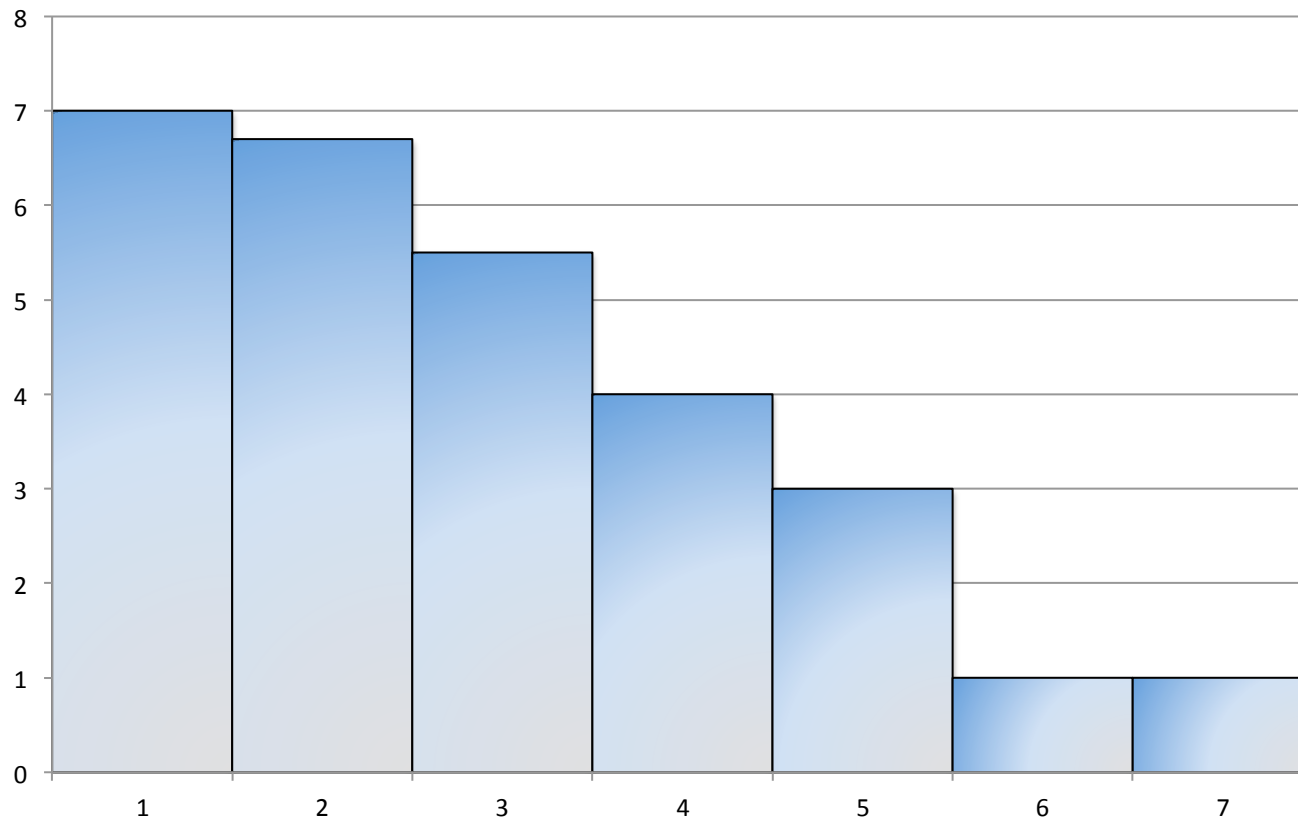


Minimum **Q1** **Median** **Q3** **Maximum**

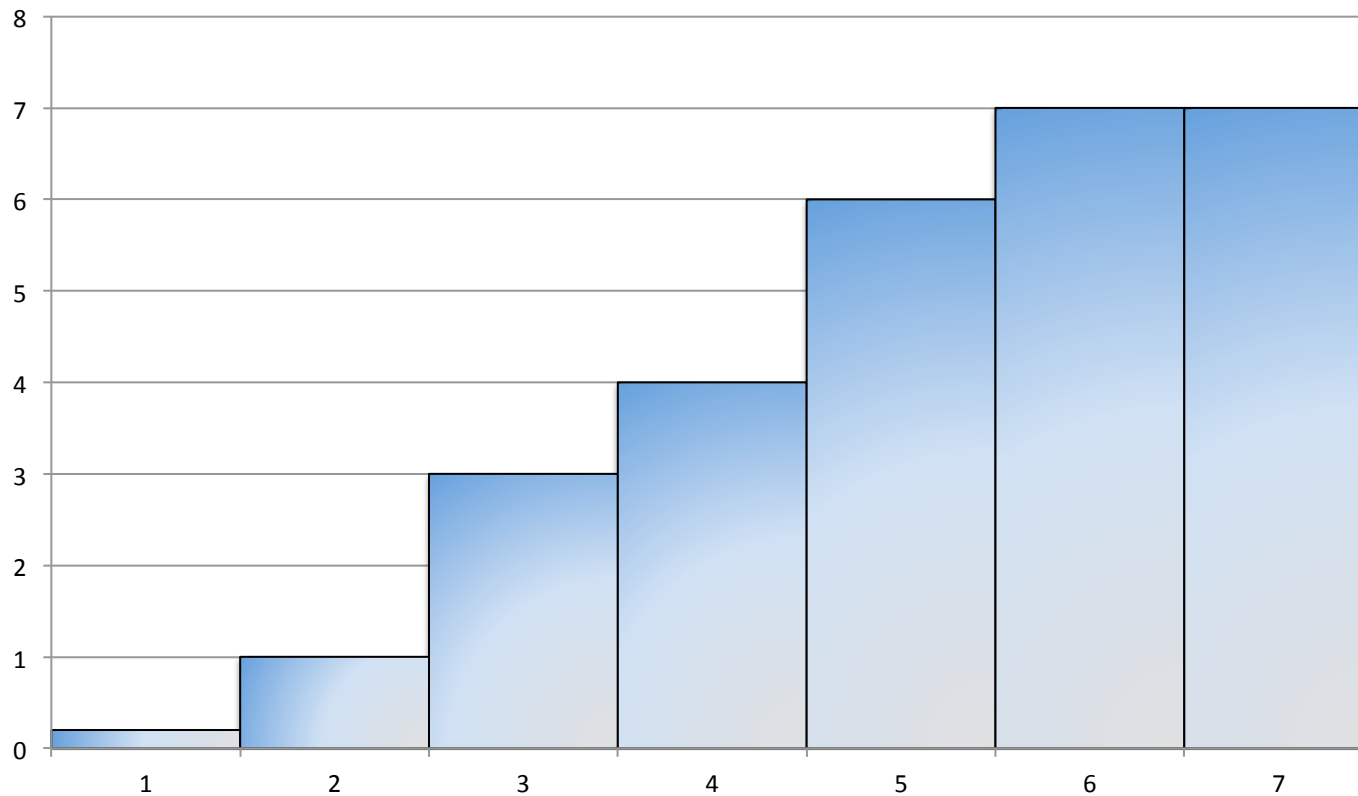
Normal / Bell Shaped Distribution



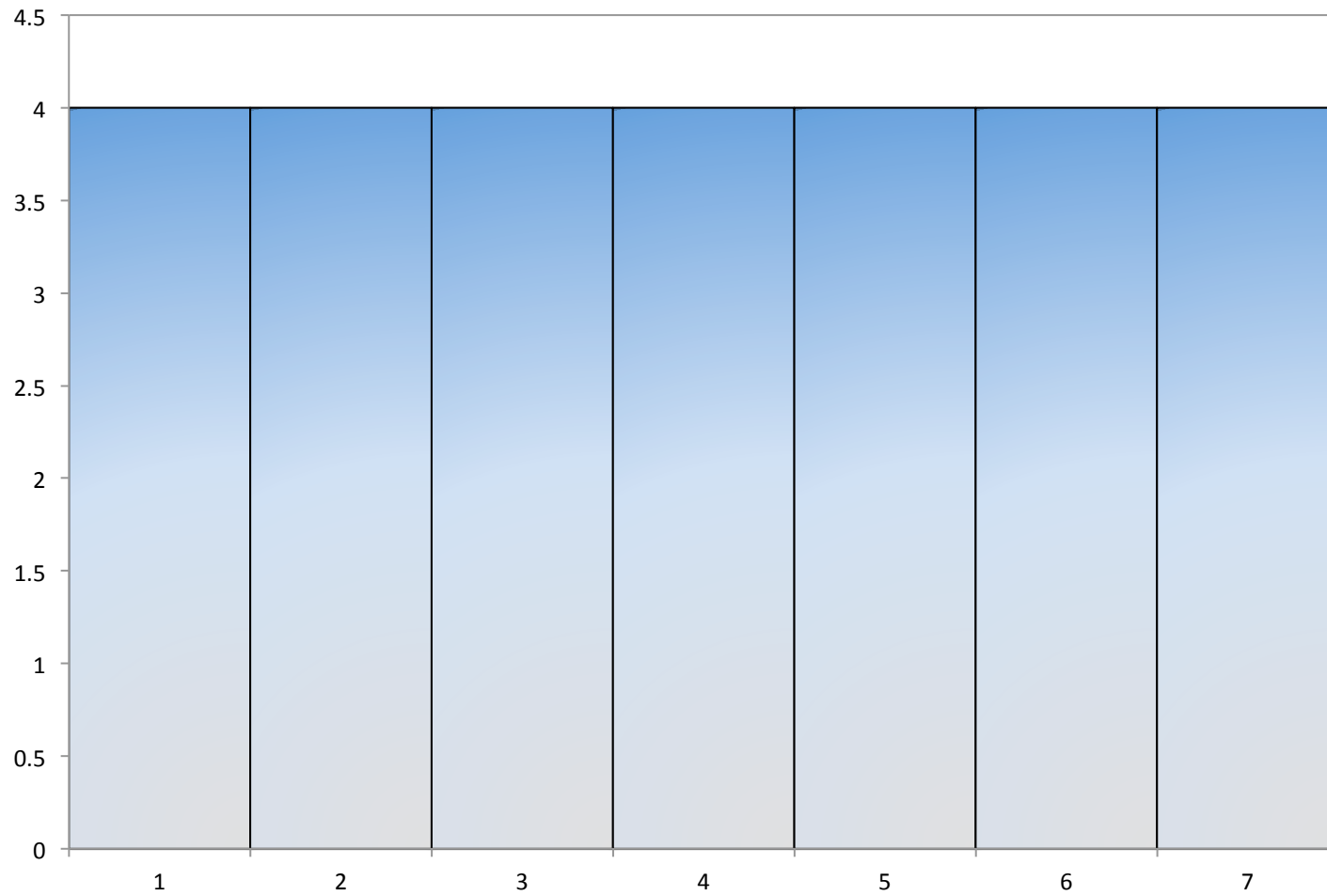
Skewed Right / Positive Skew



Skewed Left / Negative Skew



Uniform



