Name_____Course Number:_____ Section Number:_____

Directions: Answer the questions in the spaces provided, or attach paper. Circle the correct choice for each response set.

Provide an appropriate response.

1) A medical research team studied the ages of 34 patients who had strokes caused by stress. The frequency distribution below summarizes the results. When trying to understand the stroke data, what would be the advantage of looking at a histogram instead of this frequency distribution?

Age	Frequency
25–29	3
30–34	3
35–39	6
40–44	4
45–49	5
50–54	3
55–59	5
60–64	5

2) An airline checked 7 of its flights into a regional airport and found that 1 was early, 2 were on time, and 4 were late. Why does it not make sense to construct a histogram for this data set?

3) 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.

(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) 61 C) 28 D) 31

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

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

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

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

5)

Height (inches)	Frequency
69.0 – 71.9	16
72.0 – 74.9	15
75.0 – 77.9	19
78.0 – 80.9	17
81.0 – 83.9	13

A)

Height (inches)	Cumulative Frequency
Less than 72.0	16
Less than 75.0	31
Less than 78.0	50
Less than 81.0	67
Less than 84.0	80

B)

Height (inches)	Cumulative Frequency
Less than 72.0	0.200
Less than 75.0	0.188
Less than 78.0	0.237
Less than 81.0	0.212
Less than 84.0	0.163

C)

Height (inches)	Cumulative Frequency
69.0 – 71.9	16
72.0 – 74.9	31
75.0 – 77.9	50
78.0 – 80.9	67
81.0 – 83.9	80

D)

Height (inches)	Cumulative Frequency
Less than 72.0	31
Less than 75.0	50
Less than 78.0	67
Less than 81.0	80
Less than 84.0	93

Provide an appropriate response.

6) 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.

Scores	Frequency
0–60	2
61–70	7
71–80	9
81–90	6
91–100	5

A)

Scores	Relative Frequency
0–60	0.17%
61–70	0.14%
71–80	0.48%
81–90	0.10%
91–100	0.10%

B)

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

C)

Scores	Relative Frequency
0–60	6.90%
61–70	24.14%
71–80	31.03%
81–90	20.69%
91–100	17.24%

D)

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

Use the given data to construct a frequency distribution.

7) Kevin asked some of his friends how many hours they had worked during the previous week at their after–school jobs. The results are shown below.

5 6 5 4 5 5 9 7 5 4 7 6
6 7 5 6 7 5 6 7 6 7 7 4

Construct a frequency distribution. Use 4 classes, a class width of 2 hours, and a lower limit of 3 for
class 1.

| Hours	Frequency

Provide an appropriate response.

8) 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?
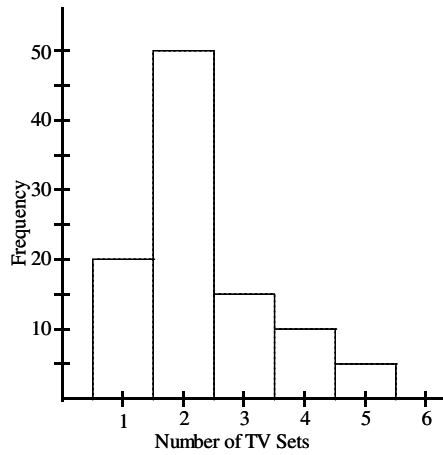
A) 100   B) 50   C) 20   D) 25

Construct the dotplot for the given data.

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

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

A)

B)

C)

D)

5
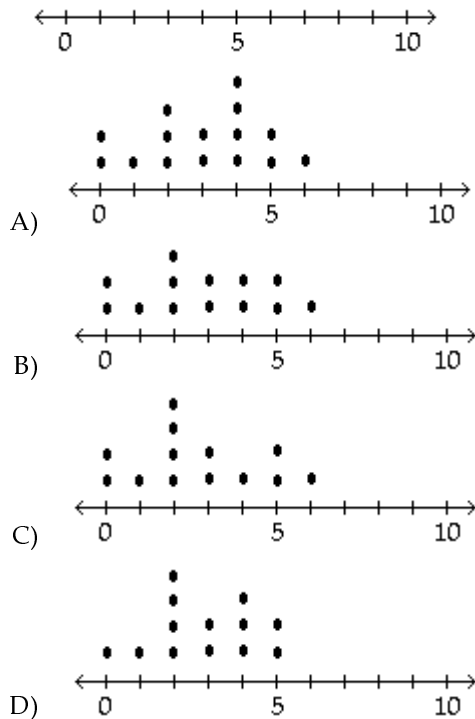
Use the data to create a stemplot.

