

Stat 171 - Worksheet for Section 2.5

Name: _____

1. Find the first, second, and third quartiles for the ages of the 50 most powerful women. What do you observe?

26, 31, 35, 37, 43, 43, 43, 44, 45, 47, 48, 48, 49, 50, 51, 51, 51, 51, 51, 52, 54, 54, 54, 55, 55,
55, 55, 56, 57, 57, 57, 58, 58, 58, 59, 59, 59, 62, 62, 63, 64, 65, 65, 65, 66, 66, 67, 67, 72, 86

2. Find the interquartile range for the ages of the 50 most powerful women listed above. What do you observe?

3. Draw a box and whisker plot that represents the ages of the 50 most powerful women. What do you observe?

4. What age in Problem 1 represents the 75th percentile?

5. Find the percentile that corresponds to age 37.

6. The monthly utility bills in a city have a mean of \$70 and a standard deviation of \$8. Find the z -score that corresponds to utility bills of \$60, \$71, and \$92. Assume the distribution of the utility bills is approximately bell-shaped.

- (a) Identify μ and σ . Transform each value to a z -score.
(b) Interpret the results.