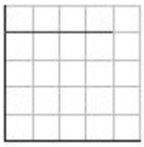
Ch 10 Data Management & Analysis & Evaluation Practice Test

True/False
Indicate whether the sentence or statement is true or false.

If false, write the corrected statement in the space provided.

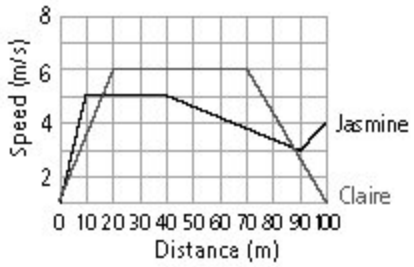
____ 1. This line graph shows the trend of increasing and then levelling off.

_____



____ 2. The graph below shows the speeds of Jasmine and Claire. There is only one trend in the graph.

_____



____ 3. A circle graph is the best used to show the trend of how you spend your total allowance each week.

_____

____ 4. Gord's scores for five tests are 54, 78, 87, 67, 74. His median test score is 72.

_____

____ 5. The survey question "What is your favourite juice drink: orange, grape, or apple?" does NOT contain bias. If it does, reword the question to remove the bias.

_____

____ 6. The wording of a question can affect the kind of response that a certain survey gives.

_____

____ 7. A misleading graph can be used to exaggerate a point.

_____

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

____ 8. Which statement is NOT a prediction from the data in the chart?

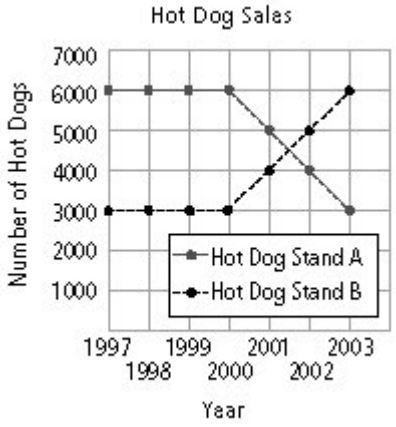
Year	1999	2000	2001	2002
Number of Girls	672	564	893	202
Number of Boys	321	322	456	500

a. Girls are smarter than boys.
b. The number of boys is increasing.
c. The number of girls is going to increase.
d. In 2003, the number of boys will decrease.

____ 9. Which of the following set of data is best displayed by a line graph?
a. the height of six students
b. five favourite places to shop
c. the population growth of a school
d. the number of people that prefer pop to milk

____ 10. Which kind of graph would you draw to show the monthly rainfall in Ontario over a year?
a. bar graph
b. pictograph
c. circle graph
d. line graph

____ 11. What are the trends on this line graph?



a. The sales of Hot Dog Stand A are increasing.
b. The sales of Hot Dog Stand B levelled off from 2001 to 2003.
c. The sales of Hot Dog Stand A have decreased from 2000 to 2003.
d. none of the above

____ 12. What kind of graph would you use to show your height from age 5 to 17?
a. bar graph
b. circle graph
c. line graph
d. pictograph

____ 13. You want to find out if your friend receives more allowance per week than you. What measure of central tendency would you use to compare?
a. mean
b. median
c. mode
d. none of the above

____ 14. What number, if added to the following set of numbers, would change the mode of the data?
3 4 6 7 3 6 8 9 4 3
a. 3
b. 4
c. 7
d. 9

____ 15. A retail store clerk needs to find out which is the most popular shirt size to stock up for the selling season. Which measure of central tendency should the clerk be looking at?

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

____ 16. Which set of data has the greatest mean salary?

a. $34 000, $32 000, $37 000
b. $12 000, $9000, $23 000
c. $87 000, $12 000, $23 000
d. $75 000, $28 000, $10 000

____ 17. Teresa's mid-term marks for six courses are 74, 86, 69, 75, 82, and 76. What is her mean mark?

a. 75.5
b. 77
c. 74
d. 82

____ 18. Terry keeps track of all the goals scored on his soccer team. Only six players scored goals throughout the season. The mean number of goals scored is 16 goals. If three players scored 20 goals and two players scored 15 goals, how many goals did the sixth player score?

