

## Work Problems Chapter 2

Suppose that I have collected data from a random sample of 10 adults and I want to know how much time each of them spends working outside the home in a week. I get the following data:

40    50    40    30    0    35    25    45    5    40

Please answer the following questions using these data.

1. What is the mode of this distribution?

**Begin by arranging the data in order: 0, 5, 25, 30, 35, 40, 40, 40, 45, 50**

**Now you can see that 40 is the number that occurs most frequently in this distribution, so 40 is the mode.**

2. What is the median of this distribution?

**Because this distribution has an even number of scores, we need to find the two scores in the middle of the distribution. These two scores are 35 and 40. The average of these two scores is 37.5, so that is the median.**

3. What is the mean of this distribution?

**$0+5+25+30+35+40+40+40+45+50 = 310$ .  
 $310/10 = 31$ . So the mean of this distribution is 31.**

4. Do you believe this distribution is skewed in one direction or another? Why do you think so?

**Because the mean is less than the median, the distribution is negatively skewed.**

5. If you have calculated the mean and the median correctly, you will notice that the median is larger than the mean. What caused this difference between the mean and the median? Explain your answer.

**The extreme scores of 0 and 5 pulled the mean toward the lower end of the distribution. Most of the scores were in the 25 to 50 range, but two scores (0 and 5) were way down in the lower end of the distribution, pulling the mean below the median.**