

For each problem: On the normal curve, label the mean and three standard deviations from the mean!!

1. The lifespan of a certain brand of car tires is approximately normally distributed. The car tires have a mean lifespan of 50,000 miles and a standard deviation of 7,500 miles.
 - a. What range of car tire lifespan contains the 95% closest to the mean?
 - b. What would the lifespan be for the 2.5% of the tires with the greatest lifespan in the population?
 - c. How many miles do the bottom 16% of tires get?

2. The price of a certain brand of printers is normally distributed with mean cost of \$215 and standard deviation \$35.
 - a. What proportion of printers cost between \$110 and \$320?
 - b. What proportion of printers cost less than \$145?
 - c. The middle 68% of printers fall into what range?

3. The mean height of an adult gorilla is 68 inches with a standard deviation of 7.2 inches.
 - a. 95% of adult male gorillas fall into what range of heights?
 - b. What is the probability that an adult male gorilla is less than 53.6 inches tall?

4. The number of seeds that a watermelon has is normally distributed. The average watermelon has 80 seeds with a standard deviation of 5 seeds. What percent of watermelons have:
 - a. between 75 and 90 seeds?
 - b. more than 85 seeds?
 - c. less than 70 seeds?

5. The amount of juice dispensed from a machine is normally distributed with a mean of 10.5 oz and a standard deviation of 0.75 oz.
 - a. About 68% of the amounts dispensed fall within what range?
 - b. About what percent of the time will the machine overflow a 12 oz cup?
 - c. What proportion of the time does the machine dispense 9.75 oz or less?

6. Frosted Sugar Squishies are packaged in boxes labeled "Net Weight: 16 oz." The filling machine is set to put 16.8 oz in the box, with a standard deviation of 0.4 oz.
 - a. What percentage of boxes are below the labeled weight?
 - b. If the box can't physically hold more than 18 oz, what percentage of the time will the box not be able to close?

7. Algebra 2 students' pencil lengths are normally distributed with a mean of 12 cm and a standard deviation of 3 cm. What percentage of Algebra 2 students' pencils are:
 - a. below 6 cm?
 - b. above 3 cm?