Choose the best available answer for each question.

1. In social research, the purpose of statistics is to
   a. prove that the research theory is correct
   b. validate the research project design
   c. manipulate and analyze data
   d. ensure acceptance by the scientific community

2. Without statistics, _____ research would be impossible.
   a. meaningful
   b. important
   c. qualitative
   d. quantitative

3. Data put into SPSS must be
   a. in numerical form
   b. in any form
   c. statistics
   d. proof

4. The data reduction process of descriptive statistics
   a. allows a few meaningful numbers to summarize large masses of data
   b. eliminates incorrect data
   c. simply lists in order all available information
   d. is rarely used

5. All of the following variables are nominal level EXCEPT
   a. level of education measured in years
   b. zip code
   c. occupation
   d. make of auto

6. Choose the nominal level variable below
   a. size of family unit
   b. eye color of students in statistics class
   c. speed travel of a jet
   d. your weight measured in pounds

7. Variables measured at the ordinal level are limited to which of the following mathematical operations?
   a. addition and subtraction
   b. multiplication
   c. ranking cases as higher or lower, more or less
   d. counting the number of cases per category

8. Prejudice, when measured on a scale ranging from ‘most prejudiced’ to ‘least prejudiced,’ is an example of which level of measurement?
   a. actual
   b. ordinal
   c. nominal
   d. interval-ratio

9. Select the variabl(s) that can be measured at the interval-ratio level
   a. different types of crimes
   b. number of children in a family
   c. attractiveness of a person
   d. emotional stability

10. The phrase “data reduction” refers to
   a. Using one or a few numbers to represent many scores
   b. The elimination of scores that are too high or too low
   c. A situation in which all scores of a variable are reported, not just a few summary statistics
   d. The process by which subjects are screened and eliminated from research projects

11. Which of the following is an impossible value for a percentage?
   a. 0%
   b. 47.458923%
   c. 110.0%
   d. 0.05%

12. To be converted to a percentage, the proportion must be multiplied by
   a. 10
   b. 100
   c. 1000
   d. any of the above

13. The ratio of men to women in a karate class is 3.3:1. If there are 100 women, how many men are there?
   a. 33
   b. 66
   c. 133
   d. 330

14. Frequency distributions may be compiled for variables measured at which level?
   a. nominal
   b. ordinal
   c. interval-ratio
   d. all of the above
   e. none of the above

15. The class intervals below represent ages of respondents. Which list is both exhaustive and mutually exclusive?
    a. 18-19, 19-20, 20-21
    b. 18-19, 20-21, 22-23
    c. 18-20, 22-24, 26-28
    d. 18-19, 21-22, 24-25

16. Cumulative frequencies and cumulative percentages allow a researcher to
    a. be sure the column totals are correct
    b. tell at a glance how many cases fall below or above a given category
    c. show the accuracy of his or her findings
    d. all of the above

17. A frequency distribution should reflect a balance of
    a. detail and conciseness
    b. time and money
    c. questions and answers
    d. elegance and symmetry

18. The mode measures "central tendency" in terms of
    a. the most common score
    b. the most central score
    c. the most important score
    d. the most average score

19. For ordinal level variables, the most appropriate measure of central tendency is
    a. the mode
    b. the median
    c. the mean
    d. none of the above

20. To locate the 6^{th} decile, we would first multiply the number of cases (N) by
    a. .06
    b. .60
    c. 6.00
    d. the value of the median minus ten

21. The number of daily newspapers in the US is now 1,387. In 1990, it was 2,226. What is the difference in number of daily newspapers?

22. The number of daily newspapers in the US is now 1,387. In 1990, it was 2,226. What is the percentage decline in number of daily newspapers?

23. The most appropriate measure of central tendency for the variable age (measured in years) would be
    a. the mode
    b. the quartile
    c. the mean
    d. the decile

24. Which measure of central tendency is affected by every score in the distribution?
    a. the mean
    b. the mode
    c. the median
    d. all of the above

25. In any distribution, the mean and the median will have the same value when the distribution is
    a. symmetrical
    b. positively skewed
    c. negatively skewed
    d. all of the above

26. Measures of dispersion provide an indication of
    a. typical or most common score
    b. variety within the distribution of scores
    c. size of the sample
    d. adequacy of the selection criteria for the sample

27. One problem with the range (R) as a measure of dispersion is that it
    a. Is very difficult calculate
    b. Ignores the most extreme scores
    c. Can be used only nominal level variables
    d. Is based on only the most extreme scores

28. The standard deviation (s) differs from the mean average deviation (MAD) in that
    a. It squares the deviations to eliminate minus values.
    b. It decreases in value as distributions become more heterogenous
    c. It does not use all the scores.
    d. Is based on the median rather than the mean.

