

Station 1: Find the standard deviation, mean, and median.

What does the difference in mean & median tell you about how the data is skewed?

a) 4, 7, 2, 6, 3, 3, 5, 2, 3, 2, 3, 3

b) 46, 38, 48, 53, 36, 49, 51

Station 2: Make a dotplot for the following sets of data and determine what type of distribution represents that set of data.

1) 2, 3, 6, 3, 5, 3, 5, 3, 6, 4, 2, 4, 4, 7, 8, 9, 7, 5, 3, 2,
2, 4

2) 3, 7, 9, 4, 6, 7, 2, 8, 4, 5, 6, 7, 9, 5, 3, 2, 8, 4, 8, 5,
7, 8, 6

Station 3: Assume each of the scenarios listed represent a normal distribution.

1. 2000 freshmen at State University took a biology test. The scores were distributed normally with a mean of 70 and a standard deviation of 5.

- a. What is the percentage of students who scored less than 65?*
- b. What is the percentage of students who scored at least an 80?*
- c. Approximately how many of the 2000 students had a score between 60 and 75?*
- d. We can assume that almost all students (99.7%) would score between what two values?*

2. 500 juniors at Central High School took the ACT last year. The scores were distributed normally with a mean of 24 and a standard deviation of 4.

- a. What percentage of students scored a 16 or less?*
- b. How many students scored higher than a 20?*
- c. If Jonathan scored a 28, what percentage of students scored higher than him?*
- d. Approximately how many students scored between a 20 and 28?*

Station 4: Find each quartile and interquartile range for each of the following sets of data. Then make a box plot!

1) 3, 7, 9, 4, 2, 7, 2, 8, 4, 5, 6, 0, 7, 9, 7

2) 46, 38, 48, 53, 36, 49, 51, 55

Station 5: Give an example of each type of sampling:

1) Random

2) Convenience

3) Stratified

4) Cluster

5) Systematic

Station 6: a) What are the principles of experimental design?

b) Draw/explain an example of each experimental design:

- ***Randomized Design***
- ***Blocked Design***
- ***Matched Pairs Design***