1. The use of tables and graphs to summarize data is an example of
   A) inferential statistics
   B) interpretation
   C) descriptive statistics
   D) generalization

2. Statistical analysis allows researchers to
   A) collect data
   B) claim that an observation is scientific
   C) evaluate scientific observations
   D) study physical phenomena but not behavior

3. Procedures that allow researchers to infer or generalize observations made with samples to the larger population from which they were selected best describes
   A) inferential statistics
   B) sample statistics
   C) descriptive statistics
   D) population parameters

4. Descriptive statistics are procedures used to
   A) summarize a set of scores or observations
   B) organize a set of scores or observations
   C) make sense of a set of scores or observations
   D) all of the above

5. A researcher records the number of votes for each of five candidates running for class president. Based on her presentation of the following results, what type of statistics did she use?

Candidate	Number of Votes
A	120
B	125
C	42
D	203
E	20

   A) inferential statistics
   B) descriptive statistics
   C) population statistics
   D) deceptive statistics

6. Which of the following describes a descriptive statistic?
   A) summarize
   B) infer
   C) generalize
   D) predict

7. Suppose that a researcher is interested in a group of 10 million people who paid to see a movie playing in theaters. In this example, the 10 million moviegoers would be regarded as
   A) a sample of moviegoers who paid to see the movie in a theater
   B) a population of moviegoers who paid to see the movie in a theater
   C) an independent variable
   D) a dependent variable

8. Researchers measure data in a _____ to learn more about individuals in the larger _____ of interest.
   A) sample; population
   B) statistic; inference
   C) population; sample
   D) inference; statistic

9. Researchers rarely have access to entire populations. How do researchers resolve this limitation?
   A) They do not need to resolve this; it is not a limitation at all.
   B) They record data from an entire population of people to make inferences concerning characteristics in a sample.
   C) They record data from as many persons in a population as possible to draw conclusions concerning only those individuals.
   D) They record data from a sample of people in the larger population in order to make inferences concerning characteristics in that larger population.

10. A characteristic (usually numeric) that describes a sample is called a
    A) sample
    B) sample statistic
    C) population
    D) population parameter

11. A characteristic (usually numeric) that describes a population is called a
    A) sample
    B) sample statistic
    C) population
    D) population parameter

12. A researcher records the time it takes to complete a memory task in a sample of 25 participants. He finds that the average participant completed the test in 43 seconds. The average time to complete this task is called a(n)
    A) population parameter
    B) sample statistic
    C) inferential statistic
    D) time trial

13. A psychologist reviews her notes for all her patients and determines that on average her patients complete therapy in 24 days. The average time to complete therapy among all her patients is called a(n)
    A) population parameter
    B) sample statistic
    C) inferential statistic
    D) time trial

14. A population can be ____ group of interest to a researcher.
    A) any
    B) only one
    C) only a small
    D) only a large

15. A researcher identifies college students as a group of interest to test her hypothesis. She then identifies a few local college students and selects a small group of the local college students to be observed. In this example, the sample is:
    A) not clearly identified
    B) all college students
    C) the few local college students
    D) the small group of college students who here observed

16. A therapist observes that spouses are more likely to forgive their partners for lying to them if they find out the truth from their spouse and not a third party. In this example, the dependent variable is
    A) the number of partners
    B) the spouse
    C) lying
    D) forgiveness

17. _____ is the variable in an experiment that is manipulated between conditions being observed.
    A) independent variable
    B) quasi-independent variable
    C) dependent variable

18. _____ is the variable that is believed to change in the presence of the independent variable.
    A) independent variable
    B) quasi-independent variable
    C) dependent variable

19. Which of the following best describes an independent variable?
    A) the sample variable
    B) the measured behavior
    C) the manipulated variable
    D) the population variable

20. Which of the following best describes a dependent variable?
    A) the sample variable
    B) the measured behavior
    C) the manipulated variable
    D) the population variable

