

## Normal Curve 2 Practice

Name \_\_\_\_\_

Use this formula to find the z-score for each problem:  $z = \frac{X - \mu}{\sigma}$ 

$$z = \frac{\text{Value} - \text{Mean}}{\text{Standard deviation}}$$

1. According to a survey conducted by television advertisers, the average adult American watches an average of 6.98 hours of television per day. The data is normally distributed with a standard deviation of 3.80 hours. Find the probability that a randomly selected person watches **more than** 8.00 hours of television in a day.
2. Insurance companies have determined that US males between the ages of 16 and 24, drive an average of 10,718 miles each year with a standard deviation of 3763 miles. Assume the data is normally distributed. For a randomly selected male in that age group, find the probability that he drives **less than** 12,000 miles per year.
3. A company that manufactures sleeping bags says that the average amount of down in an adult sleeping bag is 32 oz. with a standard deviation of 0.9 oz. What is the probability that a bag chosen at random has **more than** 33.2 oz. of down?
4. The heights of six-year old girls are normally distributed with a mean of 117.80 cm and a standard deviation of 5.52 cm. Find the probability that a randomly selected six-year girl has a height **between** 117.80 cm and 120.56 cm.
5. The average heating bill for a residential area is \$123 for the month of November with a standard deviation of \$8. If the amounts of the heating bills are normally distributed, find the probability that the average bill for a randomly selected resident is **more than** \$125.
6. An IQ test has a mean of 100 with a standard deviation of 15. What is the probability that a randomly selected adult has an IQ **between** 85 and 115?
7. The average adult spends 5 hours per week on a home computer, with a standard deviation of 1 hour. What percent of adults spend **more than** 6 hours per week on their home computer?