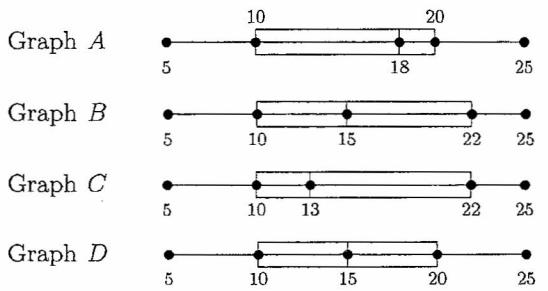
Proficiency Practice

Data Analysis

1. Four box and whisker graphs are shown in the figure. Which graph is from the data set with the highest median?

a) Graph A b) Graph B

c) Graph C d) Graph D



2. The box-and-whisker plot below represents which of the following stem-and-leaf plots?

a)

stem	leaf
2	0
1	1 3 8
0	2 4

b)

stem	leaf
2	0
1	1 8
0	2 4

c)

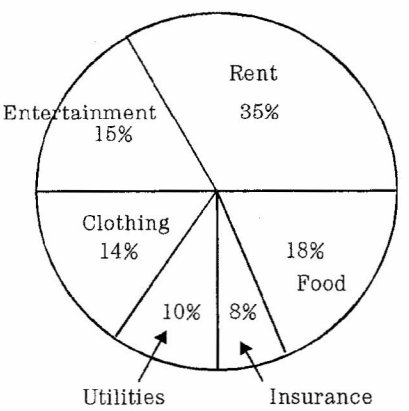
stem	leaf
2	0 0
1	0 2 8 8
0	2 4 4 6

d)

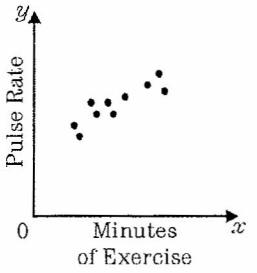
stem	leaf
2	2 4 4 6
1	0 2 8 8
0	0 0

3. The circle graph represents Lisa's expenses for last year. If her total expenses were \$25,000, how much did she spend on rent and utilities?

a) 8,750 b) 3,500 c) 11,250 d) 2,500



4. A study was performed relating minutes of exercise to pulse rate and the following scatterplot was drawn. According to the data, which of the following is a reasonable conclusion?



a) As minutes of exercise increase, the pulse rate remains the same

b) As minutes of exercise increase, the pulse rate increases

c) As minutes of exercise increase, the pulse rate decreases

d) There is no correlation between minutes of exercise and pulse rate.

5. The results of a math contest are shown in the stem-and-leaf plot. Which statement is *true* about the results?

7	0, 0, 3, 5, 7, 8
6	1, 1, 1, 2, 2, 5, 8
5	4, 7, 7
4	6, 6, 9
3	2, 6

a) The mean is 57, the median is 61, and the mode is 61.

b) The mean is 60, the median is 61, and the mode is 61.

c) The mean is 61.5, the median is 61.5, and the mode is 78.

d) The mean is 62.5, the median is 62.5, and the mode is 32.

6. If two cards are drawn from a standard deck of 52 cards without replacement, what is the probability that both cards are fives?

a) $\frac{2}{52}$ b) $\frac{4}{52} \cdot \frac{3}{51}$ c) $\frac{1}{4} \cdot \frac{1}{3}$ d) $\frac{5}{52} \cdot \frac{4}{51}$

7. Rudy drove 112 miles. He spend \$4.52 on gasoline. Which of the following can be determined from the given information?

a) capacity of the gas tank

b) miles traveled per gallon

c) number of days traveled

d) price of gasoline per mile traveled

8. Ye Olde Ice Cream Shoppe offers a variety of ice cream flavors and toppings as shown in the table. How many different sundaes can be made consisting of 1 flavor of ice cream and 2 toppings?

a) 100 b) 80 c) 60 d) 20

Ye Olde Ice Cream Shoppe	
Flavor	*Topping*
banana	nuts
chocolate	fudge
peach	candies
strawberry	fruit
vanilla	

9. Bubba is 14 years old. Most of the other students in his class are 12 years old. How does his age affect the mean and median ages for the entire class?

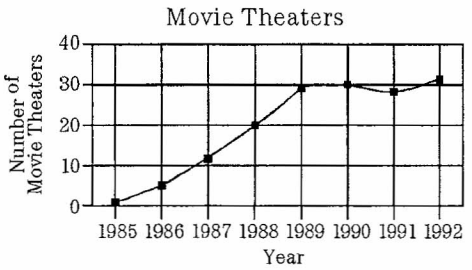
a) The mean is affected more.

b) The median is affected more.

c) The effect is about the same.

d) A median should not be computed for age.

10. The graph shows the total number of movie theatres in Central County for the years 1985 to 1992. Which statement is a valid inference from this graph?



a) There were no movie theatres in 1975.

b) The movie theatre industry in Central County enjoyed steady growth from 1986 to 1989.

c) The number of movie theatres in 1987 equaled the number of movie theatres in 1990.

d) The change from 1987 to 1988 was less than the change from 1985 to 1986.

