

For every problem, use the standard Normal table, sketch the Normal curve and shade appropriately.

1. Find the proportion of observations that satisfies the following:
 - a. z is less than -0.47
 - b. z is greater than -0.47
 - c. z is less than 1.38
 - d. z is greater than 1.38
 - e. z is between -1.35 and 1.63
 - f. z is between 0.80 and 1.97

2. Find the z value that satisfies the following conditions.
 - a. 20% of all observations are less than z
 - b. 45% of all observations are greater than z
 - c. 63% of all observations are less than z
 - d. 76% of all observations are greater than z

3. On the driving range, Tiger Woods practices his swing with a particular club by hitting many, many balls. When Tiger hits his driver, the distance the ball travels follows a Normal distribution with mean 304 yards and standard deviation 8 yards.
 - a. What percent of Tiger's drives travels at least 290 yards?
 - b. What percent of Tiger's drives travel between 305 and 325 yards?
 - c. What distance would a ball have to travel to be at the 80th percentile of Tiger's drive length?

4. Using the information from #3, Tiger heads out to the first tee to begin a golf tournament. A large creek crosses the fairway 317 yards from the tee. Is Tiger safe hitting his driver? Why or why not? Show work to support your answer.

5. Remembering that the weights of yearling Angus steers have mean of 1152 and standard deviation of 84 and following a normal model, answer the following:
 - a. What percent of steers weigh over 1250 pounds?
 - b. What percent of steers weigh under 1200 pounds?
 - c. What percent of steers weigh between 1000 and 1100 pounds?
 - e. How much to the top 10% of steers weigh?

6. Companies that design furniture for elementary school classrooms produce a variety of sizes for kids of different ages. Suppose the heights of kindergarten children can be described by a Normal model with a mean of 38.2 inches and standard deviation of 1.8 inches.
 - a. What fraction of kindergarten kids should the company expect to be less than 3 feet tall?
 - b. In what height interval should the company expect to find the middle 890% of kindergartners?
 - c. At least how tall are the biggest 10% of kindergartner?