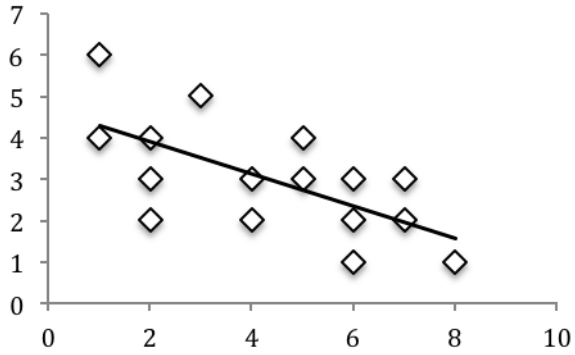
21. Three research methods common to research in the behavioral sciences are
    A) experimental, transferable, and correlation
    B) experimental, variable, and correlational
    C) experimental, operational, and quasi-correlational
    D) experimental, quasi-experimental, and correlational

22. Three key elements of control that allow researchers to draw cause-and-effect conclusions are
    A) randomization, manipulation, and variation
    B) assignment, manipulation, and comparison/control
    C) randomization, manipulation, and comparison/control
    D) randomization, condition, and comparison/control

23. A researcher tests whether the dosage level of some drug (low, high) causes significant differences in health. To do this, the researcher randomly assigns rat subjects to receive a low or high dosage of the drug and records health-related measures in both groups. The type of method described is
    A) experimental
    B) quasi-experimental
    C) correlation
    D) operational

24. Which of the following research designs is used to determine the causes of behavior that help to explain why the behavior occurs?
    A) correlational
    B) experimental
    C) quasi-experimental
    D) all of the above

25. Based on the following graphical summary display, what research design was used to record and analyze these data?



    A) correlational
    B) experimental
    C) quasi-experimental
    D) either B or C

26. _____ refer(s) to how the properties of numbers can change with different uses.
    A) measurability
    B) operational definition
    C) scales of measurement
    D) coding

27. State the four scales of measurement in order from least informative to most informative.
    A) ordinal, nominal, interval, ratio
    B) nominal, ordinal, interval, ratio
    C) nominal, ordinal, ratio, interval
    D) ordinal, nominal, ratio, interval

28. An animal researcher measures the number of times a rat presses a lever located at the right, center, and left of a cage for a food reward. What scale of measurement is the location of lever pressing?
    A) nominal
    B) ordinal
    C) interval
    D) ratio

29. An education counselor records the number of high school graduates enrolled in community colleges, four-year colleges, and universities. What scale of measurement is the type of college?
    A) nominal
    B) ordinal
    C) interval
    D) ratio

30. A consultant ranks the five most needed areas of improvement for a local business. What scale of measurement are the rankings?
    A) nominal
    B) ordinal
    C) interval
    D) ratio

31. A movie critic rates a movie on a scale from one (lowest) to four (highest) stars. What scale of measurement are the ratings?
    A) nominal
    B) ordinal
    C) interval
    D) ratio

32. Interval scales of measurement
    A) have equidistant scales
    B) have a true zero
    C) both a and b

33. Each of the following are interval scale measurements, *except*
    A) duration of sleep (in hours)
    B) marital satisfaction ratings on a 5-point rating scale
    C) the latitude and longitude of birth for those suffering from schizophrenia
    D) the body temperature (in degrees Fahrenheit) increase during exercise

34. A researcher measures the body temperature (in degrees Fahrenheit) of participants immediately before and immediately following sleep. Temperature is on what scale of measurement?
    A) nominal
    B) ordinal
    C) interval
    D) ratio

35. Which of the following measures of attraction is an example of a ratio scale measurement?
    A) a rating of attraction from most attractive to least attractive
    B) a 6-point rating scale from 1 (attractive) to 6 (unattractive)
    C) the status of the relationship (acquaintance, dating, married)
    D) the physical proximity (in feet and inches) between two romantic partners

36. A researcher compares the amount of college debt (in dollars) that undergraduate students incur up to their four-year degree. College debt is on what scale of measurement?
    A) nominal
    B) ordinal
    C) interval
    D) ratio

37. The procedure of converting a categorical variable to numeric values, is called:
    A) deteriorating
    B) piloting
    C) coding
    D) constructing

38. Recording whom students study with describes _____ types of data; whereas recording the number of hours spent studying per week describes _____ types of data.
    A) qualitative; quantitative
    B) continuous; discrete
    C) quantitative; qualitative
    D) discrete; continuous

39. _____ data describe numeric aspects of phenomena; whereas _____ data describe nonnumeric aspects of data.
    A) quantitative; qualitative
    B) qualitative; quantitative
    C) continuous; discrete
    D) discrete; continuous

