Student: _____

Class: _____

Date: _____

1. Hillary and Devin will collect data to find out where the seventh-grade students should take their field trip. Which group should Hillary and Devin survey to collect the **best** data?

   A. the first 25 students through the lunch line

   B. ten random people from each seventh-grade class

   C. all the students in a dance class

   D. twenty of their friends

2. **The manager of a sporting goods store surveyed customers to determine which products would earn the greatest profit for the store. The survey asked customers which sports they watch most often on television. Which sentence best describes why the survey will not provide valid results?**

   A. The manager surveyed only customers who shop at his store.

   B. The manager did not ask which sports were the customers' favorites.

   C. The manager forgot to ask customers if they own a television.

   D. The manager asked a question about sports customers watch instead of sports they participate in.

3. **A magazine company conducted a phone survey asking subscribers to identify the brand of outdoor camping equipment they like best. Every subscriber was surveyed, and the results were printed in an article entitled, "Most Popular Equipment Among All Campers." Why is the title of the article misleading?**

   A. The survey only focused on camping equipment.

   B. The magazine only surveyed its own subscribers.

   C. The survey was conducted on the telephone.

   D. The magazine asked for brands rather than types of equipment.

4. **Lee read a report on a survey showing that 80% of the adult population in one southern state, enjoy hot weather. In summarizing the report to her class, Lee stated that a majority of adults in the United States enjoy hot weather. What did Lee overlook in this statement?**

   A. that only adults were included in the report

   B. that 80% is not a majority of the group surveyed

   C. that hot weather was not defined as a specific temperature range

   D. that conducting a similar survey in other parts of the country may produce different results

5. **A planning group sent questionnaires to several sample groups to find out their opinions on building a skateboard park in the southwest section of the city. The number of responses by sample group is shown below.**

Questionnaire on Skateboard Park Proposal

Sample Group Surveyed	Number of Questionnaires Sent	Number of Responses
Business and store owners	100	50
Residents of the southwest section	500	490
Students in grades 6–12	3000	500
Teachers and recreation leaders	500	50

Based on the response rate, which sample group's opinion would probably have the most influence on the planning?

A. business and store owners

B. residents of the southwest section

C. students in grades 6–12

D. teachers and recreation leaders

6. **Chelsea conducted a survey to determine which candidate is leading the race for ninth-grade class president by asking 50 ninth-grade girls in the cafeteria how they would vote in the election. The results are shown in the table.**

Survey Results

Candidate	Number of Potential Votes
Mark	11
Elaine	7
Sammy	15
Ginger	17

Chelsea evaluated the survey results and predicts that, Ginger, will win the election. Which statement best explains why Chelsea's prediction may be wrong?

A. Only ninth-grade girls were asked to participate in the survey.

B. The survey did not include all of the ninth graders in the school.

C. Mark and Elaine combined for a greater number of responses than Ginger.

D. Ginger was new to the school and few students would vote for her as class president.

7. **Students in Mr. Carter's math class want to know the favorite spectator sport of the students at their high school. Listed are 4 students' sampling methods. Which student's sampling method would produce the most accurate results?**

   • Kenneth stands at the entrance to the football field and samples each student as they enter the field for a football game.
   • Lynn stands at the entrance to the school in the morning and samples the first 20 students to arrive at school.
   • Maleka uses a list of all students at the high school, chooses every tenth name, and then samples that student.
   • Tony samples all the students in his classes.

   A. Kenneth
   B. Lynn
   C. Maleka
   D. Tony

8. **An old television commercial stated that 4 out of 5 dentists prefer Brand X to Brand Y. Tony claims that this is incorrect and misleads consumers.**

I	Only 5 dentists were surveyed.
II	Dentists in the town where Brand X is manufactured were the ones surveyed.
III	Dentists were randomly selected from around the country.
IV	American Dental Association Dentists were surveyed.

   Which statement would back up his claim?

   A. I and II
   B. II and IV
   C. III and IV
   D. IV only

9. **A research group wants to know what types of car accessories drivers prefer. The research group will survey 1000 people. Which group would be BEST to use as a sample?**

   A. employees at a car repair shop
   B. people who answered the phone
   C. drivers who stopped for gas at a service station
   D. high school students who just got their driver's licenses

10. A student surveyed 100 people and found that 94 out of the 100 people surveyed enjoy exercising. Which statement is the **best** explanation for these results?