10) The following data show the number of laps run by each participant in a marathon.
46 65 55 43 51 48 57 30 43 49 32 56

A)

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

B)

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

11) The weights of 22 members of the varsity football team are listed below.
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

Find the original data from the stemplot.

12)

Stem	Leaves
5.4	1 8
5.5	8 9
5.6	1 9 9

A) 0.64, 0.64, 1.35, 1.35, 1.45, 0.66, 1.46, 1.47

B) 5.41, 5.42, 5.58, 5.59, 5.63, 5.69, 5.69

C) 0.64, 1.34, 1.35, 1.45, 0.66, 1.46, 1.46

D) 5.41, 5.48, 5.58, 5.59, 5.61, 5.69, 5.69

Construct a pie chart representing the given data set.

13) The following figures give the distribution of land (in acres) for a county containing 80,000 acres.

| Forest	Farm	Urban
12,000	8000	60,000
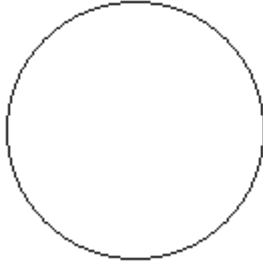
A)
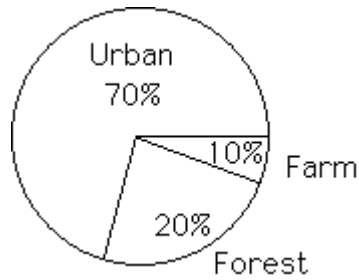
B)
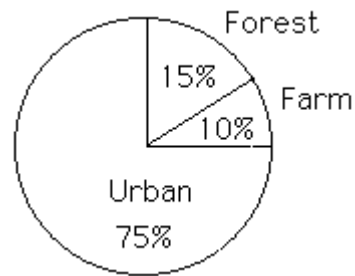
**Note: For #14, four–choice response set follows.**
Solve the problem.

14) 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 30 people at a grocery store. Six ice cream tasters preferred the Strawberry Cream, 18 preferred Choco–Nuts, and 6 loved the Orange Mint. Construct a Pareto chart to represent these preferences. Choose the vertical scale so that the relative frequencies are represented.

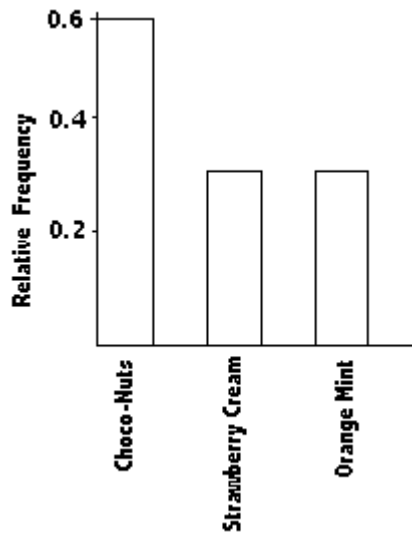7

A)

B)

C)

D)
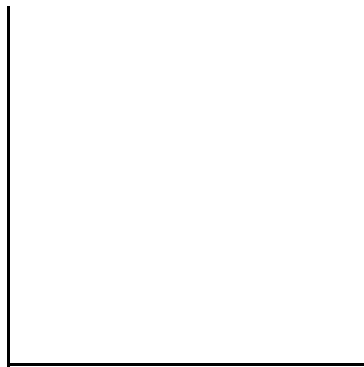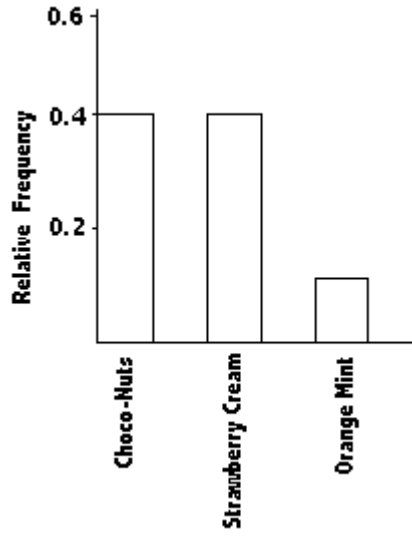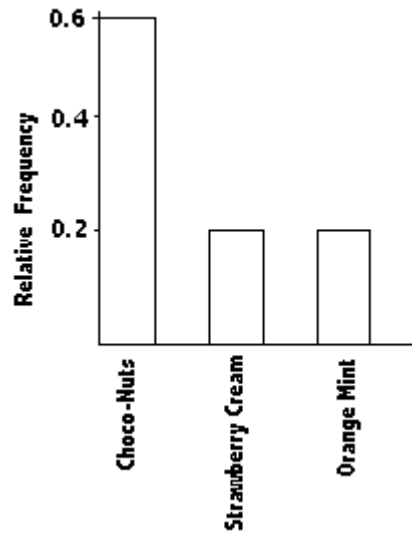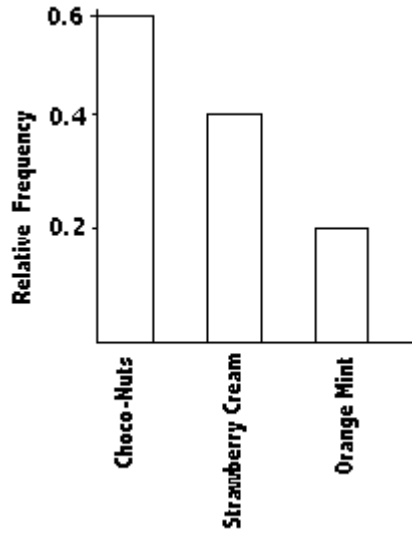
Provide an appropriate response.

