

Prob/Stat/Discrete
Unit 6 Practice Test

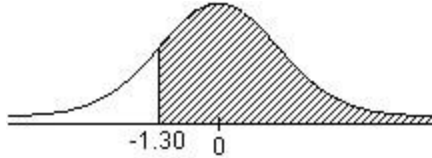
Name _____

MULTIPLE CHOICE. Choose the best answer.

Provide an appropriate response.

- 1) Find the area under the standard normal curve to the left of $z = 1.25$. 1) _____
A) 0.1056 B) 0.2318 C) 0.7682 D) 0.8944

- 2) Find the area of the indicated region under the standard normal curve. 2) _____



- A) 0.9032 B) 0.9177 C) 0.0823 D) 0.0968
- 3) Find the area under the standard normal curve between $z = -1.25$ and $z = 1.25$. 3) _____
A) 0.7888 B) 0.8817 C) 0.2112 D) 0.6412

SHORT ANSWER.

Provide an appropriate response. Use the Standard Normal Table to find the probability.

- 4) IQ test scores are normally distributed with a mean of 100 and a standard deviation of 15. An individual's IQ score is found to be 95. Find the z-score corresponding to this value. 4) _____

- 5) An airline knows from experience that the distribution of the number of suitcases that get lost each week on a certain route is approximately normal with $\mu = 15.5$ and $\sigma = 3.6$. What is the probability that during a given week the airline will lose less than 12 suitcases? 5) _____

- 6) The distribution of cholesterol levels in teenage boys is approximately normal with $\mu = 170$ and $\sigma = 30$ (Source: U.S. National Center for Health Statistics). Levels above 200 warrant attention. Find the probability that a teenage boy has a cholesterol level greater than 210. 6) _____

7) Assume that the heights of women are normally distributed with a mean of 63.6 inches and a standard deviation of 2.5 inches. The cheerleaders for a local professional basketball team must be between 64 and 68.5 inches. If a woman is randomly selected, what is the probability that her height is between 64 and 68.5 inches?

7) _____

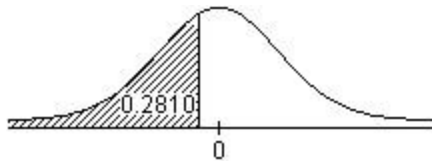
8) The lengths of pregnancies are normally distributed with a mean of 268 days and a standard deviation of 15 days. Out of 50 pregnancies, how many would you expect to last less than 260 days?

8) _____

Provide an appropriate response.

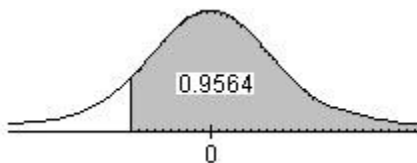
9) Find the z-score that corresponds to the given area under the standard normal curve.

9) _____



10) Find the z-score that corresponds to the given area under the standard normal curve.

10) _____



11) Find the z-score for which 80% of the distribution's area lies to its left.

11) _____

12) For the standard normal curve, find the z-score that corresponds to the 40th percentile.

12) _____

- 13) The scores on a mathematics exam have a mean of 62 and a standard deviation of 4. Find the x-value that corresponds to the z-score -1.79. 13) _____
- 14) The body temperatures of adults are normally distributed with a mean of 98.6°F and a standard deviation of 0.44°F . What temperature represents the 35th percentile? 14) _____
- 15) Assume that the salaries of elementary school teachers in the United States are normally distributed with a mean of \$32,000 and a standard deviation of \$3000. If 25 teachers are randomly selected, find the probability that their mean salary is less than \$32,500. 15) _____
- 16) Assume that blood pressure readings are normally distributed with a mean of 120 and a standard deviation of 8. If 81 people are randomly selected, find the probability that their mean blood pressure will be greater than 115. 16) _____
- 17) Assume that the heights of women are normally distributed with a mean of 63.6 inches and a standard deviation of 2.5 inches. If 50 women are randomly selected, find the probability that they have a mean height between 62 and 64 inches. 17) _____

18) A soda machine dispenses normally distributed amounts of soda with a mean of 24 ounces and a standard deviation of 0.9 ounce. A sample of 10 bottles is selected. What is the mean of the sampling distribution? 18) _____

19) A soda machine dispenses normally distributed amounts of soda with a mean of 24 ounces and a standard deviation of 0.9 ounce. A sample of 10 bottles is selected. What is the standard deviation of the sampling distribution? 19) _____

20) A soda machine dispenses normally distributed amounts of soda with a mean of 24 ounces and a standard deviation of 0.9 ounce. What is the probability of randomly selecting one bottle with more than 24.5 ounces if a sample of 10 bottles is chosen? Specify if you are using your calculator or if you are using Table 4 to find your answer. 20) _____

