**HOMEWORK #31:**

*THE NORMAL CURVE, STANDARD DEVIATION, AND VARIANCE!*

1.) During the years of 1929-1939 of the Great Depression, the weekly average hours worked in manufacturing jobs were 45, 43, 41, 39, 39, 35, 37, 40, 39, 36, and 37. What is the mean, standard deviation, and variance? Sketch a normal curve of the distribution.



2.) The life of an car battery is normally distributed with a mean μ = 5,000 miles and standard deviation σ = 500 miles. What is the probability that a battery selected at random will last from 5,000 to 6,000 miles? DRAW the NORMAL CURVE.

3.) The heights of college women are normally distributed with a mean of 65 inches and a standard deviation of 2.5 inches. Using this info, answer the following questions.

1. What percentage of women are taller than 65 inches?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What percentage of women are shorter than 65 inches?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What percentage of women are between 62.5 inches and 67.5 inches?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What percentage of women are between 60 inches and 70 inches?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.) The incubation time for Rhode Island Red Chicks is normally distributed with a mean of 21 days and a standard deviation of 1 day. If 1000 eggs are being incubated, how many eggs do we expect will hatch

* 1. in 19 to 23 days?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. in 20 to 22 days?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. in 21 days or fewer?\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	4. in 18-24 days? (assume all eggs eventually hatch)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5.)** The heights of NBA Basketball players are normally distributed with a mean of 76 inches and a standard deviation of 1.5 inches. Using this info, answer the following questions.

1. What percentage of NBA players are taller than 76 inches?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What percentage of NBA players are shorter than 76 inches?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What percentage of NBA players are between 73 inches and 77.5 inches?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What percentage of NBA players are taller than 77.5 inches?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_