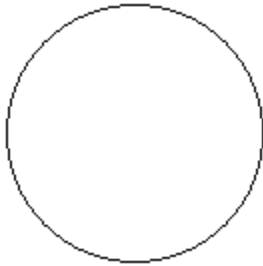


**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

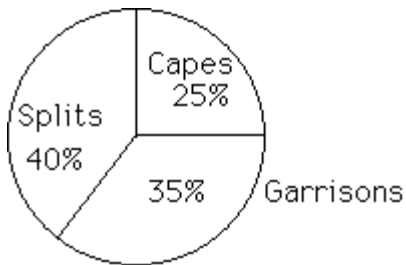
**Construct a pie chart representing the given data set.**

1) The following data give the distribution of the types of houses in a town containing 50,000 houses. 1) \_\_\_\_\_

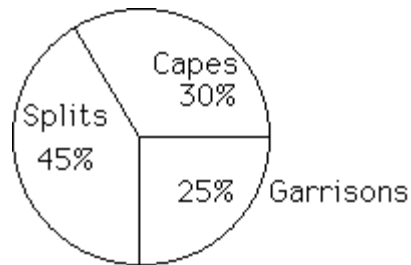
Capes	Garrisons	Splits
12,500	17,500	20,000



A)

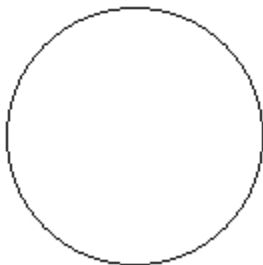


B)

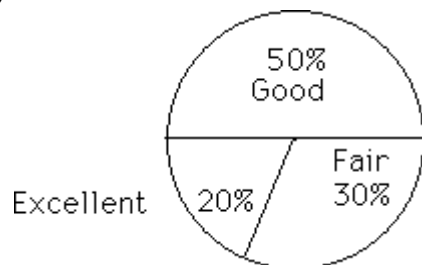


2) After reviewing a movie, 900 people rated the movie as excellent, good, or fair. The following data give the rating distribution. 2) \_\_\_\_\_

Excellent	Good	Fair
180	450	270



A)

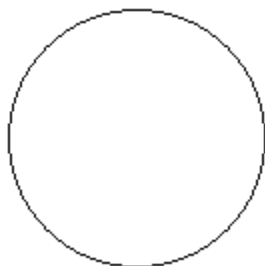


B)

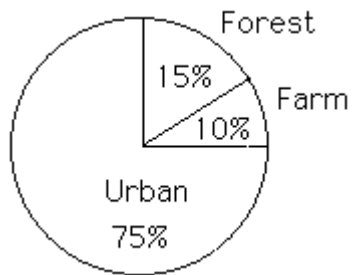


3) The following figures give the distribution of land (in acres) for a county containing 66,000 acres. 3) \_\_\_\_\_

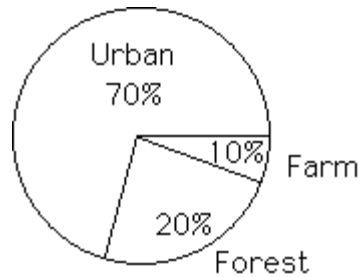
Forest 9900  
 Farm 6600  
 Urban 49,500



A)



B)



Construct the cumulative frequency distribution that corresponds to the given frequency distribution.

4) \_\_\_\_\_

Speed	Number of cars
0-29	4
30-59	16
60-89	60
90-119	20

A)

Speed	Cumulative Frequency
Less than 30	100
Less than 60	80
Less than 90	82
Less than 120	4

B)

Speed	Cumulative Frequency
0-29	4
30-59	20
60-89	80
90-119	100

C)

Speed	Cumulative Frequency
Less than 30	0.04
Less than 60	0.20
Less than 90	0.80
Less than 120	1.00

D)

Speed	Cumulative Frequency
Less than 30	4
Less than 60	20
Less than 90	80
Less than 120	100

5)

Weight (oz)	Number of Stones
1.2-1.6	5
1.7-2.1	2
2.2-2.6	5
2.7-3.1	5
3.2-3.6	13

5) \_\_\_\_\_

A)

Weight (oz)	Cumulative Frequency
Less than 1.7	5
Less than 2.2	7
Less than 2.7	12
Less than 3.2	17
Less than 3.7	28

B)

Weight (oz)	Cumulative Frequency
1.2-1.6	5
1.7-2.1	7
2.2-2.6	12
2.7-3.1	17
3.2-3.6	30

C)

Weight (oz)	Cumulative Frequency
Less than 1.7	5
Less than 2.2	7
Less than 2.7	12
Less than 3.2	17
Less than 3.7	30

D)

Weight (oz)	Cumulative Frequency
Less than 2.2	7
Less than 3.2	17
Less than 3.7	30

6)

Height (inches)	Frequency
69.0 - 71.9	16
72.0 - 74.9	22
75.0 - 77.9	15
78.0 - 80.9	14
81.0 - 83.9	13

6) \_\_\_\_\_

A)

Height (inches)	Cumulative Frequency
69.0 - 71.9	16
72.0 - 74.9	38
75.0 - 77.9	53
78.0 - 80.9	67
81.0 - 83.9	80

B)

Height (inches)	Cumulative Frequency
Less than 72.0	38
Less than 75.0	53
Less than 78.0	67
Less than 81.0	80
Less than 84.0	93

C)

Height (inches)	Cumulative Frequency
Less than 72.0	0.200
Less than 75.0	0.275
Less than 78.0	0.188
Less than 81.0	0.175
Less than 84.0	0.163

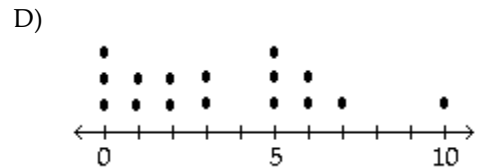
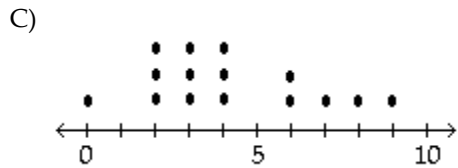
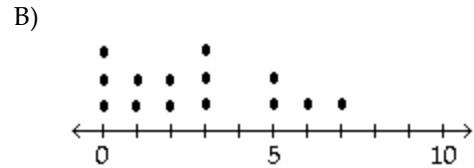
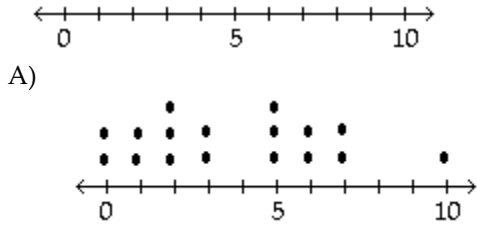
D)

Height (inches)	Cumulative Frequency
Less than 72.0	16
Less than 75.0	38
Less than 78.0	53
Less than 81.0	67
Less than 84.0	80