29. Since computation of the standard deviation requires, division, and other mathematical operations, it should be used for
    a. Interval-ratio level variables
    b. Non-continuous variables at any level of measurement
    c. Nominal level variables
    d. Discrete variables only

30. If a variable is interval-ratio in level of measurement, the preferred measure of dispersion would be

a. The mean
b. The range
c. The standard deviation
d. The percentile

31. If male and female students work an average of 15 hours per week during the school year and the standard deviation is 5.4 for male students and 2.3 for female students, what may we conclude?
a. Males are more heterogeneous on this variable
b. Females are more heterogeneous on this variable
c. The median number of hours worked is the same
d. The modal number of hours worked is the same

32. Four students have applied to a special program and only one can be accepted. They have taken a battery of 12 tests and all have exactly the same average score. The standard deviations of their test scores are: Student A= 3.12, Student B= 0.27, Student C= 13.45, Student D= 6.45. If consistency of performance is a criteria for acceptance, which of the four students should be selected?
a. A
b. B
c. C
d. D

33. A defining characteristic of the normal curve is that it is
a. Pretty
b. Positively skewed
c. Negatively skewed
d. Perfectly symmetrical

34. By definition the normal curve is
a. Symmetrical
b. Positively skewed
c. Negatively skewed
d. Empirical

35. On all normal curves, the area between +1 and -1 standard deviation will be
a. About 34%
b. About 68%
c. 50%
d. 99.9%

36. Converting scores into Z scores standardizes the original distributions to units of the
a. Median
b. Standard deviation
c. Mean
d. Percentage

37. If a Z score is 0, then the value of the corresponding raw score would be
    a. 0
    b. the same as the mean of the empirical distribution
    c. the same standard deviation of the empirical distribution
    d. probably a negative number

38. The area between the mean and a Z score of +1.50 is 43.32%. This score is higher than _____ of the scores in the distribution.
    a. 43.32%
    b. 51.50%
    c. 57.68%
    d. 93.32%

39. A sample of university students has an average GPA of 2.78 with a standard deviation of 0.45. If GPA is normally distributed, what percentage of students have GPAs

	GPA	Z score	Area	Probability
a.	Less than 3.40			
b.	Less than 3.78			
c.	More than 3.50			
d.	More than 2.50			
e.	Btw 2.00 & 3.00			
f.	Btw 3.00 & 3.50			

40. Given the following results from SPSS:

STRONG CHANCE OF SERIOUS DEFECT

N	Valid	2425
	Missing	575

STRONG CHANCE OF SERIOUS DEFECT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	1992	66.4	82.1	82.1
	NO	433	14.4	17.9	100.0
	Total	2425	80.8	100.0	
Missing	NAP	490	16.3		
	DK	78	2.6		
	NA	7	.2		
	Total	575	19.2		
Total		3000	100.0		

The percentage of respondents who felt that a pregnant woman should be allowed to obtain a legal abortion if there was a strong chance of serious birth defect was:

a. 66.4%
b. 14.4%
c. 82.1%
d. 17.9%

41. Given the following output from SPSS:

Statistics

	PREGNANT AS RESULT OF RAPE
Valid	2404
Missing	596
Mean	1.16
Median	1.00
Mode	1

The variable refers to the question do you feel that a woman should allowed to obtain a legal abortion if she became pregnant as a result of rape?

1= Yes
2= No

The most appropriate measure of central tendency is

a. mode
b. mean
c. median
d. none

42. Given the following output from SPSS:

Statistics

AGE OF RESPONDENT

N	Valid	2989
	Missing	11
Mean		44.65
Median		41.00
Mode		32
Std. Deviation		17.524
Skewness		.538
Std. Error of Skewness		.045
Percentiles	90	70.00

Taking these results and combining them with what we know about the normal curve, we can say that nearly _____ of the total respondents fall between the ages of 27.126 years and 62.174 years.

a. 68.26%
b. 95.44%
c. 99.72%
d. none of the above

43. Using the same output from question #42, respondents who were older than 70 years, were older than _____ of the sample.
    a. 10%
    b. 90%
    c. 5%
    d. 1%

44. Write a description for the following output. Make sure to include all important information!

STRONG CHANCE OF SERIOUS DEFECT

N	Valid	2425
	Missing	575

STRONG CHANCE OF SERIOUS DEFECT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	1992	66.4	82.1	82.1
	NO	433	14.4	17.9	100.0
	Total	2425	80.8	100.0	
Missing	NAP	490	16.3		
	DK	78	2.6		
	NA	7	.2		
	Total	575	19.2		
Total		3000	100.0		