Algebra 2 Bellwork Wednesday, June 3, 2015

1. Use the set of data below.

Set A: $68, 57, 59, 66, 65, 63, 66, 58, 59, 64, 65$ Set B: $113, 108, 112, 116, 114, 119, 112, 113, 119, 109$

a) Which set of data has more variation? Explain your answer.

b) What is the range for Set A?

c) What is the Interquartile Range for Set B?

Use this set of data for 2 to 4:

$28, 29, 29, 31, 32, 32, 34, 35, 36, 38, 40, 43, 43, 44, 47, 48, 50, 51, 55, 59$

2. What percentile is 43 at?

3. What number is at the 30th percentile?

4. 59 is at what percentile?

Use this set of test scores for 5 to 8. Round answers to the nearest tenth.

$66, 67, 68, 68, 71, 75, 75, 76, 78, 79, 81, 82, 84, 85, 86, 88, 91, 95, 98, 99, 100$

$\bar{x} = 81.5$ $\sigma = 10.5$

5. Find your z-score if you had a 90 on the test.

6. Find your z-score if you had a 75 on the test.

7. What test grade would give a z-score of -1.7?

8. What percent of data is within one standard deviation of the mean?

Algebra 2 Bellwork Wednesday, June 3, 2015 ANSWERS

1. Use the set of data below.

Set A: 68, 57, 59, 66, 65, 63, 66, 58, 59, 64, 65 $\sigma = 3.62$

Set B: 113, 108, 112, 116, 114, 119, 112, 113, 119, 109 $\sigma = 3.5$

a) Which set of data has more variation? Explain your answer.

Set A has more variation because it has a larger standard deviation.

b) What is the range for Set A?

max = 68
min = 57
Range = 68 − 57 = 11

c) What is the Interquartile Range for Set B?

1st Quartile = 112
3rd Quartile = 116
Interquartile Range = 116 − 112 = 4

Use this set of data for 2 to 4:

28, 29, 29, 31, 32, 32, 34, 35, 36, 38, 40, 43, 43, 44, 47, 48, 50, 51, 55, 59 20 #s

2. What percentile is 43 at?

11 #s below 43 → percentile = 11/20 = 55th percentile

3. What number is at the 30th percentile?

30% of data = (.3)(20) = 6 #s

34 is at the 30th percentile because 30% of data (6 #s) is below 34

4. 59 is at what percentile?

19 #s below 59 → percentile = 19/20 = 95th %-tile

Use this set of test scores for 5 to 8. Round answers to the nearest tenth.

66, 67, 68, 68, [71, 75, 75, 76, 78, 79, 81, 82, 84, 85, 86, 88, 91], 95, 98, 99, 100

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$\bar{x} = 81.5$ $\sigma = 10.5$

$$z = \frac{x - \bar{x}}{\sigma}$$

5. Find your z-score if you had a 90 on the test.

$$z = \frac{90 - 81.5}{10.5} = 0.8$$

6. Find your z-score if you had a 75 on the test.

$$z = \frac{75 - 81.5}{10.5} = -0.6$$

7. What test grade would give a z-score of −1.7?

$$-1.7 = \frac{x - 81.5}{10.5}$$

$x = 63.65$

8. What percent of data is within one standard deviation of the mean?

$\bar{x} \pm 1\sigma = 81.5 \pm 10.5$ → From 71 to 92

13 #s

OUT OF 21 #s

$\frac{13}{21} \approx 62\%$