**Construct the dotplot for the given data.**

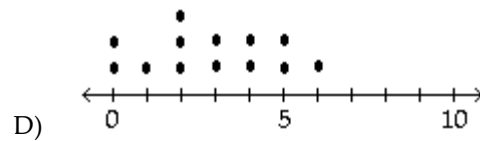
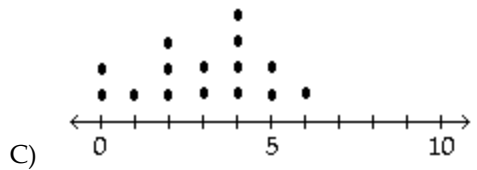
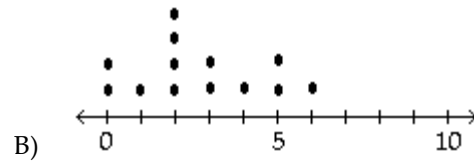
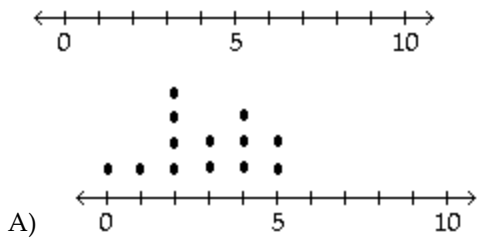
7) Attendance records at a school show the number of days each student was absent during the year. 7) \_\_\_\_\_  
 The days absent for each student were as follows.

0 2 3 4 2 3 4 6 7 2 3 4 6 9 8



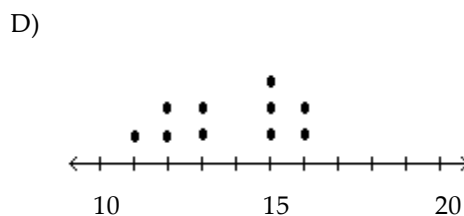
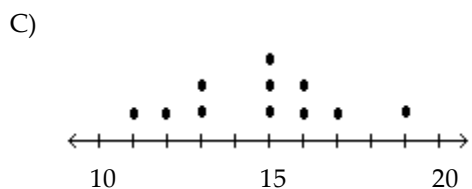
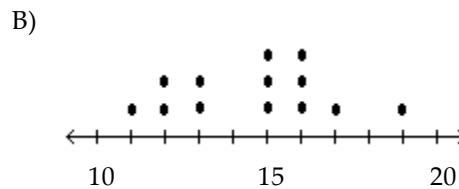
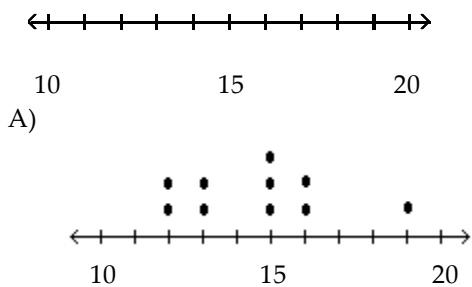
8) A manufacturer records the number of errors each work station makes during the week. The data are as follows. 8) \_\_\_\_\_

6 3 2 3 5 2 0 2 5 4 2 0 1



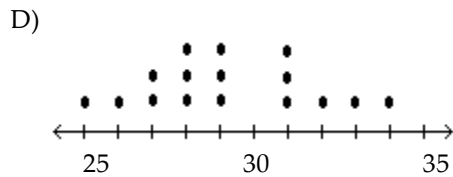
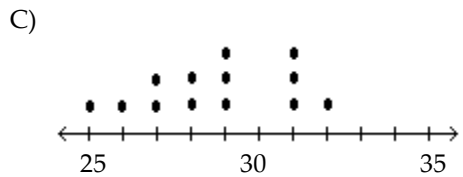
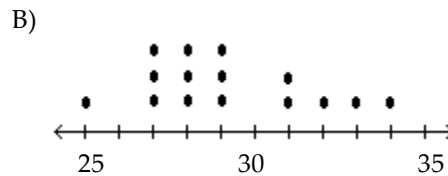
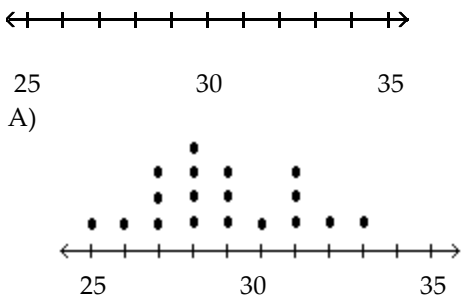
9) A store manager counts the number of customers who make a purchase in his store each day. The data are as follows. 9) \_\_\_\_\_

15 16 13 19 12 15 15 16 13 12



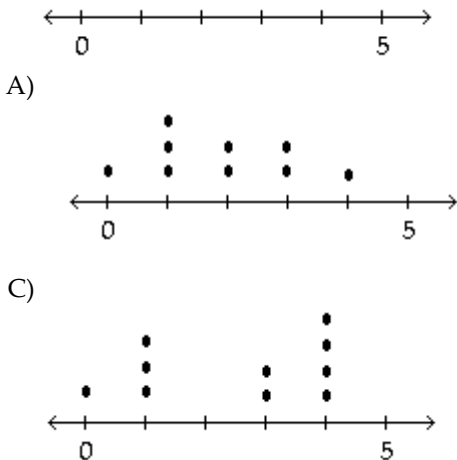
10) The following data represent the number of cars passing through a toll booth during a certain time period over a number of days. 10) \_\_\_\_\_

28 29 27 27 34 28 31 28 29 25 32 29 33 27 31



11) The frequency chart shows the distribution of defects for the machines used to produce a product. 11) \_\_\_\_\_

Defects	Frequency
0	1
1	3
2	0
3	2
4	4
5	0



**Provide an appropriate response.**

12) The following frequency distribution analyzes the scores on a math test. Find the class boundaries of scores interval 40-59. 12) \_\_\_\_\_

Scores	Number of students
40-59	2
60-75	4
76-82	6
83-94	15
95-99	5

- A) 39.5, 59.5      B) 39.5, 58.5      C) 40.5, 59.5      D) 40.5, 58.5

13) The following frequency distribution analyzes the scores on a math test. Find the class midpoint of scores interval 40-59. 13) \_\_\_\_\_

Scores	Number of students
40-59	2
60-75	4
76-82	6
83-94	15
95-99	5

- A) 50.5      B) 49.0      C) 48.5      D) 49.5

- 14) The following frequency distribution analyzes the scores on a math test. Find the class boundaries of scores interval 95–99. 14) \_\_\_\_\_

Scores	Number of students
40–59	2
60–75	4
76–82	6
83–94	15
95–99	5

- A) 95.5, 99.5                      B) 94.5, 100.5                      C) 95.5, 100.5                      D) 94.5, 99.5

- 15) The following frequency distribution analyzes the scores on a math test. Find the class midpoint of scores interval 95–99. 15) \_\_\_\_\_

Scores	Number of students
40–59	2
60–75	4
76–82	6
83–94	15
95–99	5

- A) 97.5                      B) 97.0                      C) 98.0                      D) 96.5

- 16) The frequency distribution below summarizes employee years of service for Alpha Corporation. Determine the width of each class. 16) \_\_\_\_\_

Years of service	Frequency
1–5	5
6–10	20
11–15	25
16–20	10
21–25	5
26–30	3

- A) 5                      B) 10                      C) 4                      D) 6

- 17) The frequency distribution below summarizes employee years of service for Alpha Corporation. Find the class midpoint for class 1–5. 17) \_\_\_\_\_