2 Way Frequency Table

	Chocolate	Vanilla	Total
Male	6	3	9
Female	5	6	11

Joint Frequency

Cell Value that tells info
about 2 categories

	Chocolate	Vanilla	Total
Male	6	3	9
Female	5	6	11

Marginal Frequency

Cell Value that tells info about the totals

	Chocolate	Vanilla	Total
Male	6	3	9
Female	5	6	11

2 Way Relative Frequency Table

Converts frequency table into decimal-percent form.

	Chocolate	Vanilla	Total
Male	.3	.15	.45
Female	.25	.3	.55

Conditional Relative Frequency

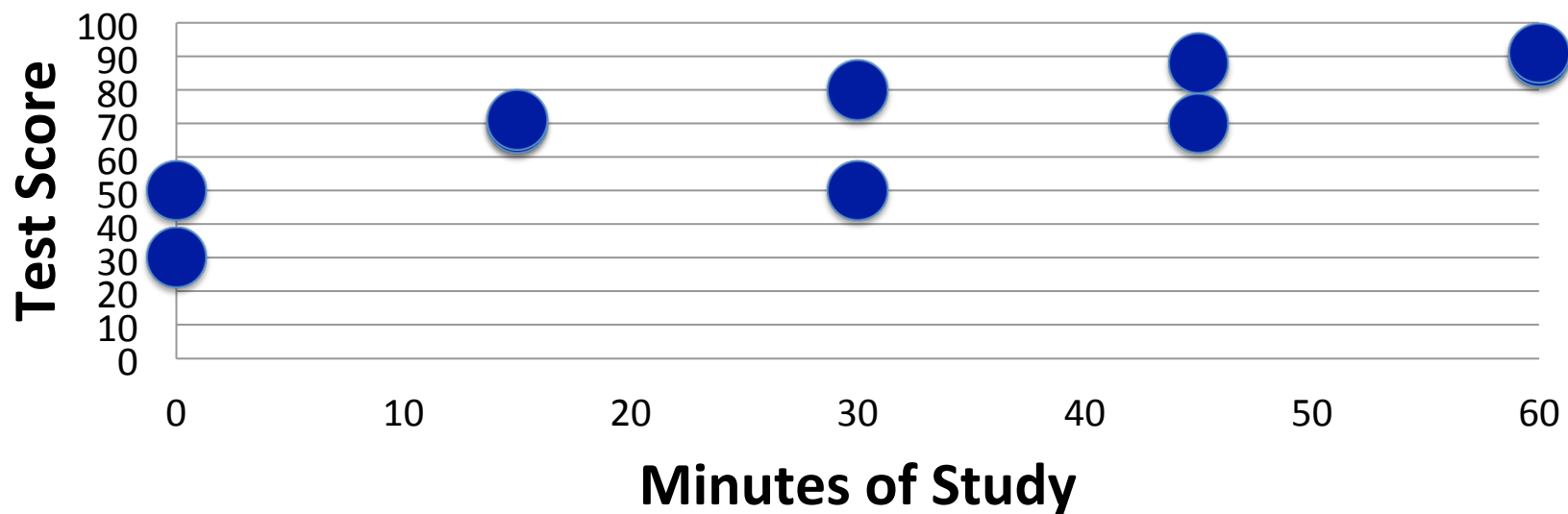
Compares a joint frequency to a marginal frequency

