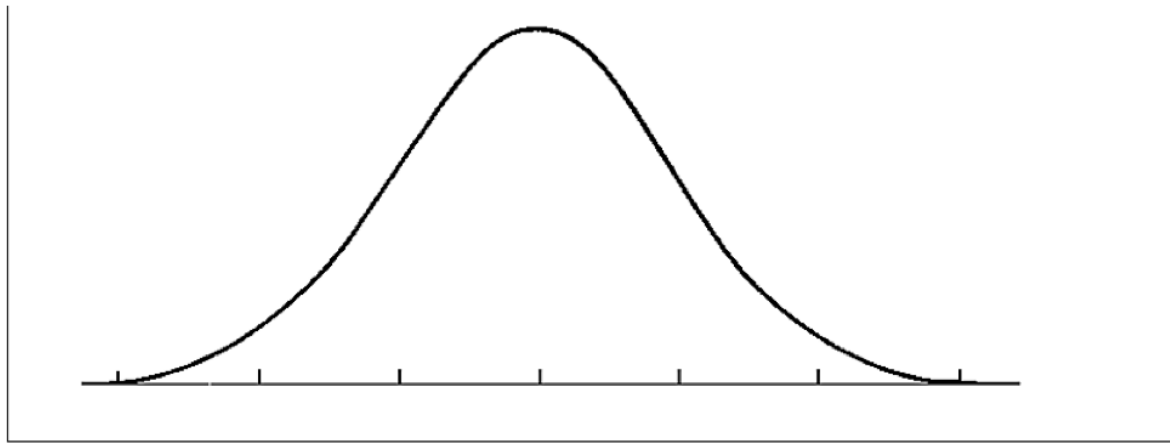


In a normal distribution, what percent of the values lie:

1. below the mean? _____
2. above the mean? _____
3. within one standard deviation of the mean? _____
4. within two standard deviations of the mean? _____
5. within three standard deviations of the mean? _____

6. **2000 freshmen at State University took a biology test. The scores were distributed normally with a mean of 70 and a standard deviation of 5. Label the mean and three standard deviations from the mean.**



Answer the following questions based on the data:

- a) What percentage of scores are between scores 65 and 75?
- b) What percentage of scores are between scores 60 and 70?
- c) What percentage of scores are between scores 60 and 85?
- d) What percentage of scores is less than a score of 55?
- e) What percentage of scores is greater than a score of 80?



7 ■ The shelf life of a particular dairy product is normally distributed with a mean of 12 days and a standard deviation of 3 days.

- a) About what percent of the products last between 9 and 15 days?
- b) About what percent of the products last between 12 and 15 days?
- c) About what percent of the products last 6 days or less?
- d) About what percent of the products last 15 or more days?

8. The EPA fuel economy estimates for automobile models tested recently predicted a Normal model with a mean of 24.8 mpg and a standard deviation of 6.2 mpg.

- a) In what interval would you expect the central 68% of autos to be found?
- b) About what percent of autos should get less than 31 mpg?
- c) What percent of cars should get between 31 and 37 mpg?

9.

Average American adult male height is 69 inches (5' 9") tall with a standard deviation of 2.5 inches.

What does the normal distribution for this data look like?

10. **Weights of Parcels** During a particular week, an overnight delivery company found that the weights of its parcels were normally distributed, with a mean of 24 ounces and a standard deviation of 6 ounces.

- a. What percent of the parcels weighed between 12 ounces and 30 ounces?
- b. What percent of the parcels weighed more than 42 ounces?