EDUC/PSY 6600 Practice Pretest

You may print this practice test. Allot yourself no more than 60 minutes to complete all items. You may use scrap paper for computations, but do not use notes, a textbook, or a calculator. Answers are printed on the last page.

1. A variable that can take on only a few values between any two specific measurements is called a(n) _____ variable.
   a. continuous
   b. dependent
   c. independent
   d. discrete or categorical

2. To compute $\Sigma(X + 3)^2$, you first add 3 points to each score, then sum the resulting values, and finally you square the sum.
   a. T
   b. F

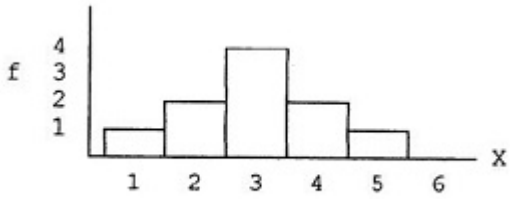
3. For the following scores, ΣX + 3 = 10. Scores: 1, 5, 2, 3
   a. T
   b. F

4. A researcher is curious about the average emotional intelligence of senators in the U.S. senate. The entire group of senators in the U.S. is an example of a _____.
   a. sample
   b. statistic
   c. population
   d. parameter

5. The following graph shows a frequency distribution of quiz scores. *f* refers to frequency and X is the score on the test.

   This is an example of a _____ distribution, with _____ participants scoring a '3'.
   a. symmetrical, 2
   b. positively skewed, 3
   c. negatively skewed, 1
   d. positively skewed, 4

6. The following graph shows a frequency distribution of quiz scores. *f* refers to frequency and X is the score on the test.



_____ is the total number of participants, and _____ was the most frequent score.

a. 3, 10
b. 11, 3
c. 11, 4
d. 10, 3

7. A distribution can have more than one _____.

a. mean
b. median
c. mode
d. none of the above

8. One purpose for central tendency is data reduction, i.e. to find a single score that can serve as a representative value for an entire distribution.

a. T
b. F

9. It is possible for less than half of the scores in a distribution to have values greater than the median.

a. T
b. F

10. For a sample, variance is the squared deviation scores divided by degrees of freedom.

a. T
b. F

11. A population has $\mu = 12$ and $\sigma = 4$. If each score is multiplied by 2, the new standard deviation will be _____.

a. 4
b. 3
c. 8
d. insufficient information, cannot be determined

12. For a population with $\mu = 60$ and $\sigma = 6$, the z-score corresponding to X = 63 would be _____.

a. +0.50
b. +1.00
c. +2.00
d. +5.00

13. When standardizing scores, the population mean always corresponds to a z-score of zero.

a. T
b. F

14. To obtain a random assignment, a researcher must be certain that _____.
    a. every participant has an equal chance of being assigned to each group
    b. the probability of assignment is the same for all individuals at each draw
    c. there is no subtle researcher influence on the assignment process
    d. all of the above

15. The proportion of a normal distribution that corresponds to values less than z = 1.00 is p = 0.8413. Based on this information, what is the proportion that corresponds to values more than z = -1.00?
    a. 0.8413
    b. -0.8413
    c. 0.1587
    d. -0.1587

16. The mean of the distribution of sample means is called _____.
    a. the expected value of $\overline{X}$
    b. the standard error of $\overline{X}$
    c. the sample mean
    d. the central limit mean

17. When a random sample is selected from a population, the sample mean is not expected to be exactly equal to the population mean. On average, the distance between a sample mean and the population mean is predicted by _____.
    a. the standard error
    b. the expected value
    c. the mean of the population
    d. the standard deviation of the population

18. In a research report, the term *statistically significant* is used to indicate that the null hypothesis was *not* rejected.
    a. T
    b. F

19. A hypothesis test is _____.
    a. a descriptive technique that allows researcher to describe a sample
    b. a descriptive technique that allows researcher to describe a population
    c. an inferential technique that uses the data from a sample to draw inferences about a population
    d. an inferential technique that uses information about a population to make predictions about a sample

20. The homogeneity of variance assumption states that _____.
    a. the two sample variances are equal
    b. the two samples come from the same population
    c. variance must stay constant for each subject in the experiment
    d. the samples come from populations with equal variances

21. With a repeated-measures design, one must have two samples of subjects.
    a. T
    b. F

22. A researcher conducts a research study comparing two treatment conditions and obtains 17 scores in each treatment. If the researcher used a repeated-measures design, then how many subjects participated in the research study?
    a. 34
    b. 17
    c. 51
    d. cannot tell from the data given

23. The 95% confidence interval for μ is computed from sample data and the interval estimate ranges from 60 to 70. This indicates that _____.
    a. 95% of the scores in the population fall between X = 60 and X = 70
    b. you should reject H_0 for any sample value between 60 and 70
    c. the standard error is 10
    d. none of the above

24. An 80% confidence interval for the population mean ranges from 15 to 23. Based on this information, _____.
    a. the sample mean is $\overline{X}$ = 15
    b. the sample mean is X = 23
    c. the sample mean is $\overline{X}$ = 19
    d. none of the above

25. The smaller the differences between treatment means, the larger the F-ratio.
    a. T
    b. F

26. Post hoc tests are necessary after a 1-way ANOVA whenever _____.
    a. H_0 is rejected and there are only 2 treatments/levels
    b. H_0 is rejected and there are more than 2 treatments/levels
    c. both of the above
    d. You always should do post hoc tests after an ANOVA.

27. Suppose there is a correlation of +0.87 between the length of time a person is in prison and the amount of aggression the person displays on a psychological inventory. This means that spending a longer amount of time in prison causes people to become more aggressive.
    a. T
    b. F

28. For these data, the Pearson correlation would be _____.

X	Y
2	5
1	2
3	7
2	5

    a. positive
    b. negative
    c. zero
    d. cannot be determined

29. A chi-square test for goodness of fit is used to test whether or not there are any preferences among four brands of cola. If the study uses a sample of n = 80 subjects, then the expected frequency for each category would be _____.
    a. 1
    b. 10
    c. 20
    d. 40

30. For the chi-square test for independence, each individual can be counted in more than one category.
    a. T
    b. F

Answers to EDUC/PSY 6600 Practice Pretest

1. d
2. b
3. b
4. c
5. b
6. d
7. c
8. a
9. a
10. a
11. c
12. a
13. a
14. d
15. a
16. a
17. a
18. b
19. c
20. d
21. b
22. b
23. d
24. c
25. b
26. b
27. b
28. a
29. c
30. b