	Chocolate	Vanilla	Total
Male	6	3	9
Female	5	6	11

Scatter Plot

Graph made up of points that represent bivariate (2) data, and are “scattered”

Minutes of Study Vs. Test Scores



Correlation

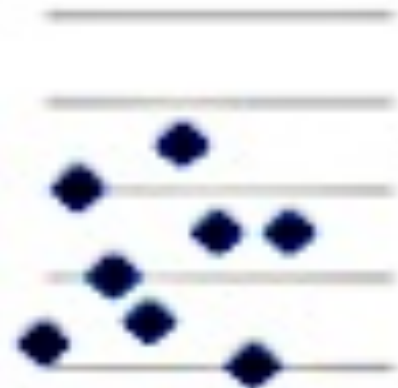
A relationship between 2 sets of data



Positive



Negative

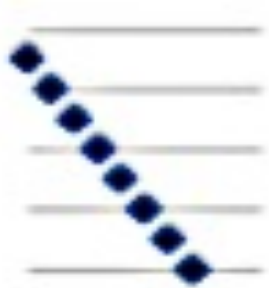


No

Correlation **Correlation** **Correlation**

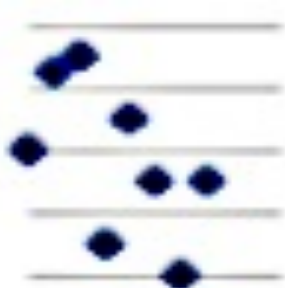
Correlation Coefficient, R

Measures the closeness of the relationship between two data



$r = -1$

Strong
Negative



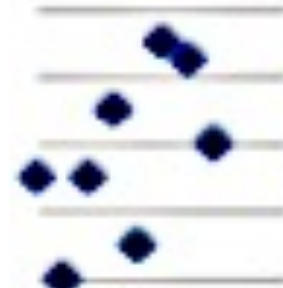
$r = -0.5$

Weak
Negative



$r = 0$

None



$r = 0.5$

Weak
Positive



$r = 1$

Strong
Positive

Causation

A relationship of
cause & effect

Ex: The more
burgers you eat,
the more
calories you
consume.