40. Each of the following is an example of quantitative data, *except*
    A) weight in ounces
    B) income in dollars
    C) political affiliation
    D) age in years

41. Which of the following terms are least likely to be used to describe qualitative data?
    A) nominal
    B) descriptive
    C) categorical
    D) numeric

42. Qualitative data varies by _____; quantitative data varies by _____.
    A) level; value
    B) value; level
    C) amount; class
    D) class; amount

43. Quantitative measures can be
    A) discrete data
    B) continuous data
    C) both a and b

44. You are interested in measuring the construct, *work expertise*. Which of the following measures for this construct is quantitative and discrete?
    A) the total time in hours spent working at a company
    B) the job title a person holds in a company
    C) the percent of correct responses on a work expertise survey
    D) the number of employees that work under an employee

45. You are interested in measuring the construct, *reinforcement*. Which of the following measures for this construct is quantitative and continuous?
    A) the number of rewards received
    B) the type of reward (food, money)
    C) the size of a reward in grams
    D) the rating of a reward on a scale from 1 (not reinforcing) to 7 (very reinforcing)

46. _____ are measured along a continuum at any place beyond the decimal point.
    A) continuous data
    B) discrete data
    C) qualitative data
    D) open-ended data

47. _____ are measured in whole units or categories that are not distributed along a continuum.
    A) continuous data
    B) discrete data
    C) quantitative data
    D) open-ended data

48. Recording the number of dreams recalled is an example of _____ data; whereas recording the time (in minutes) spent in a dream stage of sleep is an example of _____ data.
    A) qualitative; quantitative
    B) continuous; discrete
    C) quantitative; qualitative
    D) discrete; continuous

49. A health practitioner measures the heart rate (in beats per minute) of patients under low, moderate, and high stress levels. Heart rate can be best described as
    A) continuous data
    B) discrete data
    C) a qualitative variable
    D) the independent variable

50. Researcher A measures academic preparedness as the percent correct responses on an entrance exam; Researcher B measures academic preparedness as the current class rank of students. Which researcher measured academic preparedness as discrete data?
    A) Researcher A
    B) Researcher B
    C) both researchers
    D) no researchers

T F 51. Descriptive statistics are typically presented graphically, in tabular form (in tables), or as summary statistics (single values).

T F 52. Descriptive statistics is a branch of mathematics used to make inferences about populations given samples of data.

T F 53. Two branches of statistics are independent and dependent statistics.

T F 54. Descriptive statistics and inferential statistics are used for precisely the same purposes.

T F 55. Inferential statistics is used to determine if observations made in a sample are likely to also be observed in the population from which the sample was selected.

T F 56. Descriptive statistics can be used to describe populations and samples.

T F 57. Most scientists have limited access to the phenomena they study, especially behavioral phenomena.

T F 58. A social psychologist wants to study the expression of love toward a significant other among American family members. To study this behavior, the psychologist selects a group of local college students and has them complete a love survey. In this example, the group of local college students is the sample.

T F 59. To understand chimpanzee behavior in general, a scientist observes the hierarchy or dominance behavior of a family of male chimpanzees in a naturalistic setting. In this example, the scientist observes the behavior of a population of chimpanzees.

T F 60. Researchers often measure sample statistics to estimate or learn more about parameters in populations from which the sample statistics were measured.

T F 61. In some cases, the number of participants in a sample can be greater than the number of persons in the population from which the same was selected.

T F 62. Only an experiment can demonstrate cause-and-effect relationships between variables.

T F 63. Children received grapefruit juice mixed with 2%, 5%, or 10% sugar to test whether higher concentrations of sugar can enhance liking for the taste of grapefruit juice. In this example, the sugar mixtures are the independent variable.

T F 64. Children are randomly assigned to complete a low, moderate, or high difficulty task. The time (in seconds) it takes them to complete the task is recorded. In this example, the level of task difficulty is the dependent variable.

T F 65. A researcher records the number of alcoholic drinks consumed per week by students living on campus in rural and urban colleges. In this example, the number of alcoholic drinks consumed per week is the dependent variable.

T F 66. A researcher observes the number of tasks completed by male and female participants during a multitasking observation period. In this example, sex (male, female) is the quasi-independent variable.

