

Name: _____

Date: _____

Quiz 3 – A

1. Let's say you have a skewed data distribution. What is the best measure of:
 - A. Center? Explain.
 - B. Spread? Explain.
2. Sketch a diagram of any positively skewed distribution you choose below. Label the axes with variables and measurements that make sense. Mark, by estimation, the approximate locations of the mean and median. Mark, by estimation, mean ± 1 standard deviation.
3. Given a distribution of student G.P.A.s with a standard deviation of 1.7 and a mean of 3.2:
 - A. Give the z-score of someone who has a G.P.A. of 4.0.
 - B. Give the z-score of someone who has a G.P.A. of 2.0.
 - C. Give the G.P.A. of someone with a z-score of 0.1
 - D. Give the G.P.A. of someone with a z-score of -0.5.

4. Given the following data set of candy bars eaten per year for a group of middle school students, {0, 0, 0, 4, 6, 8, 10, 15, 15, 21, 27, 56, 62}, calculate the:
- A. Median
 - B. Q1
 - C. Q3
 - D. Interquartile range
 - E. Decide whether any data points are outliers. Show mathematical work to justify your answer.
 - F. Make a box plot of the data. Label everything clearly.

Quiz 3 – A – answer key

1.
 - A. Median, though mode might also be good. The mean is too influenced to outliers and skewness to be trustworthy.
 - B. Interquartile range. The standard deviation is too influenced to outliers and skewness to be trustworthy.
2. Answers will vary.
3.
 - A. 0.47
 - B. -0.71
 - C. 3.37
 - D. 2.35
4.
 - A. 10
 - B. 2
 - C. 24
 - D. 22
 - E. $1.5 \times 22 + 24 = 57$. The point 62 is beyond that upper limit, so is an outlier.
 - F.