15) Consider the frequency distribution below, which has single values as classes:

Value	Frequency
10	1
11	3
12	7
13	18
14	10
15	4
16	2
17	7
18	16
19	10
20	6
21	2

Describe the distribution of the data. Does the shape of the data appear normal? That is, does the distribution seem to have one peak? Does the data appear to have two or more peaks? Explain your thinking.

Use the pie chart to solve the problem.

16) The pie chart shows the percent of the total population of 78,100 of Springfield living in the given types of housing. Round your result to the nearest whole number.
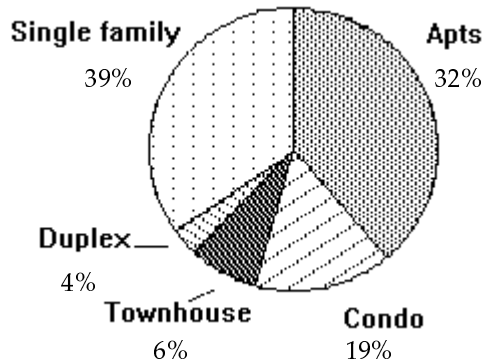
Find the number of people who live in duplexes.

A) 4 people

B) 7029 people

C) 3124 people

D) 74,976 people

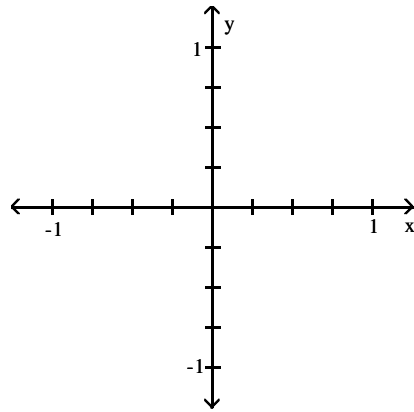17) The pie chart below gives the inventory of the men's department of a store.

Suits
$57,285

Trousers
$56,280

Underwear
$7035

Shirts
$12,060

Sweaters
$22,110

Ties
$8040

Socks
$3015
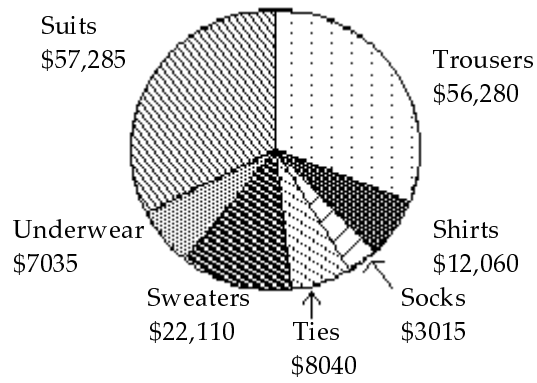
What is the total inventory?

A) $162,810   B) $168,840   C) $165,825   D) $109,545
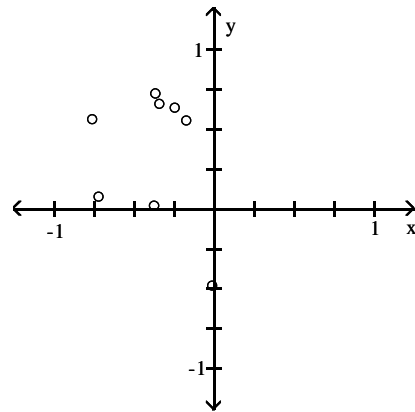
Use the given paired data to construct a scatterplot.