Years of service	Frequency
1–5	5
6–10	20
11–15	25
16–20	10
21–25	5
26–30	3

- A) 2.5                      B) 3.5                      C) 3.0                      D) 5.0

- 18) The frequency distribution below summarizes employee years of service for Alpha Corporation. Find the class boundaries for class 26–30. 18) \_\_\_\_\_

Years of service	Frequency
1–5	5
6–10	20
11–15	25
16–20	10
21–25	5
26–30	3

- A) 26.5, 29.5                      B) 25.5, 30.5                      C) 25.5, 20.5                      D) 26.5, 30.5

- 19) The frequency distribution below summarizes the home sale prices in the city of Summerhill for the month of June. Determine the width of each class. 19) \_\_\_\_\_

(Sale price in thousand \$)	Frequency
80.0 – 110.9	2
111.0 – 141.9	5
142.0 – 172.9	7
173.0 – 203.9	10
204.0 – 234.9	3
235.0 – 265.9	1

- A) 30                                      B) 28                                      C) 61                                      D) 31

- 20) The frequency distribution below summarizes the home sale prices in the city of Summerhill for the month of June. Determine the class midpoint for class 235.0–265.9. 20) \_\_\_\_\_

(Sale price in thousand \$)	Frequency
80.0 – 110.9	2
111.0 – 141.9	5
142.0 – 172.9	7
173.0 – 203.9	10
204.0 – 234.9	3
235.0 – 265.9	1

- A) 250.40                                      B) 250.50                                      C) 250.55                                      D) 250.45

- 21) The frequency distribution below summarizes the home sale prices in the city of Summerhill for the month of June. Find the class boundaries for class 80.0–110.9. 21) \_\_\_\_\_

(Sale price in thousand \$)	Frequency
80.0 – 110.9	2
111.0 – 141.9	5
142.0 – 172.9	7
173.0 – 203.9	10
204.0 – 234.9	3
235.0 – 265.9	1

- A) 79.90, 110.95                      B) 79.95, 110.95                      C) 80.00, 110.95                      D) 79.90, 111.0



22) The frequency distribution for the weekly incomes of students with part-time jobs is given below. 22) \_\_\_\_\_  
 Construct the corresponding relative frequency distribution. Round relative frequencies to the nearest hundredth of a percent if necessary.

Income (\$)	Frequency
200-300	55
301-400	70
401-500	73
501-600	68
More than 600	10

A)

Income (\$)	Relative Frequency
201-300	15.5%
301-400	22.1%
401-500	31.3%
501-600	16.2%
More than 600	14.9%

C)

Income (\$)	Relative Frequency
200-300	19.93%
301-400	25.36%
401-500	26.45%
501-600	24.64%
More than 600	3.62%

B)

Income (\$)	Relative Frequency
200-300	12.5%
301-400	20.1%
401-500	37.3%
501-600	15.2%
More than 600	14.9%

D)

Income (\$)	Relative Frequency
200-300	25.98%
301-400	24.91%
401-500	3.65%
501-600	19.64%
More than 600	26.07%

23) The scores on a recent statistics test are given in the frequency distribution below. Construct the corresponding relative frequency distribution. Round relative frequencies to the nearest hundredth of a percent if necessary.

23) \_\_\_\_\_

Scores	Frequency
0-60	3
61-70	10
71-80	11
81-90	4
91-100	1

A)

Scores	Relative Frequency
0-60	15.5%
61-70	22.1%
71-80	31.3%
81-90	16.2%
91-100	14.9%

B)

Scores	Relative Frequency
0-60	12.5%
61-70	20.1%
71-80	37.3%
81-90	15.2%
91-100	14.9%

C)

Scores	Relative Frequency
0-60	0.21%
61-70	0.24%
71-80	0.55%
81-90	0.03%
91-100	-0.03%

D)

Scores	Relative Frequency
0-60	10.34%
61-70	34.48%
71-80	37.93%
81-90	13.79%
91-100	3.45%

24) Sturges' guideline suggests that when constructing a frequency distribution, the ideal number of classes can be approximated by  $1 + (\log n)/(\log 2)$ , where  $n$  is the number of data values. Use this guideline to find the ideal number of classes when the number of data values is 148.

24) \_\_\_\_\_

A) 9

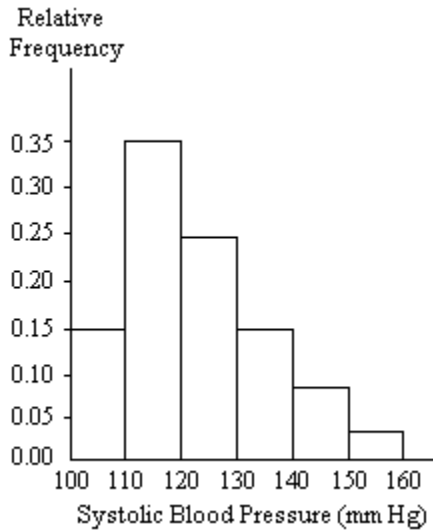
B) 8

C) 7

D) 10

25) A nurse measured the blood pressure of each person who visited her clinic. Following is a relative-frequency histogram for the systolic blood pressure readings for those people aged between 25 and 40. The blood pressure readings were given to the nearest whole number. Approximately what percentage of the people aged 25–40 had a systolic blood pressure reading between 110 and 119 inclusive?

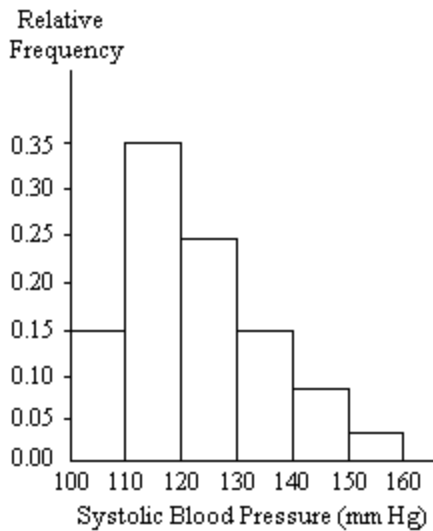
25) \_\_\_\_\_



- A) 30%                                      B) 35%                                      C) 0.35%                                      D) 3.5%

26) A nurse measured the blood pressure of each person who visited her clinic. Following is a relative-frequency histogram for the systolic blood pressure readings for those people aged between 25 and 40. The blood pressure readings were given to the nearest whole number. Approximately what percentage of the people aged 25–40 had a systolic blood pressure reading between 110 and 139 inclusive?

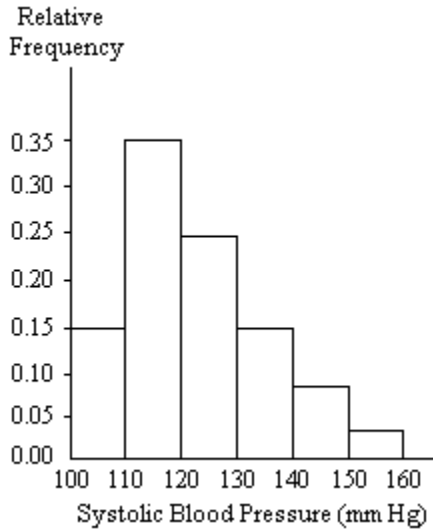
26) \_\_\_\_\_



- A) 89%                                      B) 39%                                      C) 75%                                      D) 59%

27) A nurse measured the blood pressure of each person who visited her clinic. Following is a relative-frequency histogram for the systolic blood pressure readings for those people aged between 25 and 40. The blood pressure readings were given to the nearest whole number. What class width was used to construct the relative frequency distribution?

