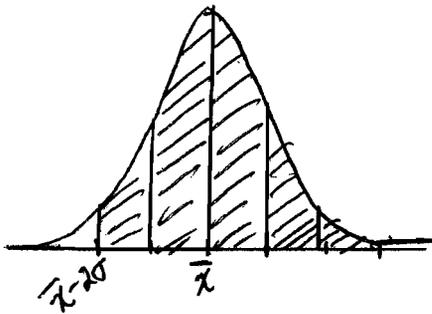
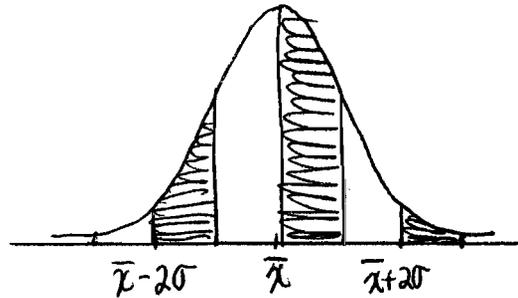


Give the percent area under a normal curve represented by each shaded region.

1.



2.

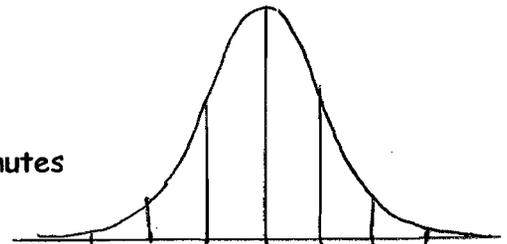


3. The waiting time in line at a bank during the busiest hours is described by a normal distribution with a mean of 8 minutes and a standard deviation of 2 minutes. Find the probability (rounded to the nearest thousandth) that:

a) a randomly selected customer waits less than 6 minutes

b) a randomly selected customer waits between 4 and 12 minutes

c) the next two customers in line wait longer than 10 minutes



4. In a normal distribution that approximates a binomial distribution, the number of trials $n = 2000$ and probability of success $p = .35$. Find the mean and the standard deviation, rounded to the nearest thousandth if necessary.

5. Suppose that in a nationwide poll, 72% of households owned at least one car. You are conducting a random survey of 129 households. What is the probability that at least 98 of them own at least one car?

Review. Give the answers to #7-9 in simplest form.

6. A student's grade in her AP social science class depends on the grade earned on a 20-question true-false quiz. Sadly, the student did not study and she must guess the answer to each question. What is the probability that she will guess at least 18 answers correctly to earn an "A" on the quiz? Round the decimal answer to the nearest ten-thousandth.

7. A jar contains 3 red, 4 green, and 5 blue marbles.

a) How many ways can 3 or 4 marbles be selected?

b) If marbles are selected one at a time and not replaced, find the probability that they are the same color.

c) If marbles are selected 3 at a time, find the probability that at least 2 are green.

8. What is the probability that 6 books selected out of 9 are arranged on a shelf in alphabetical order by author's last name (no two last names are alike)?

9. A bag contains 48 red and green marbles. Some are opaque and some are translucent. If $\frac{1}{3}$ are red, $\frac{5}{12}$ are translucent, and $\frac{1}{2}$ are red or translucent, how many are red and translucent?