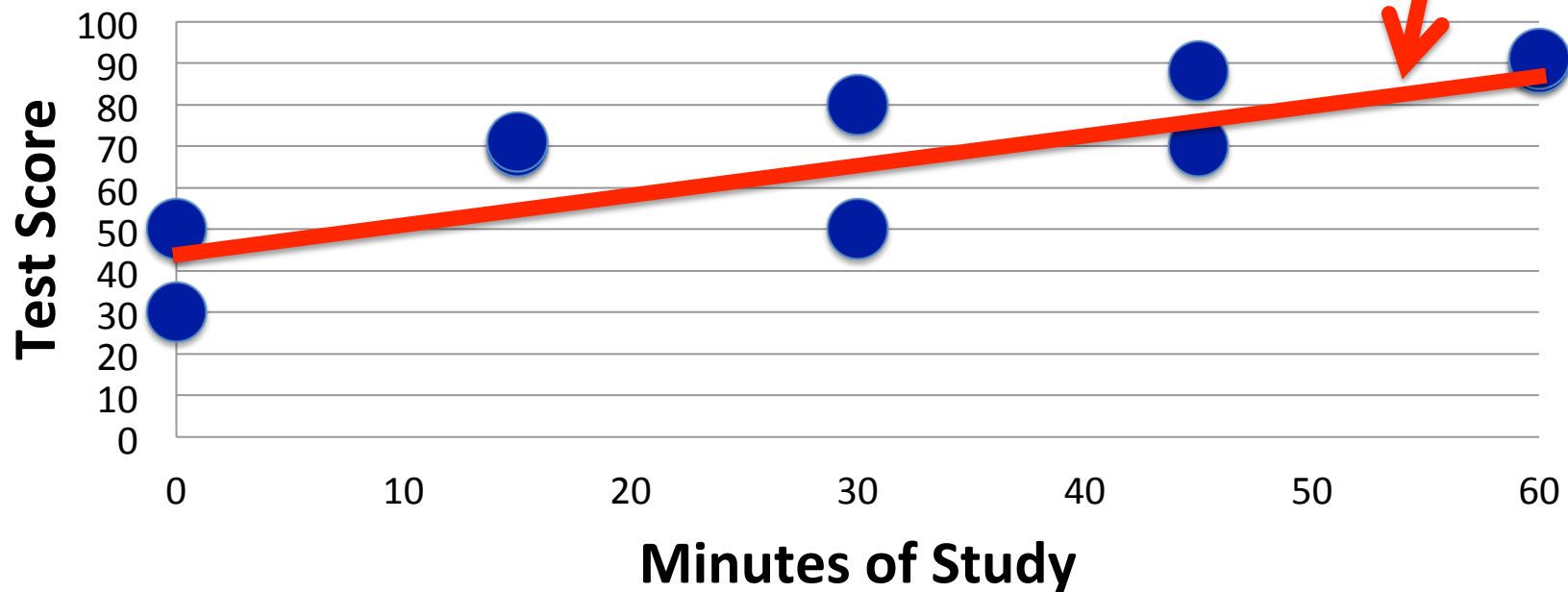
Correlation

≠

Causation

Line of Best Fit/ Trend Line/ Regression Line

Minutes of Study Vs. Test Scores



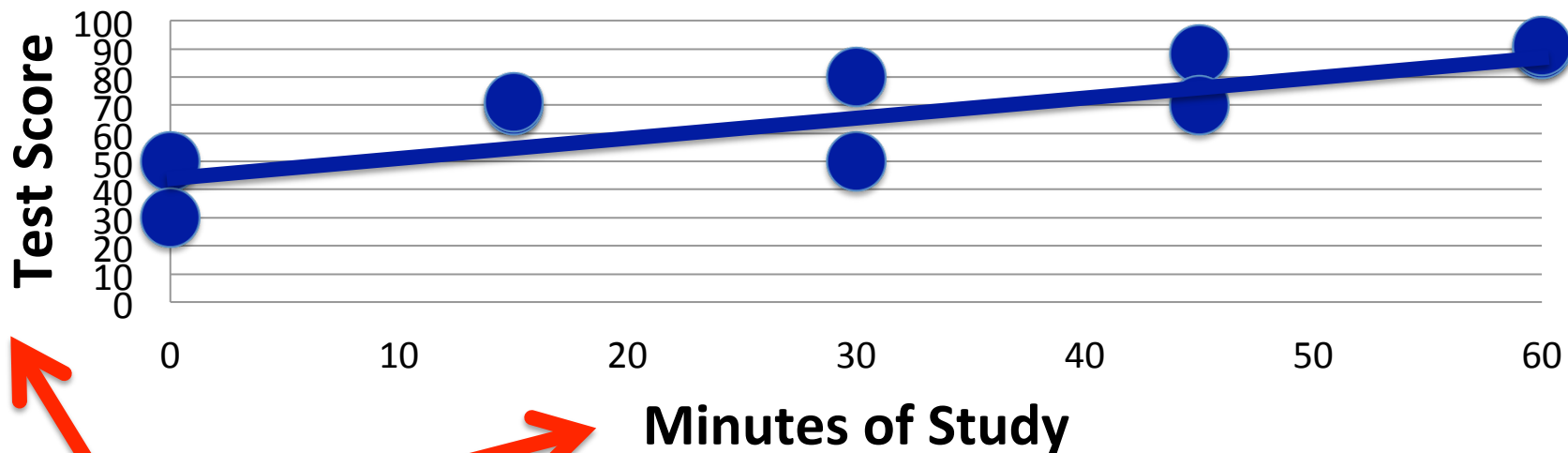
Create a Line of Best Fit

1. Choose 2 points on the line
2. Calculate the slope. $m = \frac{y_2 - y_1}{x_2 - x_1}$
3. Locate the y -intercept.
4. Create a linear equation in the form: $y = mx + b$
 $m = \text{slope}$ & $b = y\text{-intercept}$

