Bellwork Algebra 2 Tuesday, May 20, 2014

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

Set A: 68, 57, 59, 66, 65, 63, 66, 58, 59, 64, 65

$\sigma_x = 3.62$

Set B: 113, 108, 112, 116, 114, 119, 112, 113, 119, 109

$\sigma_x = 3.5$

Set A has more variation because it has a higher Standard Deviation

Use this set of data:

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? $\frac{11}{20} \rightarrow 55^{th}$ %-tile

3. What number is at the 30th percentile? $(.30)(20) = 6$

34

4. 59 is at what percentile? $\frac{19}{20} = 95^{th}$ %-ile

Use this set of test scores:

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

$\bar{x} = 81.5 \quad \sigma = 10.5 \quad z = \frac{x - \bar{x}}{\sigma}$

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

$z = \frac{90 - 81.5}{10.5} = .81$

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

$x = 63.6 \quad -1.7 = \frac{x - 81.5}{10.5}$

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

$81.5 - 10.5 \quad 81.5 + 10.5 \quad 71 \text{ TO } 92 \quad \frac{13}{21} = 62\%$