    A. The people surveyed worked at a national sporting goods store that sold exercise clothing.

    B. The people surveyed recently saw a television program about the benefits of exercising.

    C. The people surveyed were eating at a restaurant near an exercise facility.

    D. The people surveyed were entering or exiting an exercise facility.

11. A mall owner wants to survey people in the mall to find out which stores the people shop at the most. Which sample produces the most valid results?

    A. People shopping in a pet store.

    B. People exiting a woman's shoe store.

    C. People eating at the food area inside the mall.

    D. People watching their children in the indoor playground.

12. An airline employee wants to survey some passengers on a large jet carrying 210 people. Which sampling method is the **least likely** to be random?

    A. Ask every tenth person boarding the plane to complete the survey.

    B. Ask each person wearing a solid-colored shirt to complete the survey.

    C. Ask each person with a child less than 5 years old to complete the survey.

    D. Ask each person seated in the middle seat on the right side of the plane to complete the survey.

13. A shoe store in the local mall wants to know the most popular brand of shoes among people who shop in the mall. Which sampling method would give them the least biased results?

   A   ask every person in the mall's food court

   B. ask every 10th person who enters the mall

   C. mail surveys to every 10th person in the phone book

14. Which would be the ***best*** sample to determine what most students do after school?

   A   survey students during lunch

   B. survey students in the school band

   C. survey students on the school soccer team

15. Darius wants to determine the favorite sport in his town. Which sample of people would give him the ***most accurate*** data?

   A   school basketball coaches

   B. his neighbors with collegiate flags

   C. people at the grocery store

   D. fans at a football game

16. Mr. Marshall wants to determine if he should open an ice cream restaurant in his town. He will survey people to see if they would buy ice cream from him. Which sample would give Mr. Marshall the ***most*** accurate data?

   A   kids at an elementary school in his town

   B. people in a doctor's office in his town

   C. people in the neighboring town

   D. people in the mall in his town

17. At a middle school, the 7th graders will conduct a survey for where to go on a field trip. Which method will result in the **least** biased decision?

A. to randomly ask 8th grade students who went on a field trip last year

B. to randomly choose some 7th grade students to select a location

C. to ask all 7th grade teachers and administrators for a location

D. to ask the student council to choose a location

18. Which situation would be considered a random sample?

A. A school counselor surveys every third person in an honors English class to find out where its seniors are planning to go to college.

B. A mall manager asks every tenth person in line at the coffee shop to find out if customers like the variety of food in the mall.

C. A principal randomly selects 50 students from a list of all students in the school to find out students' opinions about the elective courses offered at the school.

D. A reporter randomly mails out surveys to female subscribers to find out how satisfied people are with their jobs.

19. A marketing company will conduct a survey to determine which grocery store is most popular in a city. Which group of people would be considered the **best** random sample?

A. every 100th household in the city

B. everyone 10th person walking in the mall

C. every 100th person from the telephone book

D. every 10th person outside of one grocery store

20. Which is a valid sample of middle school students?

A. every tenth boy entering the school

B. every tenth person attending a school football game

C. every third student attending an after-school activity

D. every third student who enters each homeroom

21. Which scenario would produce the *least* biased results?

 A asking athletes at a gym what their favorite television show is

 B asking shoppers at a store where their favorite place to shop is

 C asking fans at a baseball game who their favorite baseball team is

 D asking students in a college library what their favorite college sports team is

22. At a middle school, the administration wants to know how most students get to school. Which sample would be considered a biased sample?

 A every 10th student entering the cafeteria

 B every 10th student getting off a bus

 C every fifth student from an alphabetical list

 D one student randomly chosen from every homeroom

23. A basketball coach at a middle school will conduct a survey to determine the preference for next year's uniform purchase. Which sample will give the coach the *best* results?

 A teachers in the school

 B students in 8th grade

 C the basketball players from his team

 D people who attend basketball games

24. Which represents a random sample of a population?

 A selecting 5 coins randomly out of a jar full of coins

 B surveying teachers with 20 years of experience about their favorite job

 C asking students in the carpool lane how they get to school

 D surveying 100 fans at a baseball game about their favorite sport

25. A coach wants to know the favorite snack purchased at the concession stand during football games. Which is the **best** sample for the coach's survey?

   A. students getting off the bus

   B. teachers at the school

   C. the football team players

   D. students entering the football stands

26. A sports writer wants to know which is the most popular college basketball team. Which group of people would give her the **least** biased answer?