T F 67. A professor measures the number of review sessions attended per week and GPA in a sample of college freshmen and concludes that increased attendance for review sessions is related to higher grades. This research design is an example of an experimental design.

T F 68. The duration of drug use (in months) is a ratio scale measurement.

T F 69. A student's letter grade (A, B, C, D, F) is a nominal scale measurement.

T F 70. The weight (in pounds) of a newborn infant is an interval scale measurement.

T F 71. A score on a multiple-choice exam (0-100 points) is a ratio scale measurement.

T F 72. An ordinal scale of measurement is more informative than an interval scale of measurement.

T F 73. Qualitative data are non-numeric data.

T F 74. Many researchers who measure qualitative variables will also measure those that are quantitative in the same study.

T F 75. A rating scale measurement from 1 (completely disagree) to 7 (completely agree) is an example of continuous, qualitative data.

T F 76. The size of a reward (in grams) is an example of continuous, quantitative data.

T F 77. The political affiliation of participants (Democrat, Republican) is an example of discrete, qualitative data.

T F 78. The number of students in a class is an example of discrete, quantitative data.

T F 79. Continuous data are strictly distributed in discrete units.

T F 80. Categorical data are one example of discrete data.

Answer Key

1. C
   Ref::††Concept/Factual/LO1
2. C
   Ref::††Concept/Factual/LO1
3. A
   Ref::††Concept/Factual/LO1
4. D
   Ref::††Concept/Factual/LO1
5. B
   Ref::††Application/LO1
6. A
   Ref::†† Concept/Factual/LO1
7. B
   Ref::††Concept/Factual/LO2
8. A
   Ref::††Concept/Factual/LO2
9. D
   Ref::††Application/LO2
10. B
    Ref::††Concept/Factual/LO2
11. D
    Ref::††Concept/Factual/LO2
12. B
    Ref::††Application/LO2
13. A
    Ref::††Application/LO2
14. A
    Ref::†† Concept/Factual/LO2
15. D
    Ref::†† Application/LO2
16. D
    Ref::††Application/LO3
17. A
    Ref::††Concept/Factual/LO3
18. C
    Ref::††Concept/Factual/LO3
19. C
    Ref::††Concept/Factual/LO3
20. B
    Ref::††Concept/Factual/LO3
21. D
    Ref::††Concept/Factual/LO3
22. C
    Ref::††Concept/Factual/LO3

23. A
    Ref::††Application/LO3
24. B
    Ref::††Application/LO3
25. A
    Ref::††Application/LO3
26. C
    Ref::††Concept/Factual/LO4
27. B
    Ref::††Concept/Factual/LO4
28. A
    Ref::††Application/LO4
29. A
    Ref::††Application/LO4
30. B
    Ref::††Application/LO4
31. B
    Ref::††Application/LO4
32. A
    Ref::††Concept/Factual/LO4
33. A
    Ref::††Concept/Factual/LO4
34. C
    Ref::††Application/LO4
35. D
    Ref::††Application/LO4
36. D
    Ref::††Application/LO4
37. C
    Ref::†† Concept/Factual/LO4
38. A
    Ref::††Application/LO5
39. A
    Ref::††Concept/Factual/LO5
40. C
    Ref::††Concept/Factual/LO5
41. D
    Ref::††Concept/Factual/LO5
42. D
    Ref::††Concept/Factual/LO5
43. C
    Ref::††Concept/Factual/LO5, 6
44. D
    Ref::††Concept/Factual/LO5, 6
45. C
    Ref::††Concept/Factual/LO5, 6

46. A
    Ref::††Concept/Factual/LO6
47. B
    Ref::††Concept/Factual/LO6
48. D
    Ref::††Application/LO6
49. B
    Ref::††ApplicationLO6
50. B
    Ref::††ApplicationLO6
51. True
    Ref::††Concept/Factual/LO1
52. False
    Ref::††Concept/Factual/LO1
53. False
    Ref::††Concept/Factual/LO1
54. False
    Ref::††Concept/Factual/LO1
55. True
    Ref::††Concept/Factual/LO1
56. True
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57. True
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67. False
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68. True

Ref::††Concept/Factual/LO4

69. False
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73. True
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79. False
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80. True
    Ref::††Concept/Factual/LO6