27) \_\_\_\_\_



A) 10

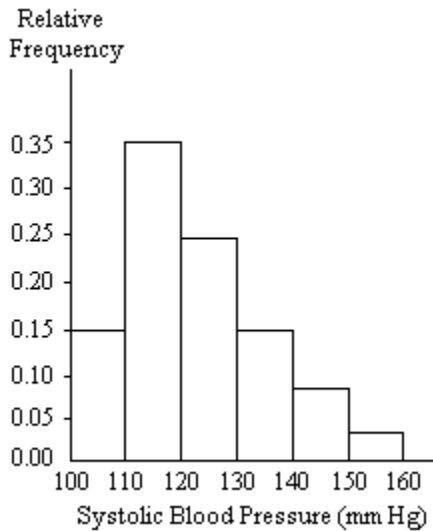
B) 11

C) 100

D) 9

28) A nurse measured the blood pressure of each person who visited her clinic. Following is a relative-frequency histogram for the systolic blood pressure readings for those people aged between 25 and 40. The blood pressure readings were given to the nearest whole number. Identify the center of the third class.

28) \_\_\_\_\_



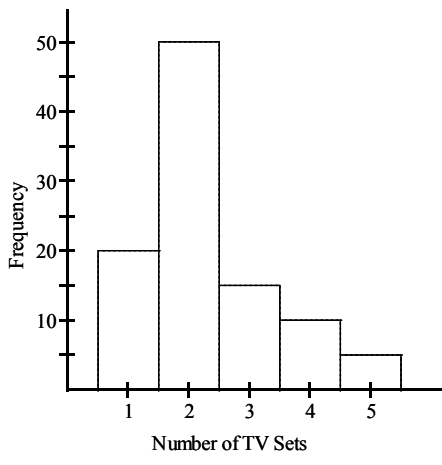
A) 125

B) 130

C) 124

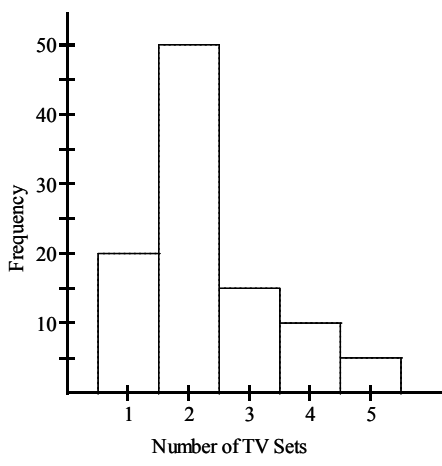
D) 120

29) The histogram below represents the number of television sets per household for a sample of U.S. households. How many households are included in the histogram? 29) \_\_\_\_\_



- A) 100                      B) 90                      C) 110                      D) 95

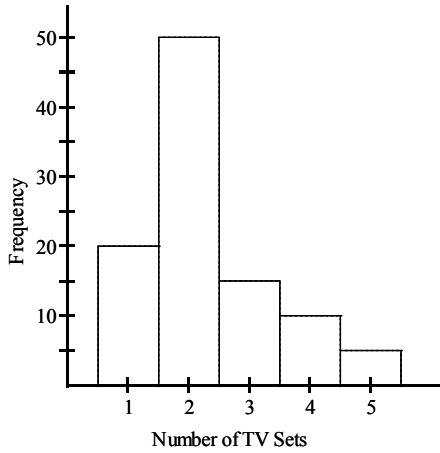
30) The histogram below represents the number of television sets per household for a sample of U.S. households. What is the class width? 30) \_\_\_\_\_



- A) 0.5                      B) 1                      C) 5                      D) 2

31) The histogram below represents the number of television sets per household for a sample of U.S. households. What is the maximum number of households having the same number of television sets?

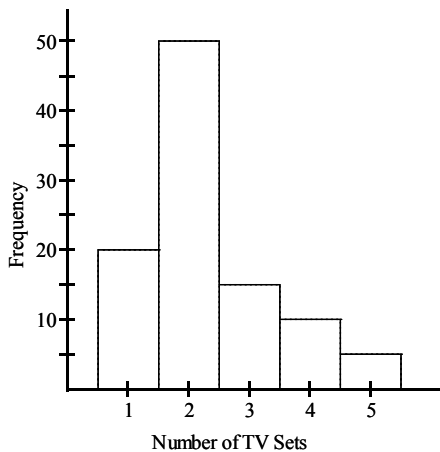
31) \_\_\_\_\_



- A) 25                                      B) 100                                      C) 50                                      D) 20

32) The histogram below represents the number of television sets per household for a sample of U.S. households. What is the minimum number of households having the same number of television sets?

32) \_\_\_\_\_

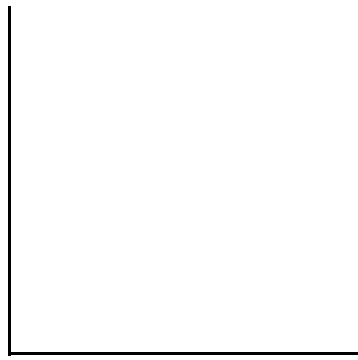


- A) 1    B) 20    C) 100    D) 5

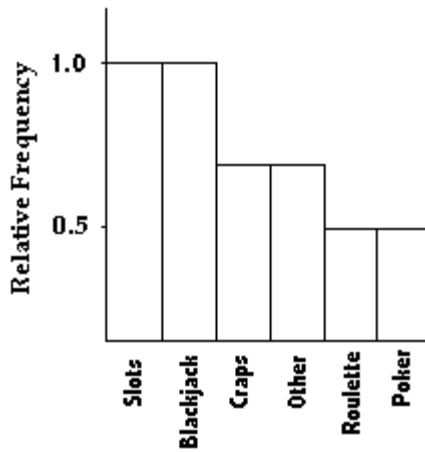
**Solve the problem.**

33) 200 casino patrons, were interviewed as they left the casino. 60 of them said they spent most of the time playing the slots. 60 of them said they played blackjack. 30 said they played craps. 10 said roulette. 10 said poker. The rest were not sure what they played the most. Construct a Pareto chart to depict the gaming practices of the group of casino goers. Choose the vertical scale so that the relative frequencies are represented.

