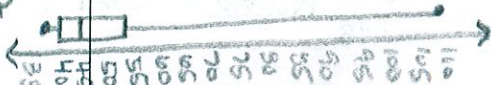




Name: _____ Date: _____ Period _____

What you need to know & be able to do	Things to remember	Problem	Problem
Identify the measures of central tendency.	<ul style="list-style-type: none"> • Mean • Median • Mode 	<p>1. 36, 39, 58, 42, 106, 39, 48, 45</p> <p>36, 39, 39, 42, 45, 48, 58, 106</p> <p>39 Med: 43.5 53</p> <p>Mode: 39</p> <p>\bar{x}: 51.625 *SR*</p>	<p>2. 50, 55, 60, 58, 62, 57, 68, 51, 63</p> <p>50, 55, 60, 58, 62, 57, 68, 51, 63</p> <p>53 Med 62.5</p> <p>Mode: None</p> <p>\bar{x}: 58.22 *SR*</p>
Identify the measures of spread.	<ul style="list-style-type: none"> • Q1 • Q3 • IQR • Minimum • Maximum • Range • MAD SKIP 	<p>3. (Use the same #s from 1)</p> <p>36 Range: 70</p> <p>39</p> <p>43.5</p> <p>53</p> <p>106</p> 	<p>4. (Use the same #s from 2)</p> <p>50 Range: 18</p> <p>53</p> <p>58</p> <p>62.5</p> <p>68</p> 
Construct a box-and-whisker plot.	<ul style="list-style-type: none"> • First dot: Min • First Line: Q1 • Middle Line: Median • Third Line: Q3 • Last dot: Max • Outlier: $Q1 - 1.5(IQR)$ $Q3 + 1.5(IQR)$ 	<p>5. Using the data from #1 & 3, construct a box and whisker plot.</p> <p>See #3</p> 	<p>6. Are there any outliers? Show your work!</p> <p>106 ← Large outlier</p> <p>$39 - 1.5(14) = 18$ $53 + 1.5(14) = 74$</p> <p>None 106</p>
Determine if the situation has a positive, negative, or no correlation and if there is causation.	<ul style="list-style-type: none"> • Positive: Both items are increasing/decreasing • Negative: one item increases as the other decreases • No Correlation: No relationship • Causation: One item causes the other. 	<p>7. Practicing Free Throws vs. Free Throw Percentage</p> <p>Correlation? <u>Y</u> or N +</p> <p>Causation? Y or <u>N</u></p> <p>*practicing doesn't make the ball go in every time</p> <p>9. Weight vs. # of days without eating</p> <p>Correlation? <u>Y</u> or N -</p> <p>Causation? Y or N</p>	<p>8. Number of miles driven in your car vs. amount of gas left in your tank</p> <p>Correlation? <u>Y</u> or N -</p> <p>Causation? <u>Y</u> or N</p> <p>10. Number of dogs owned and the amount of dog food in pantry</p> <p>Correlation? <u>Y</u> or N +</p> <p>Causation? Y or <u>N</u></p> <p>*should be more dog food but won't be there all the time</p>

Find the line of best fit (linear regression model)

- $y = ax + b$
- $r =$ correlation coefficient (if close to 0 bad fit; if close to 1 or -1 good fit.)

11. Determine the line of best fit. Is this model a good fit for the data? *yes!*

Y = Price	4.00	5.50	3.50	8.00	5.50	7.00
X = # of Sandwiches	68	55	85	22	64	28

$y = -0.068x + 9.175$ $r = -0.961$

Construct a probability table.

- **Joint Probability:** Individual Cell/Table Total
- **Marginal Probability:** Row or Column Total/ Table Total
- **Conditional Probability:** Individual Cell/Row or Column Total

Complete the table to answer the following questions.

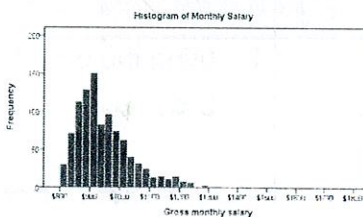
	Football	Basketball	Soccer	
Males	48	35	17	100
Females	22	38	40	100
	70	73	57	200

12. What is the probability that a randomly chosen female likes soccer? $\frac{40}{100} = \frac{2}{5}$
13. What is the probability that someone likes basketball? $\frac{73}{200}$
14. Given that a person likes football, what is the probability they are male? $\frac{48}{70} = \frac{24}{35}$
15. Fill in marginal probabilities to nearest 10th.
Round to whole #'s

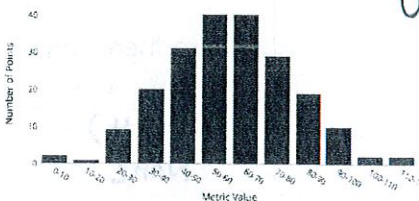
Describing data

- Uniform
- Skewed left
- Skewed right
- Bell-shaped
- Normal
- Symmetric
- Unimodal
- Bimodal
- gap

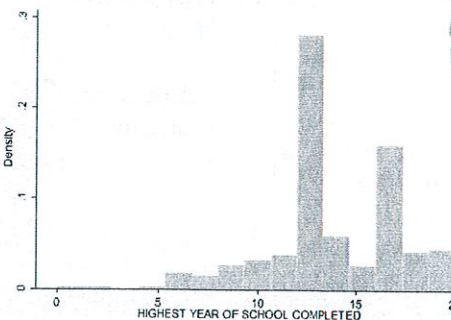
16.



Skewed Right Unimodal



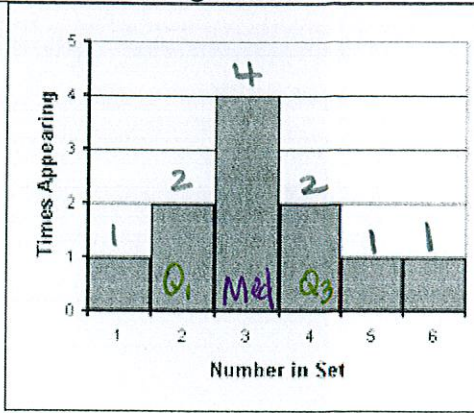
Symmetric Normal Bell shaped



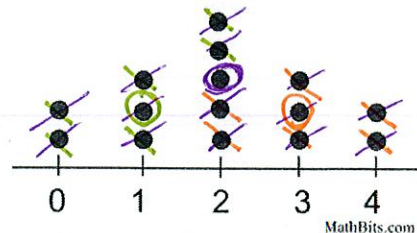
Skewed left Bimodal

Finding data from a dot plot or histogram

Find median and quartiles 1 and 3



median: 3 Q1: 2 Q3: 4



median: 2 Q1: 1 Q3: 3

11



12

13

14

15

16

17