If necessary, round any numbers to the nearest hundredth (0.01). Make sure to use proper units (in, cm, views, etc)

Use this data set of amount of YouTube views of 10 randomly selected videos from Portugal the Man (in millions):   3, 3, 4, 4, 5, 7, 9, 11, 14, 17

Measures of Center		
In your own words, describe how to find the **mean**, then find the mean. Description: Calculated mean: ____	In your own words, describe how to find the **median**, then find the median. Description: Calculated median: ____	In your own words, describe how to find the **mode**, then find the mode. Description: Calculated mode: ____

Graphs

Create a dot plot of the data and then a box plot above it on the same number line.

Description of Distribution

Describe the **shape** of the distribution? (symmetrical or skewed). How do you know?	Describe how to use the TI-84 calculator to calculate the **standard deviation**, then calculate it. Description: Calculated SD: _____	Describe how to calculate the **Interquartile Range**, then calculate it. Description: Calculated IQR: _____

Analysis of Distribution

Which measure of center is a *typical* number? Explain.

Which measure of variability best describes the distribution **(SD** or **IQR)?** Explain.

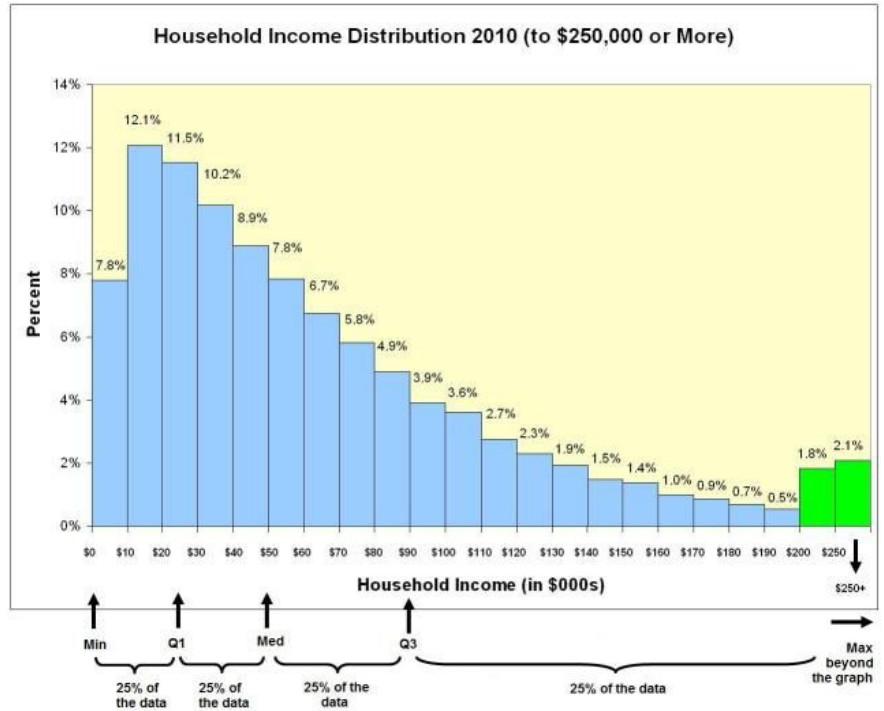**1. Distribution of family income in the US**

   i. Shape of distribution:
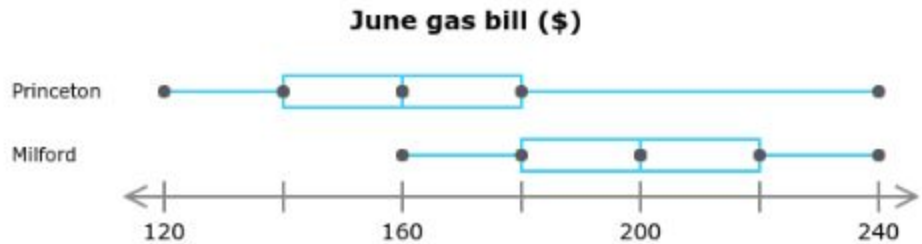
   ii. Estimate of mean:

   iii. Estimate of standard deviation:

   iv. Would the mean or median be a better measure of center?

   v. Would the standard deviation or the interquartile range be a better measure of variability? Why?

Household Income Distribution 2010 (to $250,000 or More)

12.1% 11.5% 10.2% 8.9% 7.8% 7.8% 6.7% 5.8% 4.9% 3.9% 3.6% 2.7% 2.3% 1.9% 1.5% 1.4% 1.0% 0.9% 0.7% 0.5% 1.8% 2.1%

Household Income (in $000s)

Min Q1 Med Q3 Max beyond the graph

25% of the data | 25% of the data | 25% of the data | 25% of the data

June gas bill ($)

Princeton

Milford

120 160 200 240

2. A utility company is reviewing gas bills of residents in two cities in New Jersey: Princeton and Milford. These box and whisker plots show the results.

   a. Did one city have a higher IQR? Explain what this means in terms of their variability.

   b. Which percentage of bills were over $160 for each city? Why do you think this is important to the utility company/residents?

   c. Estimate which city had the higher **mean**. Explain how you came up with your answer.