11. At the start of the season, Erica's average for the first six basketball games was 15 points per game. If she had scored 12, 16, 17, 18, and 13 points in five of the games, what did she score in the sixth game to keep her average?

a) 12 b) 14 c) 16 d) 20

12. A box of doughnuts contains 4 cake doughnuts, 6 glazed doughnuts, 6 chocolate filled and 4 jelly doughnuts. What is the probability of getting a chocolate-filled doughnut, eating it, and then getting a glazed doughnut?

a) $\frac{9}{95}$ b) $\frac{19}{95}$ c) $\frac{9}{19}$ d) $\frac{9}{10}$

13. After the third algebra test, Ayesha figured that her average was already 78. What score will she need to get on the fourth test to raise her average to 80?

a) 80 b) 82 c) 84 d) 86

14. Jill needs an average of 90 points to receive the grade she wants on her report card. She has a total of 348 points for the four tests she has taken. Which equation could be used to find P, the number of points she must score on her fifth test to get the average she wants.

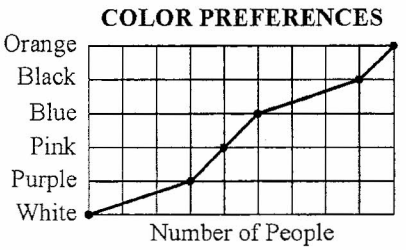
a) $\frac{348+P}{5}=90$ b) $\frac{348-P}{3}=90$ c) $\frac{348+P}{2}=90$ d) $\frac{348-P}{6}=90$

15. Kizzy and Ykelle conducted a survey of ten friends to find out favorite colors. The responses were as follows: White, Purple, Pink, Purple, Blue, Black, Purple, Black, Orange, Black. Which format presents Kizzy's and Yakelle's data *most* appropriately?

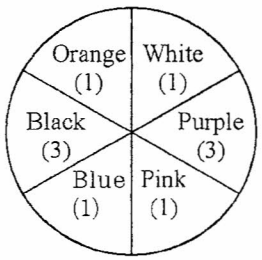
a)

Color	*Number*
White Purple Pink	𝍸
Blue Black Orange	𝍸

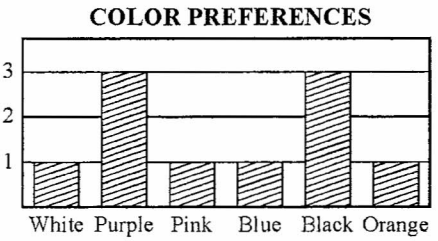
b)



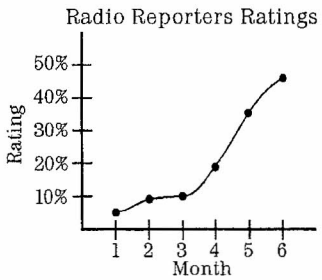
c)



d)



16. This graph shows a radio reporter's ratings over a 6-month period. Which of the following *cannot* be answered by this graph?



a) By what percentage did the ratings increase from Month 2 to 3?

b) Between which two months did the ratings increase the most?

c) In which month was the rating the highest?

d) What were the ratings in the 7th month?

17. Which type of data does a scatterplot present *most* appropriately?

a) categorical data

b) data involving large numbers

c) data involving two variables

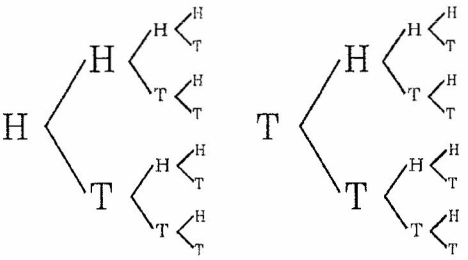
d) data involving very small numbers

18. A student was early to class 18 times out of the 20 times the class met. Based on that rate, what is the probability the student will be early to the *next* class meeting?

a) 2% b) 9% c) 18% d) 90%

19. If a fair coin is tossed 4 times, the possible outcomes are given by the two diagrams shown. What is the total number of possible outcomes of this experiment?

a) 8 b) 12 c) 15 d) 16



20. The basketball team is choosing new uniforms. The possible choices are listed. How many possible choices are there?

Style	Color	Emble
long sleeve	red	front
short sleeve	white	back
tank	blue	both

a) 3 b) 9 c) 18 d) 27

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Answer List

1. a	2. b	3. c
4. b	5. b	6. b
7. d	8. c	9. a
10. b	11. b	12. a
13. d	14. a	15. d
16. d	17. c	18. d
19. d	20. d	

Catalog List

1. NV1 OA 1	2. NV1 OA 22	3. NV1 OA 5
4. NV1 OA 12	5. NV1 OA 32	6. NV1 OB 15
7. NC5 CE 29	8. NV1 OC 8	9. NV1 OD 14
10. NV1 OE 8	11. OH1 DD 20	12. OH1 DB 37
13. CA1 AH 35	14. CA1 AH 46	15. NC5 CF 14
16. NC5 CE 30	17. NC5 CF 11	18. NC5 CF 16
19. CA1 AJ 3	20. NV1 EC 3	