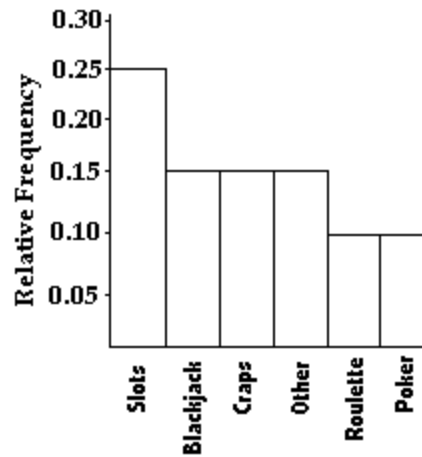
33) \_\_\_\_\_



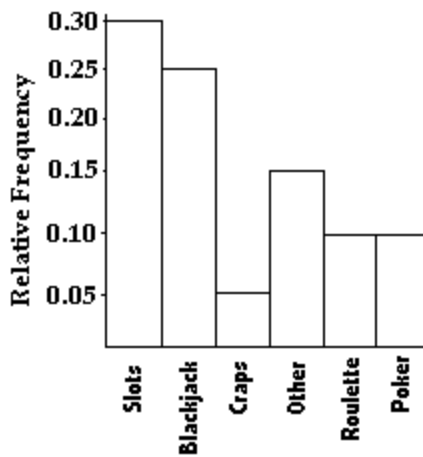
A)



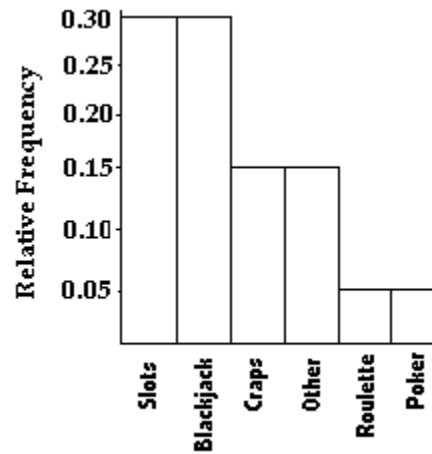
B)



C)

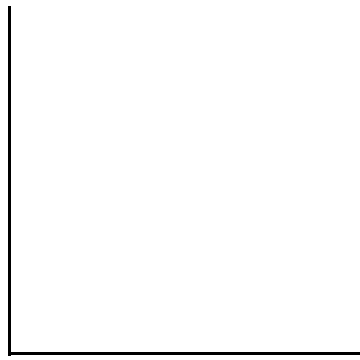


D)

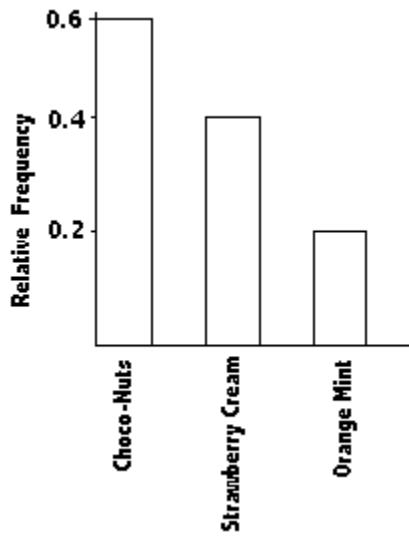


34) Wagenlucht Ice Cream Company is always trying to create new flavors of ice cream. They are market testing three kinds to find out which one has the best chance of becoming popular. They give small samples of each to 50 people at a grocery store. 10 ice cream tasters preferred the Strawberry Cream, 30 preferred Choco-Nuts, and 10 loved the Orange Mint. Construct a Pareto chart to represent these preferences. Choose the vertical scale so that the relative frequencies are represented.

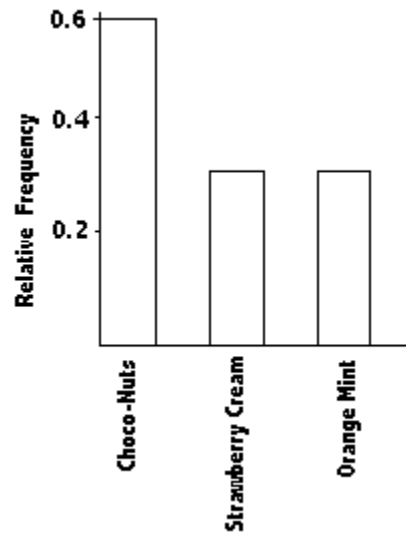
34) \_\_\_\_\_



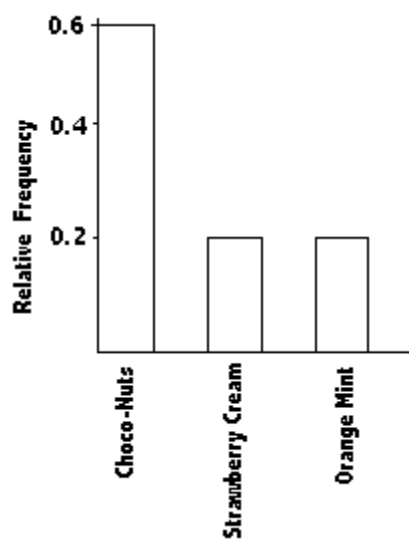
A)



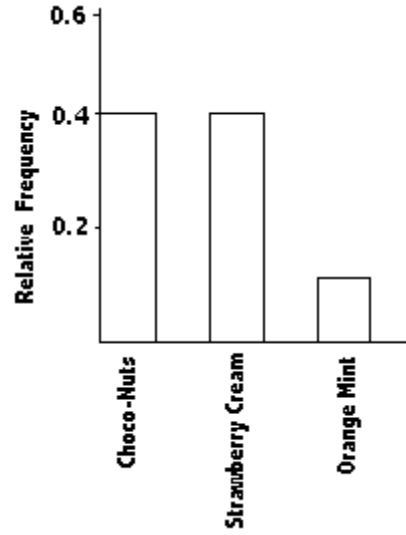
B)



C)

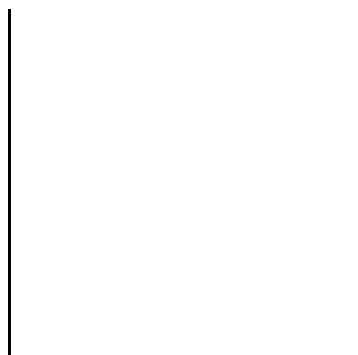


D)

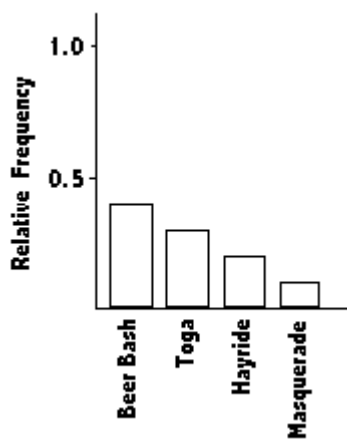




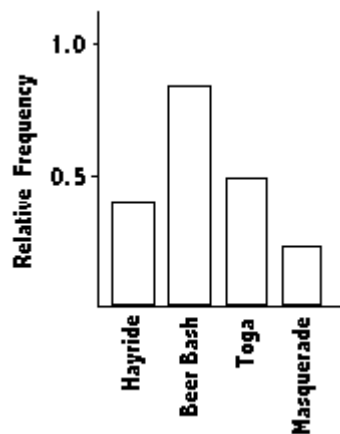
35) The Kappa Iota Sigma Fraternity polled its members on the weekend party theme. The vote was as follows: six for toga, four for hayride, eight for beer bash, and two for masquerade. Display the vote count in a Pareto chart. 35) \_\_\_\_\_