a. 6
b. 7
c. 8
d. 16

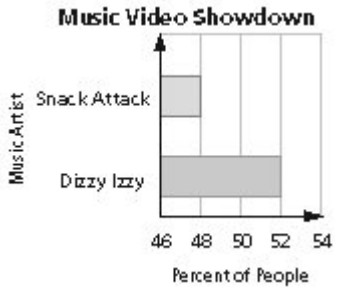
____ 19. What response do you expect when a group of people watching a game played by the Toronto Maple Leafs are asked: "What is your favourite hockey team?"

a. They would say that they do not like hockey.
b. They would say that they love the Toronto Raptors.
c. They would say that they like the Maple Leafs.
d. They would say that they like the Montréal Canadians.

____ 20. What are some of the ways that advertisements can show misleading information?

a. Show just part of the vertical scale on a graph.
b. Show just part of the horizontal scale on a graph.
c. Show an image on a pictograph larger than the number the graph represents.
d. All of the above.

____ 21. Why is this graph misleading?



a. There is nothing misleading about the graph.
b. The audience viewing Snack Attack is not actually less than that for Dizzy Izzy as shown by the graph.
c. The audience viewing Dizzy Izzy is not really more than double that of Snack Attack as shown by the graph.
d. None of the above.

Completion

Complete each sentence or statement.

22. The mean describes the _____ value of a data set.

23. When asking a survey question, you can _____ different words to show bias.

24. A misleading graph can be used to _____ a point.

Matching

Choose the kind of graph that is best used for each purpose of displaying data.

a. circle graph
b. line graph
c. bar graph
d. pictograph
e. stem-and-leaf plot

____ 25. to organize test scores of grade 7 students
____ 26. to compare chocolate bar sales between two students
____ 27. using different symbols to compare data of similar events

Short Answer

Write your answer in the space provided.

28. Find the mean for the set of numbers.
8 4 12 5 9 10

29. Find the mode for the set of numbers.
189 198 187 198 145 156 187 198 186 198

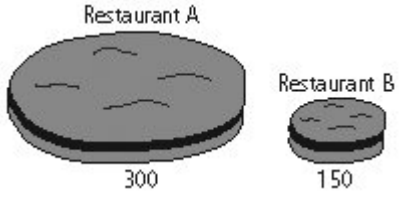
30. Find the median for the set of numbers:
12 8 19 24 6 23 56

31. A school soccer team scored 5, 3, 4, 0, 6 , 2, 1, and 7 goals in 8 games. What is the average number of goals scored per game?

32. The heights of five students whose birthdays are in the month of January are given below.
175 cm 178 cm 156 cm 145 cm 167 cm
a) Find the mean height of the students.
b) Find the median height of the students.

33. A school basketball team has 10 players. Four of them are 13 years old and the rest are 11 years old. What is the mean age of the players on the basketball team?

34. The number of burgers sold by two restaurants are shown in the following graph.



What impression does the graph give?

Problem

Write your answer in the space provided.

35. The following is a database of televisions for sale at a store.

Make	Type	Colour	Size	Price
Sony	Flat Screen	black	small	$598
JVC	LCD	silver	medium	$698
Toshiba	Plasma	white	large	$834
RCA	Flat Screen	charcoal	medium	$130
Sharp	Projection	black	small	$239
Panasonic	HDTV	grey	small	$456
Philips	LCD	copper	large	$789
Samsung	Normal	black	extra large	$1456

a) How many brand names start with the letter "s"?
b) How many TVs are being sold for more than $800?
c) Which TV is the most expensive?
d) Ryan wants to buy a small TV. What would be his choice?
e) Bridget wants to buy a small, black TV for under $300. Which TV could she buy?
f) What is the mean price of all the eight TVs?

Ch 10 Data Management & Analysis & Evaluation Practice Test
Answer Section

TRUE/FALSE

1. ANS: F
   The graph shows the trend of staying the same.

   DIF: Level 2 REF: Knowledge/Understanding OBJ: Section 10.1
   STO: DMP-7m81 TOP: Data Management and Probability KEY: Trend of Graph
2. ANS: F
   The line graph shows more than one trend.

   DIF: Level 2 REF: Thinking/Inquiry/Problem Solving OBJ: Section 10.1
   STO: DMP-7m87 TOP: Data Management and Probability KEY: Trend of Graph
3. ANS: F
   A circle graph usually does not display the trend.

