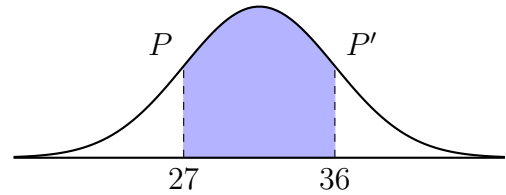# Normal Distributions   Math 111

1. For each of the following datasets, sketch a plausible looking histogram, then decide if the data is approximately normal.

    (a) The annual rainfall in Virginia for each of the last 100 years (the average rainfall in VA is a little over 40 inches per year).

    (b) The number of math classes each student in your dorm has taken.

    (c) The number of siblings each person in your math class has.

    (d) Birth weights of full-term babies born in the United States in 2010.

2. The average weight of US men is 190 lbs. If the standard deviation is $\sigma = 20$ lbs, then convert the following into z-values.

    (a) 150 lbs

    (b) 210 lbs

    (c) 180 lbs

3. The two inflection points of the normal distribution shown below are P and P'.

What is the mean (μ) and the standard deviation (σ) for the normal distribution above?

4. The average high temperature in Anchorage, Alaska, in January is 21°F with a standard deviation of 10°. The average high temperature in Honolulu in January is 80°F with a standard deviation of 8° . In which location would it be more unusual to have a day in January with a high of 57°F?