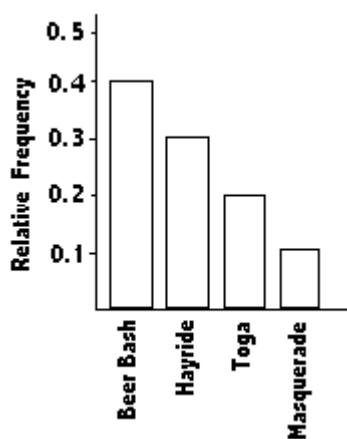
A)



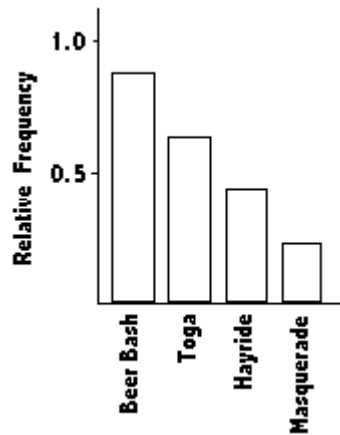
B)



C)



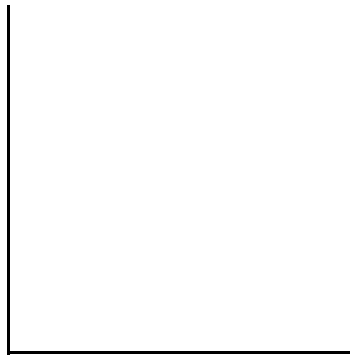
D)



36) At the National Criminologists Association's annual convention, participants filled out a questionnaire asking what they thought was the most important cause for criminal behavior. The tally was as follows.

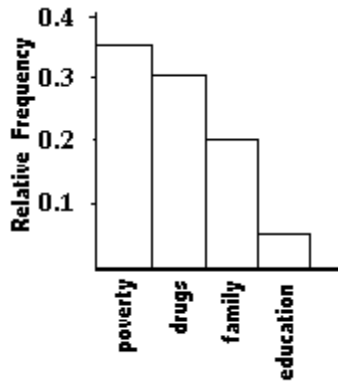
36) \_\_\_\_\_

Cause	Frequency
education	42.4
drugs	127.2
family	84.8
poverty	148.4
other	21.2

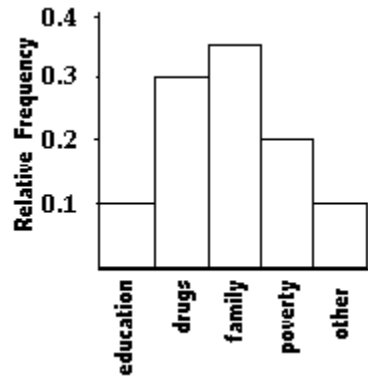


Construct a Pareto chart to display these findings.

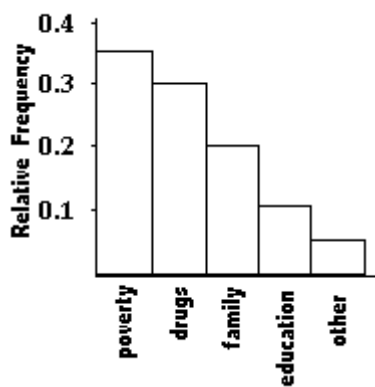
A)



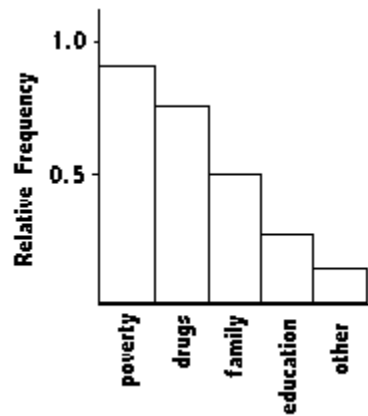
B)



C)



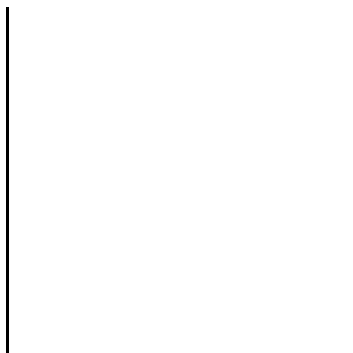
D)



37) A car dealer is deciding what kinds of vehicles he should order from the factory. He looks at his sales report for the preceding period. Choose the vertical scale so that the relative frequencies are represented.

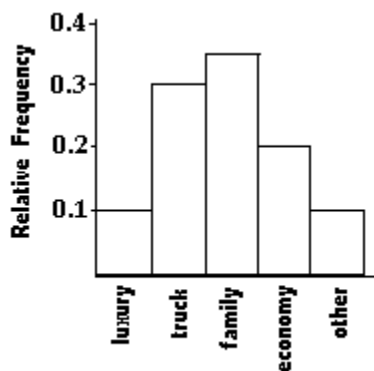
37) \_\_\_\_\_

Vehicle	Sales
Economy	6
Sports	1.5
Family	10.5
Luxury	3
Truck	9

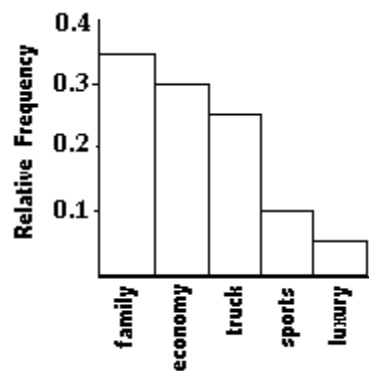


Construct a Pareto chart to help him decide.

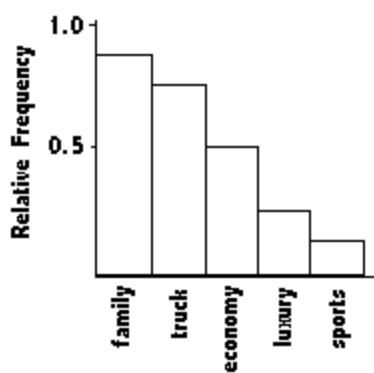
A)



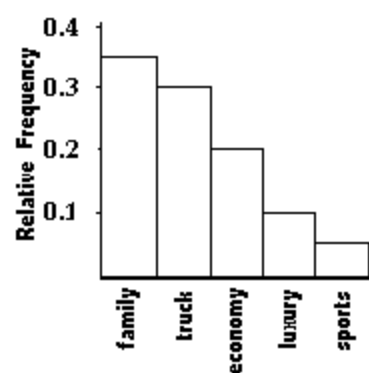
B)



C)



D)



**Use the data to create a stemplot.**

38) The following data show the number of laps run by each participant in a marathon. 38) \_\_\_\_\_

46 65 55 43 51 48 57 30 43 49 32 56

A)

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

B)

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

39) The midterm test scores for the seventh-period typing class are listed below. 39) \_\_\_\_\_

85 77 93 91 74 65 68 97 88 59 74 83 85 72 63 79

A)

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

B)

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

40) The attendance counts for this season's basketball games are listed below. 40) \_\_\_\_\_

227 239 215 219  
221 233 229 233  
235 228 245 231

A)

21	5 9
22	1 7 8 9
23	1 3 3 5 9
24	5

B)

21	5 7 9
22	1 8 9
23	1 3 3 5 9
24	5

41) The weights of 22 members of the varsity football team are listed below. 41) \_\_\_\_\_

144 152 142 151 160 152 131 164 141 153 140  
144 175 156 147 133 172 159 135 159 148 171

A)

13	1 3 5
14	0 1 2 4 4 7 8
15	1 2 2 3 6 9 9
16	0 4
17	1 2 5

B)

13	1 3 5
14	1 2 2 3 6 9 9
15	0 1 2 4 4 7 8
16	0 4
17	1 2 5

42) Twenty-four workers were surveyed about how long it takes them to travel to work each day. The data below are given in minutes. 42) \_\_\_\_\_

20 35 42 52 65 20 60 49 24 37 23 24  
22 20 41 25 28 27 50 47 58 30 32 48

A)

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

B)

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

43) The ages of the 45 members of a track and field team are listed below. Construct an expanded stemplot with about 8 rows.

