

Howdy!!!!

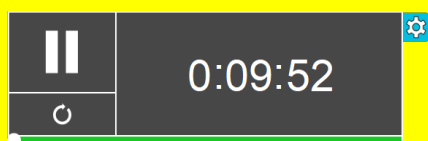
Mr. Watson

Algebra

What you need:

Pencil

Calculator



EOC Review

Algebra 1

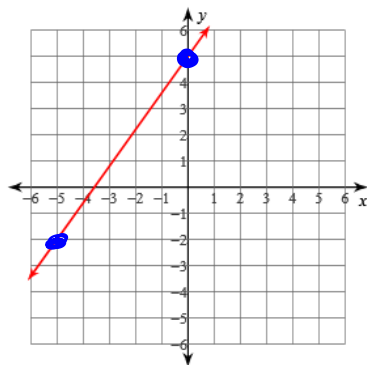
Name _____ ID: 1

EOC Review Graphing

Date _____ Period _____

Sketch the following graphs:

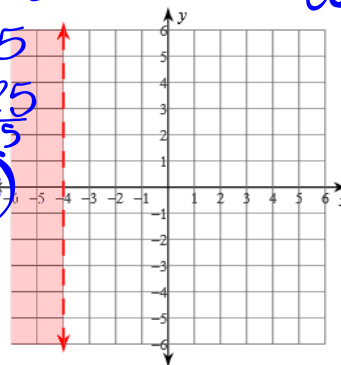
1) $7x - 5y = -25$



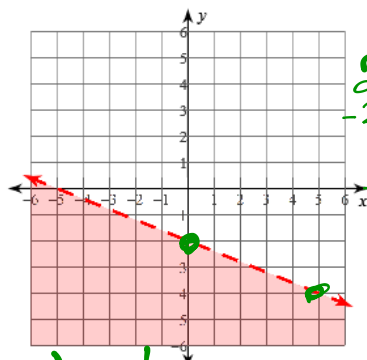
$$\begin{aligned}
 7x - 5y &= -25 \\
 -5y &= -7x - 25 \\
 y &= \frac{7}{5}x + 5
 \end{aligned}$$

7 ↑ +
5 → +

2) $x < 4$

dashed
shade
left

3) $2x + 5y < -10$



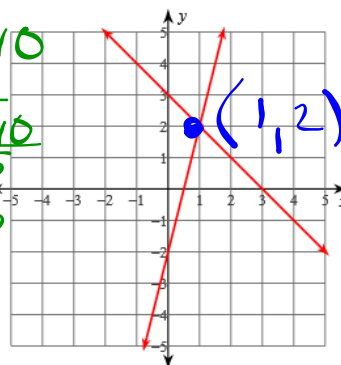
dash below

$$\begin{aligned}
 2x + 5y &< -10 \\
 -2x & \\
 \hline
 5y &< -2x - 10 \\
 y &< -\frac{2}{5}x - 2
 \end{aligned}$$

-2 ↓
5 →

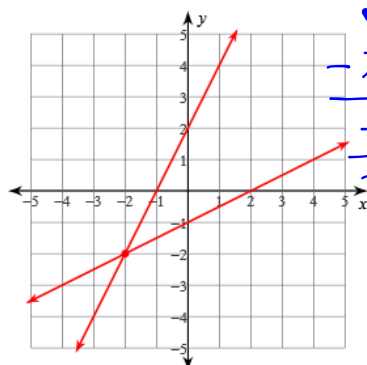
4) $y = 4x - 2$

$y = -x + 3$



(1, 2)

5) $x - 2y = 2$
 $2x - y = -2$

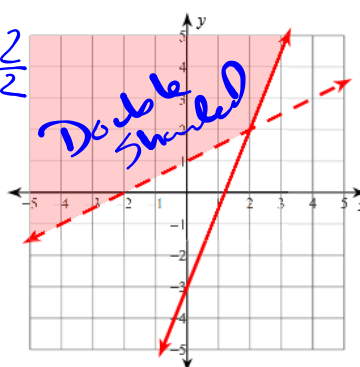


(-2, -2)

$$\begin{aligned}
 x - 2y &= 2 \\
 -x & \\
 \hline
 -2y &= \frac{-x}{-2} + \frac{2}{-2} \\
 y &= \frac{x}{2} - 1
 \end{aligned}$$

6) $y \geq \frac{5}{2}x - 3$

$y > \frac{1}{2}x + 1$

Double
shaded

Outliers

Mean vs. Median

Lower Outlier

$Q1 - 1.5(IQR)$

Upper Outlier

$Q3 + 1.5(IQR)$

Mean is best when there is no outlier or uniform.

Median is best when there is an outlier or skewed.

Outliers Coordinate Algebra

Answer the following questions below:

1) Find the outlier of the data set.

$Q1: 54$

$Q3: 78$

$IQR: 24$

Name → outlier

$Q1 - 1.5(IQR)$ $Q3 + 1.5(IQR)$

$54 - 1.5(24)$ $78 + 1.5(24)$

18 ————— 114

2) Find the outlier of the data set.