   DIF: Level 2 REF: Thinking/Inquiry/Problem Solving OBJ: Section 10.1
   STO: DMP-7m86 TOP: Data Management and Probability KEY: Trend of Graph
4. ANS: F
   The median mark is 74. 72 is the mean.

   DIF: Level 3 REF: Thinking/Inquiry/Problem Solving OBJ: Section 10.2
   STO: DMP-7m87 TOP: Data Management and Probability KEY: Measure of Central Tendency
5. ANS: F
   The question contains bias. To remove bias, ask, "What is your favourite juice drink?"

   DIF: Level 2 REF: Knowledge/Understanding OBJ: Section 10.3
   STO: DMP-7m82 TOP: Data Management and Probability KEY: Bias
6. ANS: T DIF: Level 2 REF: Thinking/Inquiry/Problem Solving
   OBJ: Section 10.3 STO: DMP-7m81 TOP: Data Management and Probability
   KEY: Bias
7. ANS: T DIF: Level 2 REF: Knowledge/Understanding
   OBJ: Section 10.4 STO: DMP-7m82 TOP: Data Management and Probability
   KEY: Misleading Graph

MULTIPLE CHOICE

8. ANS: A DIF: Level 3 REF: Application OBJ: Section 10.1
   STO: DMP-7m87 TOP: Data Management and Probability KEY: Analysing Data
9. ANS: C DIF: Level 3 REF: Knowledge/Understanding
   OBJ: Section 10.1 STO: DMP-7m81 TOP: Data Management and Probability
   KEY: Displaying Data
10. ANS: A DIF: Level 2 REF: Thinking/Inquiry/Problem Solving
    OBJ: Section 10.1 STO: DMP-7m81 TOP: Data Management and Probability
    KEY: Displaying Data
11. ANS: C DIF: Level 3 REF: Knowledge/Understanding

OBJ: Section 10.1 STO: DMP-7m82 TOP: Data Management and Probability
KEY: Analysing Data

12. ANS: C DIF: Level 2 REF: Knowledge/Understanding
OBJ: Section 10.1 STO: DMP-7m82 TOP: Data Management and Probability
KEY: Displaying Data

13. ANS: A DIF: Level 2 REF: Thinking/Inquiry/Problem Solving
OBJ: Section 10.2 STO: DMP-7m86 TOP: Data Management and Probability
KEY: Measure of Central Tendency

14. ANS: B DIF: Level 2 REF: Thinking/Inquiry/Problem Solving
OBJ: Section 10.2 STO: DMP-7m87 TOP: Data Management and Probability
KEY: Measure of Central Tendency

15. ANS: C DIF: Level 3 REF: Knowledge/Understanding
OBJ: Section 10.2 STO: DMP-7m86 TOP: Data Management and Probability
KEY: Measure of Central Tendency

16. ANS: C DIF: Level 3 REF: Application OBJ: Section 10.2
STO: DMP-7m87 TOP: Data Management and Probability KEY: Measure of Central Tendency

17. ANS: B DIF: Level 3 REF: Thinking/Inquiry/Problem Solving
OBJ: Section 10.2 STO: DMP-7m86 TOP: Data Management and Probability
KEY: Measure of Central Tendency

18. ANS: A DIF: Level 3 REF: Thinking/Inquiry/Problem Solving
OBJ: Section 10.2 STO: DMP-7m87 TOP: Data Management and Probability
KEY: Measure of Central Tendency

19. ANS: C DIF: Level 2 REF: Thinking/Inquiry/Problem Solving
OBJ: Section 10.3 STO: DMP-7m82 TOP: Data Management and Probability
KEY: Bias

20. ANS: D DIF: Level 3 REF: Knowledge/Understanding
OBJ: Section 10.4 STO: DMP-7m86 TOP: Data Management and Probability
KEY: Misleading Information

21. ANS: C DIF: Level 3 REF: Application OBJ: Section 10.4
STO: DMP-7m86 TOP: Data Management and Probability KEY: Misleading Information

COMPLETION

22. ANS: average

DIF: Level 2 REF: Knowledge/Understanding OBJ: Section 10.2
STO: DMP-7m86 TOP: Data Management and Probability KEY: Measure of Central Tendency