21 18 42 35 32 21 44 25 38 48 14 19 23 22 28  
 32 34 27 31 17 16 41 37 22 24 33 32 21 26 30  
 22 27 32 30 20 18 17 21 15 26 36 31 40 16 25

A)

```

1 | 4 5
1 | 5 6 6 7 7 8 8 9
2 | 0 1 1 1 1 2 2 2 3 4 5 5
2 | 5 5 6 6 7 7 8
3 | 0 0 1 1 2 2 2 2 3 4 5
3 | 5 6 7 8
4 | 0 1 2 4
4 | 8
    
```

B)

```

1 | 4
1 | 5 6 6 7 7 8 8 9
2 | 0 1 1 1 1 2 2 2 3 4
2 | 5 5 6 6 7 7 8
3 | 0 0 1 1 2 2 2 2 3 4
3 | 5 6 7 8
4 | 0 1 2 4
4 | 8
    
```

43) \_\_\_\_\_

44) The normal monthly precipitation (in inches) for August is listed for 39 different U.S. cities. Construct an expanded stemplot with about 9 rows.

3.5 1.6 2.4 3.7 4.1 3.9 1.0 3.6 1.7 0.4 3.2 4.2 4.1  
 4.2 3.4 3.7 2.2 1.5 4.2 3.4 2.7 4.0 2.0 0.8 3.6 3.7  
 0.4 3.7 2.0 3.6 3.8 1.2 4.0 3.1 0.5 3.9 0.1 3.5 3.4

A)

```

0. | 0 1 4 4
0. | 5 8
1. | 0 2
1. | 5 6 7
2. | 0 0 2 4
2. | 7 7 7
3. | 1 2 4 4 4
3. | 5 5 6 6 6 7 7 8 9
4. | 0 0 1 1 2 2 2
    
```

B)

```

0. | 1 4 4
0. | 5 8
1. | 0 2
1. | 5 6 7
2. | 0 0 2 4
2. | 7
3. | 1 2 4 4 4
3. | 5 5 6 6 6 7 7 7 8 9 9
4. | 0 0 1 1 2 2 2
    
```

44) \_\_\_\_\_

45) The following data consists of the weights (in pounds) of 15 randomly selected women and the weights of 15 randomly selected men. Construct a back-to-back stemplot for the data.

Women: 128 150 118 166 142  
 122 137 110 175 152  
 145 126 139 111 170

Men: 140 153 199 186 169  
 136 176 162 196 155  
 173 190 141 166 153

A)

Men	Women
11	0 1 8
12	2 6 8
6	13 7 9
1	0 14 2 5
5	3 3 15 0 2
9	6 2 16 6
6	3 17 0 5
6	18
9	6 0 19

B)

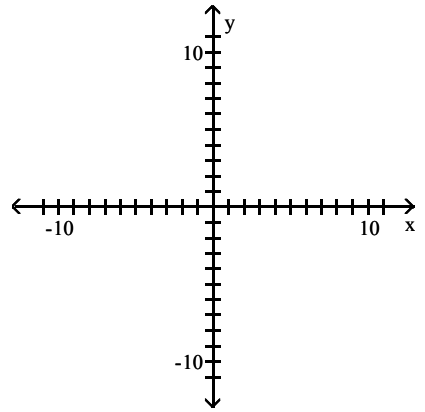
Men	Women
11	0 1
12	2 6 8
6	13 7 9
1	0 14 2 5
5	3 3 15 0 2 4
9	6 2 16 6
6	3 17 0 5
9	6 18
9	6 19

45) \_\_\_\_\_

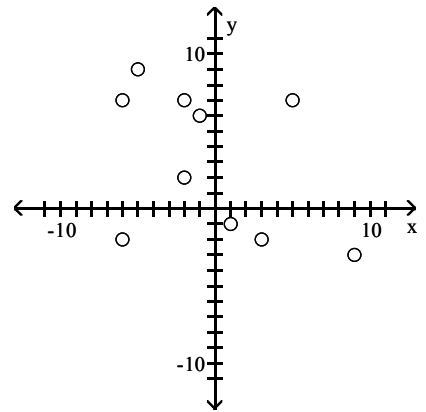
Use the given paired data to construct a scatterplot.

46)  $x$  5 -6 -2 -2 -6 3 1 9 -5 -1  
 $y$  -7 -7 -7 -2 2 2 1 3 -9 -6

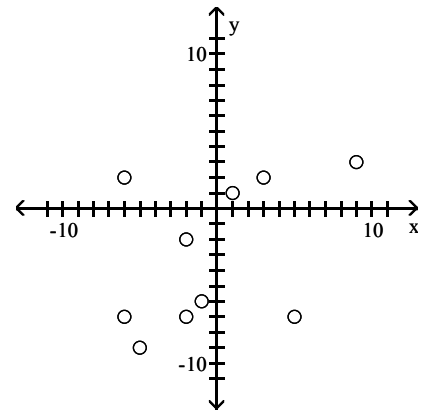
46) \_\_\_\_\_



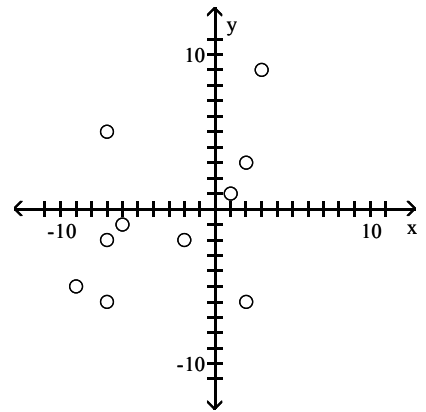
A)



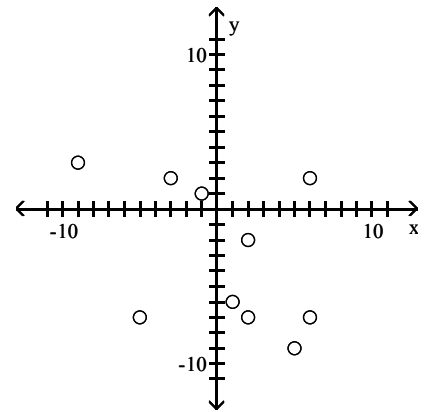
B)



C)