$Q1: 47$

$Q3: 65$

$IQR: 18$

Name → outlier

$Q1 - 1.5(IQR)$ $Q3 + 1.5(IQR)$

$47 - 1.5(18)$ $65 + 1.5(18)$

20 ————— 92

3) Find the outlier of the data set.

$Q1: 55$

$Q3: 72$

$IQR: 17$

Name → outlier

$Q1 - 1.5(IQR)$ $Q3 + 1.5(IQR)$

$55 - 1.5(17)$ $72 + 1.5(17)$

29.5 ————— 97.5

a) What effect will the outlier have on the median of the data if the outlier is excluded?

* b) What effect will the outlier have on the mean of the data if the outlier is excluded?

If you take out 200 the mean goes down.

c) What effect will the outlier have on the mode of the data if the outlier is excluded?

d) What effect will the outlier have on the range of the data if the outlier is excluded?

4) Find the outlier of the data set. 164, 175, 126, 135, 159, 143, 55 outlier

$Q1 = 126$
 $Q3 = 164$
 $IQR = 38$

$126 - 1.5(38) = 69$
 $164 + 1.5(38) = 221$

a) What effect will the outlier have on the median of the data if the outlier is excluded?

b) What effect will the outlier have on the mean of the data if the outlier is excluded?
it will go up

c) What effect will the outlier have on the mode of the data if the outlier is excluded?

d) What effect will the outlier have on the range of the data if the outlier is excluded?

5) Find the outlier of the data set. 46, 39, 38, 47, 45, 34, 83

$Q1 = 38$
 $Q3 = 47$
 $IQR = 9$

$38 - 1.5(9) = 24.5$
 $47 + 1.5(9) = 60.5$
83

a) What effect will the outlier have on the median of the data if the outlier is excluded?

b) What effect will the outlier have on the mean of the data if the outlier is excluded?
mean will go down

c) What effect will the outlier have on the mode of the data if the outlier is excluded?

d) What effect will the outlier have on the range of the data if the outlier is excluded?

Coordinate Algebra – One-Variable Statistics

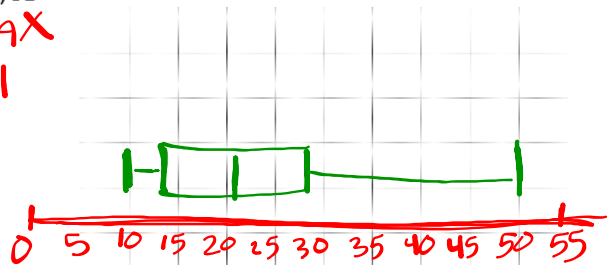
Name: _____

1. Determine the 5-Number summary for the data below and then create its box and whisker plot.

12, 18, 18, 19, 26, 11, 36, 30, 28, 29, 15, 14, 25, 51

MIN Q1 MED Q3 MAX
11 15 22 29 51

IQR: 14

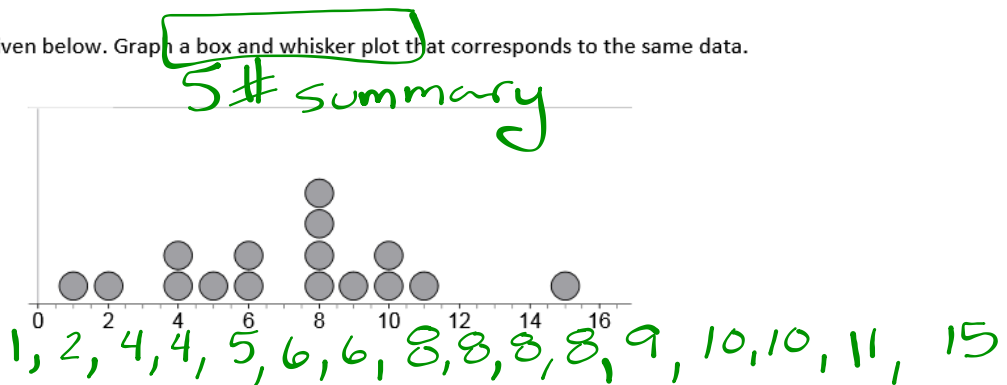


- a. Determine if this data has any outliers.

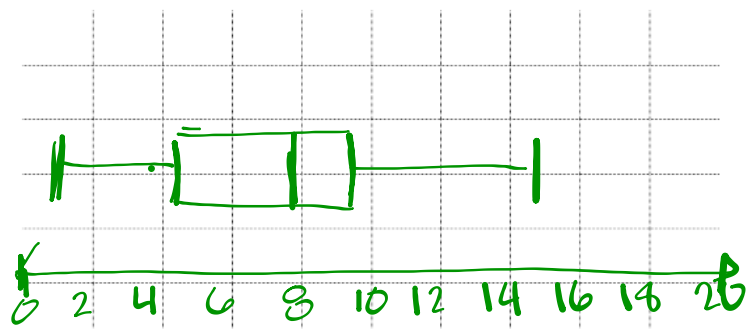
$15 - 1.5(14) = -6$
 $29 + 1.5(14) = 50$

Yes 51

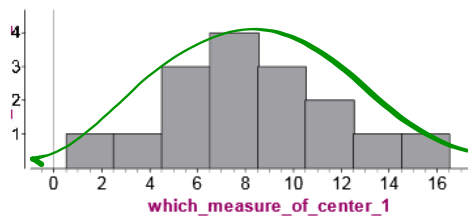
2. A dot plot is given below. Graph a box and whisker plot that corresponds to the same data.

