Practice(chapter5)

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Solve the problem.

1) Use the standard normal distribution to find $P(0 < z < 2.25)$. 1) _____
A) .8817 B) .5122 C) .4878 D) .7888

2) Use the standard normal distribution to find $P(-2.50 < z < 1.50)$. 2) _____
A) .6167 B) .9270 C) .8822 D) .5496

3) Use the standard normal distribution to find $P(z < -1.33)$. 3) _____
A) .7888 B) .0606 C) .0918 D) .9809

Use a table of areas to find the specified area under the standard normal curve.

4) The area that lies to the right of 0.59 4) _____
A) 0.2190 B) 0.2776 C) 0.7224 D) 0.2224

5) The area that lies to the left of 1.13 5) _____
A) 0.8907 B) 0.8708 C) 0.8485 D) 0.1292

6) The area that lies between −1.10 and −0.36 6) _____
A) −0.2237 B) 0.2239 C) 0.2237 D) 0.4951

Use a table of areas for the standard normal curve to find the required z−score.

7) Find the z−score for which the area under the standard normal curve to its left is 0.96 7) _____
A) 1.75 B) −1.38 C) 1.82 D) 1.03

8) Find the z−score for which the area under the standard normal curve to its left is 0.40 8) _____
A) −0.25 B) 0.57 C) 0.25 D) −0.57

Solve the problem.

9) Find a value of the standard normal random variable z, called z_0, such that $P(z \geq z_0) = 0.70$. 9) _____
A) −.47 B) −.98 C) −.81 D) −.53

10) IQ test scores are normally distributed with a mean of 96 and a standard deviation of 19. An individual's IQ score is found to be 125. Find the z−score corresponding to this value. 10) _____
A) −0.66 B) 1.53 C) 0.66 D) −1.53

Find the indicated probability or percentage for the normally distributed variable.

11) The variable X is normally distributed. The mean is $\mu = 15.2$ and the standard deviation is $\sigma = 0.9$. 11) _____
Find $P(X > 16.1)$.
A) 0.1550 B) 0.8413 C) 0.1587 D) 0.1357

Solve the problem.

12) A physical fitness association is including the mile run in its secondary–school fitness test. The time for this event for boys in secondary school is known to possess a normal distribution with a mean of 440 seconds and a standard deviation of 60 seconds. Find the probability that a randomly selected boy in secondary school can run the mile in less than 302 seconds. 12) _____

A) .9893 B) .0107 C) .5107 D) .4893

13) The tread life of a particular brand of tire is a random variable best described by a normal distribution with a mean of 60,000 miles and a standard deviation of 1700 miles. What is the probability a particular tire of this brand will last longer than 58,300 miles? 13) _____

A) .7266 B) .1587 C) .2266 D) .8413

14) The tread life of a particular brand of tire is a random variable best described by a normal distribution with a mean of 60,000 miles and a standard deviation of 2000 miles. What is the probability a certain tire of this brand will last between 55,800 miles and 56,400 miles? 14) _____

A) .0180 B) .9813 C) .4649 D) .4920

15) The tread life of a particular brand of tire is a random variable best described by a normal distribution with a mean of 60,000 miles and a standard deviation of 1300 miles. What warranty should the company use if they want 96% of the tires to outlast the warranty? 15) _____

A) 61,300 miles B) 62,275 miles C) 57,725 miles D) 58,700 miles

Find the specified percentile, quartile, or decile.

16) The weights of certain machine components are normally distributed with a mean of 8.98 g and a standard deviation of 0.05 g. Find the 97th percentile. 16) _____

A) 9.00 g B) 9.07 g C) 9.12 g D) 8.99 g

Answer Key
Testname: PRACTICE-CH5

1) C
2) B
3) C
4) B
5) B
6) C
7) A
8) A
9) D
10) B
11) C
12) B
13) D
14) A
15) C
16) B