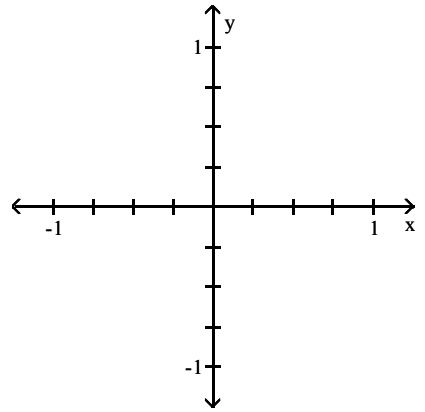


D)

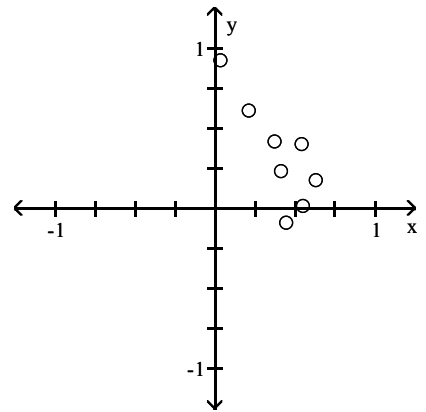


47) x 0.55 0.03 0.37 0.21 0.41 0.54 0.63 0.44  
 y 0.02 0.93 0.42 0.61 0.23 0.4 0.18 -0.09

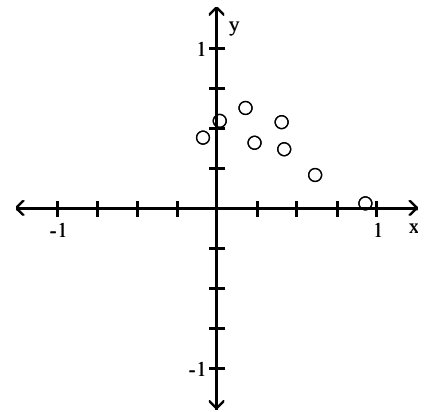
47) \_\_\_\_\_



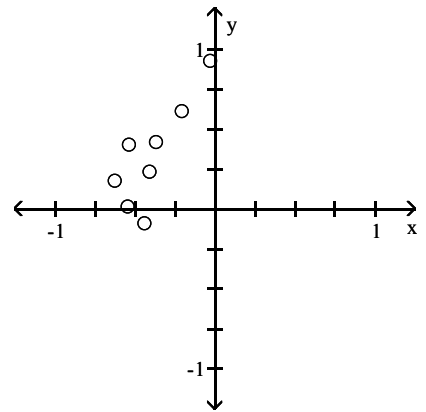
A)



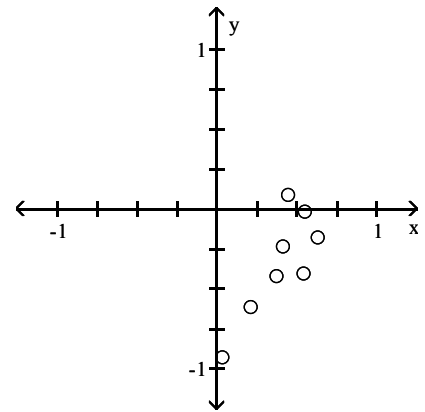
B)



C)

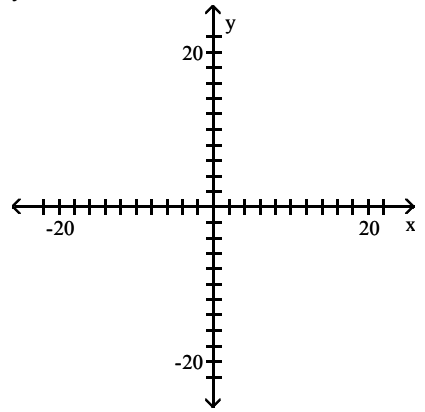


D)

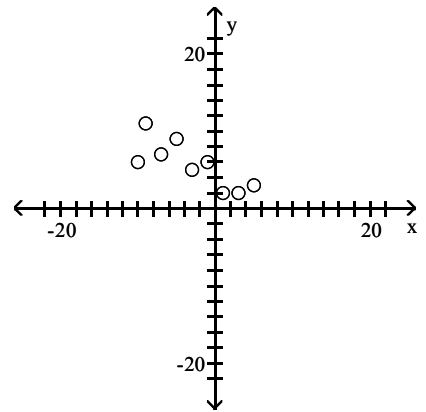


48) x -5 3 7 9 5 10 1 -3 -1  
 y 3 5 7 11 9 6 6 2 2

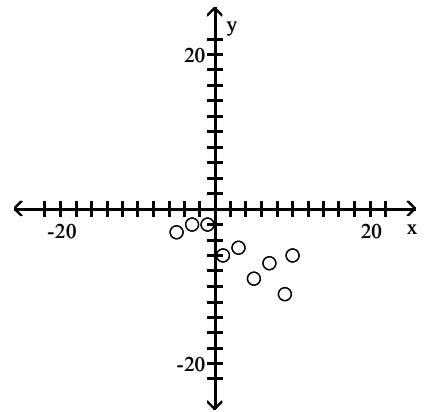
48) \_\_\_\_\_



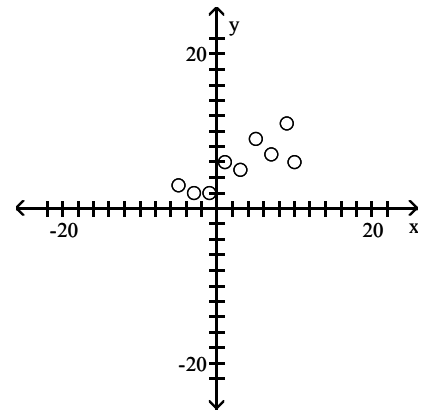
A)



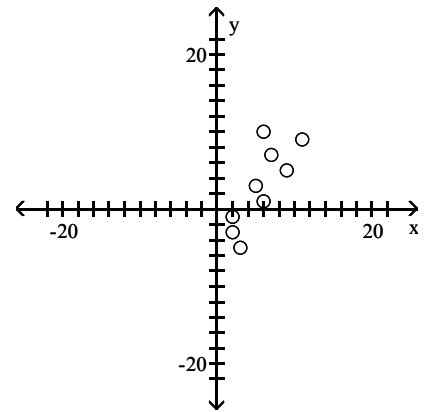
C)



B)



D)





Answer Key

Testname: STATISTICS CHAPTER 2

- 1) A
- 2) A
- 3) A
- 4) D
- 5) C
- 6) D
- 7) C
- 8) B
- 9) A
- 10) B
- 11) C
- 12) A
- 13) D
- 14) D
- 15) B
- 16) A
- 17) C
- 18) B
- 19) D
- 20) D
- 21) B
- 22) C
- 23) D
- 24) B
- 25) B
- 26) C
- 27) A
- 28) A
- 29) A
- 30) B
- 31) C
- 32) D
- 33) D
- 34) C
- 35) A
- 36) C
- 37) D
- 38) A
- 39) A
- 40) A
- 41) A
- 42) A
- 43) B
- 44) B
- 45) A
- 46) B
- 47) A
- 48) B