23. ANS: emphasize

DIF: Level 2 REF: Communication OBJ: Section 10.3
STO: DMP-7m82 TOP: Data Management and Probability KEY: Bias

24. ANS: exaggerate

DIF: Level 2 REF: Communication OBJ: Section 10.4
STO: DMP-7m82 TOP: Data Management and Probability KEY: Misleading Graph

MATCHING

25. ANS: E DIF: Level 3 REF: Knowledge/Understanding
OBJ: Section 10.1 STO: DMP-7m81 TOP: Data Management and Probability
KEY: Displaying Data
26. ANS: C DIF: Level 3 REF: Knowledge/Understanding
OBJ: Section 10.1 STO: DMP-7m81 TOP: Data Management and Probability
KEY: Displaying Data
27. ANS: D DIF: Level 3 REF: Knowledge/Understanding
OBJ: Section 10.1 STO: DMP-7m81 TOP: Data Management and Probability
KEY: Displaying Data

SHORT ANSWER

28. ANS:

$$= \frac{8+4+12+5+9+10}{6}$$

$$= \frac{48}{6}$$

$$= 8$$

The mean is 8.

DIF: Level 2 REF: Application OBJ: Section 10.2 STO: DMP-7m86
TOP: Data Management and Probability KEY: Measure of Central Tendency

29. ANS:
Arrange the numbers from smallest to largest.
145 156 186 187 187 189 198 198 198 198
The mode is 198.

DIF: Level 2 REF: Application OBJ: Section 10.2 STO: DMP-7m86
TOP: Data Management and Probability KEY: Measure of Central Tendency

30. ANS:
Arrange the numbers from smallest to largest.
6 8 12 19 23 24 56
The median is 19.

DIF: Level 3 REF: Application OBJ: Section 10.2 STO: DMP-7m86
TOP: Data Management and Probability KEY: Measure of Central Tendency

31. ANS:

$$= \frac{5+3+4+0+6+2+1+7}{8}$$

$$= \frac{28}{8}$$

$$= 3.5$$

The average number of goals scored is 3.5.

DIF: Level 3 REF: Thinking/Inquiry/Problem Solving OBJ: Section 10.2
STO: DMP-7m87 TOP: Data Management and Probability KEY: Measure of Central Tendency

32. ANS:

a) $= \frac{175 + 178 + 156 + 145 + 167}{5}$

$= \frac{821}{5}$

$= 164.2$

The mean height of the five students is 164.2 cm.

b) Arrange the data from smallest to largest.
145 cm 156 cm 167 cm 175 cm 178 cm
The median height of the five students is 167 cm.

DIF: Level 4 REF: Thinking/Inquiry/Problem Solving OBJ: Section 10.2
STO: DMP-7m87 TOP: Data Management and Probability KEY: Measure of Central Tendency

33. ANS:

$\frac{(13 \times 4) + (11 \times 6)}{10}$

$= \frac{118}{10}$

$= 11.8$

The mean age is 11.8.

DIF: Level 4 REF: Thinking/Inquiry/Problem Solving OBJ: Section 10.2
STO: DMP-7m87 TOP: Data Management and Probability KEY: Measure of Central Tendency

34. ANS:
Responses will vary. A possible answer includes:
The graph gives the impression that Restaurant A sells more than twice (almost four times) the number of burgers that Restaurant B sells.

DIF: Level 3 REF: Knowledge/Understanding OBJ: Section 10.4
STO: DMP-7m81 TOP: Data Management and Probability KEY: Misleading Information

PROBLEM

35. ANS:
a) Three brand names start with the letter "s."
b) Two TVs are being sold for more than $800.
c) Samsung
d) Sony, Sharp, and Panasonic
e) Sharp
f) $\frac{598 + 698 + 834 + 130 + 239 + 456 + 789 + 1456}{8}$

$= \frac{5200}{8}$

$= 650$

The mean price for all the eight TVs is $650.

DIF: Level 3 REF: Knowledge/Understanding OBJ: Section 10.2
STO: DMP-7m87 TOP: Data Management and Probability
KEY: Analysing Data, Measure of Central Tendency