   A. every 4th person entering a college dining hall

   B. every 4th student watching a game being played

   C. every 4th student at a freshman orientation

   D. every 4th person entering a grocery store

27. Which situation will provide the **best** valid sampling for a survey?

   A. determining the most popular tree planted in North Carolina by randomly selecting people in all 50 states to survey

   B. determining the most popular style of cell phone by randomly sampling students kindergarten through 12th grade

   C. determining the most popular soft drink sold at a particular football stadium by selecting every 5th person entering the stadium

   D. determining the most popular ice cream at an ice cream shop by randomly selecting every 4th person entering the school building

28. Erica wants to determine the best location for ice cream in her town. She will conduct a survey of 100 people. Which sampling method would give Erica the *least* biased results?

   A. asking customers with children

   B. asking people at the grocery store

   C. asking people who are allergic to chocolate

   D. asking customers leaving a certain ice cream restaurant

29. A company wants to decide if it should sell sweatshirts at local football games. Which sample is *best* for the company to use to make the decision?

   A. people at a library

   B. students in the 7th grade

   C. customers at a mall

   D. people at a football game

30. Which situation is the *best* example of valid sampling?

   A. surveying people at a grocery store about the efficiency of bus routes

   B. surveying voters in all 50 states about a proposed NC state law

   C. surveying middle school students about health care

   D. surveying homeowners about a proposed county tax on homes

31. A marketing class wants to determine the most popular fast food restaurant in their state. Which method represents the *least* biased survey?

   A. surveying every 100th household in the state

   B. surveying everyone in their school's cafeteria

   C. surveying every 5th person in one neighborhood

   D. surveying every 10th person in front of a local fast food restaurant

32. Which group would be the **best** sample for Arthur to conduct a survey to learn how students achieve high grades in school?

   A. ask students in the cafeteria

   B. ask students who are on the honor roll

   C. ask students in his morning homeroom

   D. ask students in a class in which he is not enrolled

33. Mr. Wilton wants to determine the average age of the volunteers at charity events in his county. Which group of people in the county would provide the **best** sample?

   A. all residents of the largest city

   B. random volunteers at all events

   C. all volunteers from random events

   D. random residents age 18 and over

34. Which is **most likely** an example of a biased sample?

   A. asking a car-repair shop which brands of cars have the lowest costs for repairs

   B. determining a popular car color by collecting data for 15 minutes on a busy street

   C. finding out what percentage of students participate in after-school activities by asking members of the drama club

   D. looking at a list of customers who bought pet food to determine what percentage of pet owners have cats

35. A radio station manager surveyed people by randomly selecting names throughout the local phone book. He first selected names from the front of the telephone book and then selected names from the back of the book. Was this an appropriate method of selecting people?

    A. Yes, because everyone had the likelihood of being selected.

    B. Yes, because this was a random sample.

    C. No, because it is wrong to call people at home.

    D. No, because it was not a true random sample.

36. For which type of survey are the responses **most likely** to be representative of the whole population?

    A. mail-in survey, where subjects can decide whether to reply

    B. a survey conducted among people randomly selected by a researcher

    C. a poll on the Internet in which individuals decide to participate

    D. telephone call-in polls, where a radio station asks that a number be called

37. Juan wants to identify the most popular restaurants in his town for a math project. He will survey 200 people for his project. Which group of people would result in a random sample for Juan's project?

    A. students from different grades in Juan's school

    B. people as they leave a certain restaurant

    C. people who are entering a grocery store

    D. servers at a chain restaurant

38. Which group of people would **most likely** be an unbiased sample to survey about the preference of school pizza?

    A. cafeteria staff

    B. workers of a pizza restaurant

    C. students who bring their lunch

    D. random students throughout all lunch periods

39. Anne wants to survey middle school girls on their favorite weekend activities. Which sample would give Anne the **best** results?

    A. girls in Anne's gym class

    B. girls at the mall on the weekend

    C. every third girl exiting a middle school

    D. girls exiting a movie theater on the weekend

40. A local newspaper wants to know what type of music people like best. If it surveys people at random, which group would produce the **most** unbiased sample?

    A. a survey of 10 employees at a music store

    B. a survey of 100 people who listen to a radio station

    C. a survey of every fifth person who visits a music store

    D. a survey of every third person who calls into a radio station

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