5-Number Summary

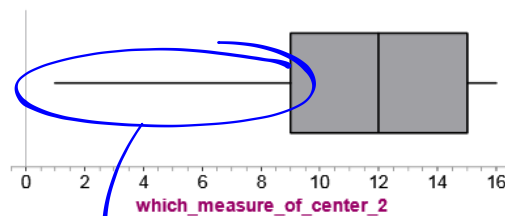
min: 1
 Q1: 4.5
 MED: 8
 Q3: 9.5
 MAX: 15



3. Two distributions are shown below. For one distribution, the mean is the best measure of center to use. For the other distribution, the median is the best to use. Decide which distribution should use the median and which should use the mean. Explain how you made your decision.



Bell shape
no outlier
mean



outlier
median

4. The mean absolute deviation (MAD) is one of the measures of spread you have learned about in this unit. In your own words, describe what is meant by the term "measure of spread." Be as specific as you can and write your response as a complete sentence.

5. How do you identify if a distribution is unimodal?

If 1 # appears more than others

6. For each statement below, decide if it is TRUE or FALSE. If it is false, explain why.

- a. The term "normal distribution" is used to describe data with a tail on one end of the data.

False - normal is bell shaped
skewed has a tail

- b. Bimodal data have exactly two distinct data values that are much more frequent than the other data values.

True

- c. Uniform distributions usually have a shape that resembles a triangle.

False

rectangle

CLASSWORK!

Name: _____ Date: _____

Comparing Plots of Data

1. The table shows the scores from the top 10 players of our Homecoming basketball game.

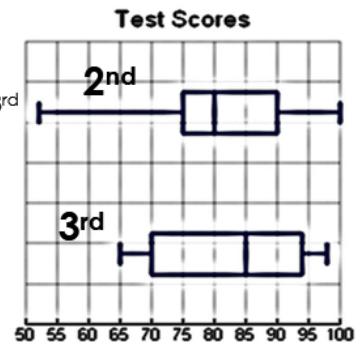
Which player scored more than the upper quartile of the data?

- A. Matt
B. Michael
C. Jim
D. Bobby

Player	Points	Player	Points
Michael	12	Dave	9
Brendan	6	Heath	15
Andrew	21	Jack	3
Jim	14	Bobby	10
Andre	5	Matt	18

For #2-3, use the graph to the right.

2. Which statement below is NOT true?
 A. 2nd period had the highest score on the test
 B. The median for 2nd period is 5 less than the median for 3rd
 C. The LQ for 2nd period is 5 less than LQ for 3rd period
 D. The UQ for 3rd period is 94
3. Fill in the blanks:
 • The median for 2nd period is _____
 • The median for 3rd period is _____
 • The lowest score for 3rd period is _____
 • The lower quartile for 2nd period is _____
 • The spread of the middle 50% for 2nd period is _____



Sample A: 2, 4, 4, 4, 8, 8, 10, 12, 12, 14 Sample B: 0, 1, 4, 7, 9, 9, 10, 12, 12, 15

4. Which statement accurately compares the two samples?
 A. The mean for Sample A is 1 greater than the mean of Sample B.
 B. The mean for Sample B is 1 greater than the mean of Sample A.
 C. The mean for Sample A is 0.1 greater than the mean of Sample B.
 D. The mean for Sample B is 0.1 greater than the mean of Sample A.

5. Four scores on the first 4 tests in Algebra were 56, 68, 70, and 76. What do you need to make your 5 test scores an average of 70?

6. Which measure of central tendency is MOST EASILY affected by outliers?

7. Forty-five people were asked about how many miles they walked in one week. The results are shown in the graph. How does the median number of miles walked for boys compare with the median number of miles walked for girls?



8. The table below shows the running times for science-fiction movies. Find the Mean Absolute Deviation of the data.

Running Times for Movies (min)					
98	87	93	88	126	108

9. The summary statistics for all of the workers at a steel factory are shown. Three sample groups were taken from each of the three shifts. For which sample group is the mean deviation greater than that of the population?

Steel Factory Workers Ages

Population Mean Deviation: 12.23

Shift 1	Shift 2	Shift 3
23	29	21
19	28	23
50	24	25
7	40	40
67	45	35
34	29	27
30	33	70
59	29	40
40	39	22
33	59	23

Attachments

Syllabus - Math I A.doc