Slope/ Rate of Change

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

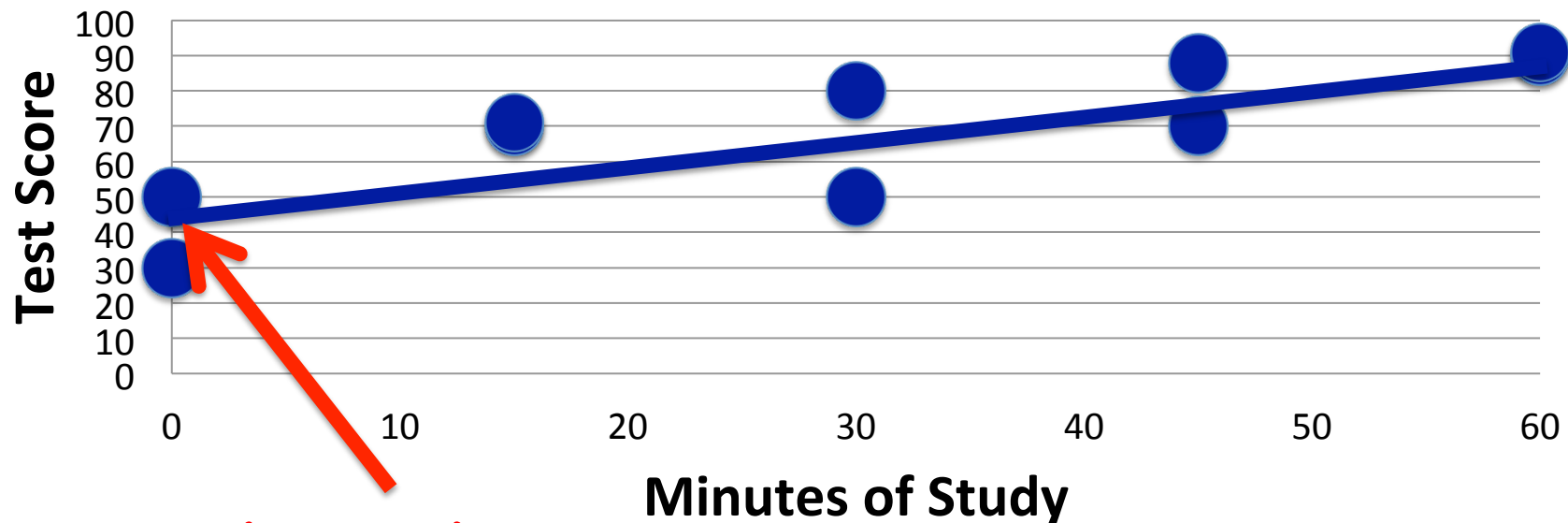
Minutes of Study Vs. Test Scores



Rate of Change = test score for every
minute of study

Y-Intercept

Minutes of Study Vs. Test Scores



(0,44)

Y-intercept= test score when no studying has been completed

© Math Byrd 2017

All rights reserved. Purchase of this product provides one (1) purchaser the rights for solely personal classroom use. No part of this publication may be reproduced, distributed, or transmitted without the written consent of the author. Posting any part of this publication on the Internet in any form, including classroom and/or personal websites, social media, or network drives is strictly prohibited and in violation of the Digital Millennium Copyright Act (DCMA). To share this resource with colleagues, or use within a department, grade level, school, or district, additional licenses may be purchased through the Teachers Pay Teachers website: www.teacherspayteachers.com/store/math-byrd or via inquiry to mathbyrd@gmail.com



Dear Fellow Educator,

Thank you for supporting my product! I sincerely appreciate your business and hope that your students find this resource effective and engaging. All of my products are created with a passion!

I hope to read your thoughts under the comments & rating section of my TPT store, where you can find other Common Core aligned resources for Math, Algebra - Calculus.

With gratitude,
Jennifer Byrd

Please only share with colleagues by directing them to my TPT site:
www.teacherspayteachers.com/store/math-byrd

Thank you!☺