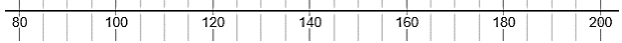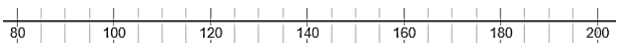Name: _____ Per: _____

12.3/12.4 – Box Plots and Histograms Homework

For problems 1 and 2, make a box plot, state whether each distribution is negatively-skewed, positively-skewed, or symmetric, and state your findings about what the data/box plots show in real-life.
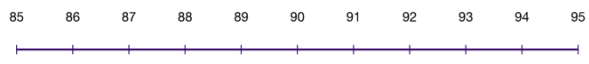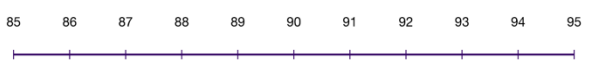
1. In 1954, the NBA adopted the 24-second shot clock. To help determine the effect the change had on the game, data concerning the number of shots, for both teams, taken in 10 games before the shot clock and the number of shots taken in 10 games after the shot clock is shared below.

Number of shots per game before shot clock
95, 102, 105, 110, 118, 124, 130, 132, 135, 140

Number of shots per game after shot clock
140, 155, 164, 170, 178, 179, 180, 191, 192, 195

Distribution type for each:

Findings:

2. In previous studies, researchers observed that women tend to have a higher core temperature than men by about ½ degree. However, a nurse noticed that women consistently complained about cold hands. To test this, she sampled 10 women and 10 men and compared their hand temperatures. Construct a box plot for each and answer the questions below.

Hand temperatures for women (degrees Fahrenheit)
86, 86, 87, 87.2, 87.3, 87.4, 87.6, 88.2, 89.8, 90.4

Hand temperatures for men (degrees Fahrenheit)
86.3, 88, 88.8, 89, 90.1, 90.3, 90.9, 91, 91.3, 91.8

Distribution type for each:

Findings:

3. A histogram for the prices of houses in a Helena is shown. Would it be better to describe the center and spread using the **mean and standard deviation** or **five-number summary**? Explain your choice.
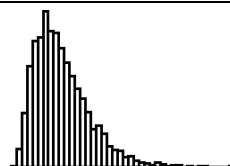
4. To test how long their customers had to wait on hold during a phone call, a company surveyed some of its customers and recorded the number of minutes they had to wait below. Make a histogram and answer the questions.

Minutes on Hold	# of Customers
1	2
2	5
3	8
4	10
5	10
6	9
7	4
8	3
9	1
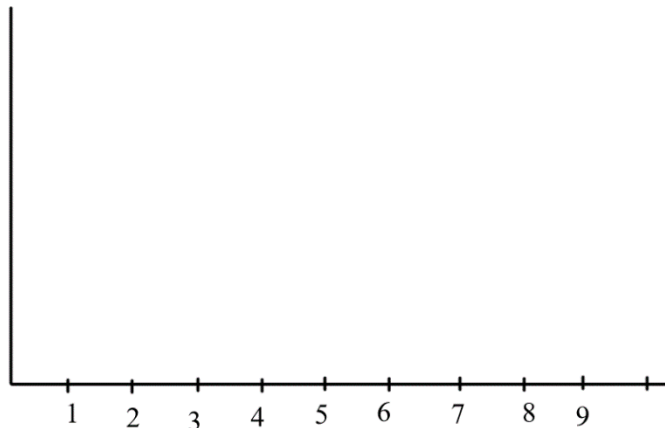
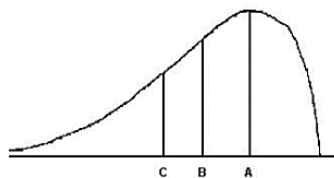a) What type of distribution does this make (symmetric or skewed)?

b) Should the mean and median be similar or different for this data set? Explain how you know.

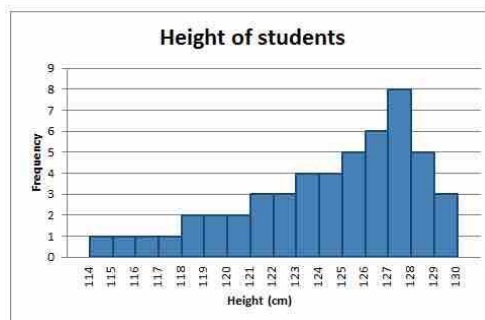5. For the distribution shown, state which one is the mean, median, and mode.

Mean : _____

Median: _____

Mode: _____

6. Based on the distribution of student heights shown, would the mean be below, exactly at, or above 127.5 cm? Explain your decision.

7. Come up with with your own scenario (one not in the notes or this worksheet) whose distribution would be positively skewed.