18)

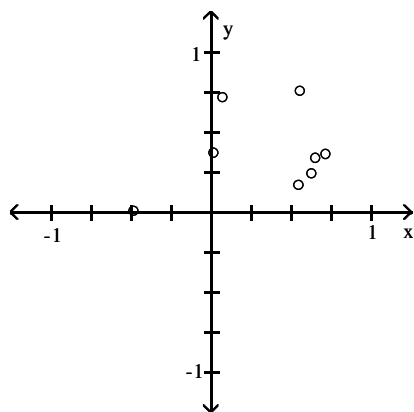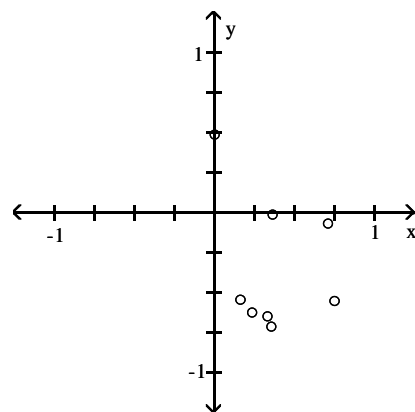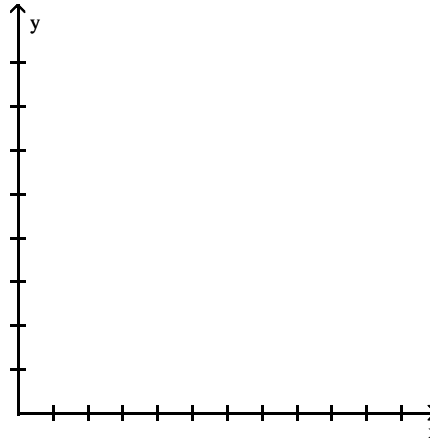| x	0.76	0.34	0.37	0.17	0.01	0.36	0.24	0.72
y	0.56	0.65	0.02	0.55	−0.48	0.72	0.63	0.07

A)

B)

C)

D)
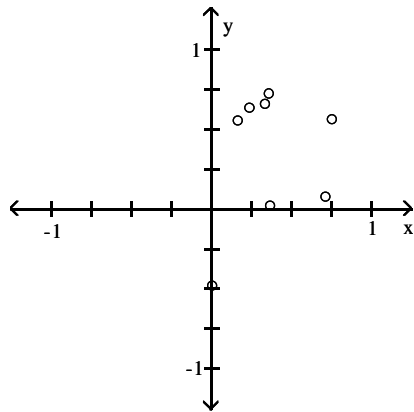
Provide an appropriate response.

19) Use the high closing values of Naristar Inc. stock from the years 1990 – 2001 to construct a time–series graph. (Let x = 0 represent 1990 and so on.) Identify a trend.

Year	High	Year	High
1990	42	1996	47
1991	40	1997	60
1992	31	1998	61
1993	42	1999	57
1994	44	2000	54
1995	47	2001	30

20) A television manufacturer sold three times as many televisions in 2005 as it did in 1995. To illustrate this fact, the manufacturer draws a graph as shown below. The television on the right is three times as tall and three times as wide as the television on the left. Why is this graph misleading? What visual impression is created by the graph?

1995   2005
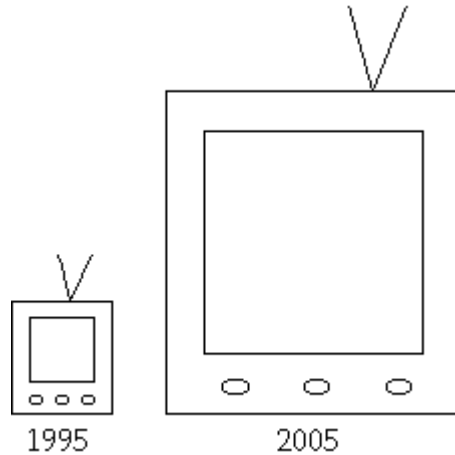
1) It would be easier to see the distribution of the data in the graph of the histogram than in the lists of numbers in the frequency distribution.
2) With a data set that is so small, the true nature of the distribution cannot be seen with a histogram.
3) D
4) A
5) A
6) C
7)

Hours	Frequency
3–4	3
5–6	13
7–8	7
9–10	1

8) B
9) C
10) B
11) A
12) D
13) B
14) B
15) The distribution is not normal. The distribution is bimodal, because it has two peaks, one at around 13 and one at around 18.

16) C
17) C
18) A
19) Trend: Answers will vary. Possible answer: High closing stock values show a decrease from 1990 through 1992, after which the value of the stock rose through 1998. Another decrease occurred in 1999 and continued through 2001.
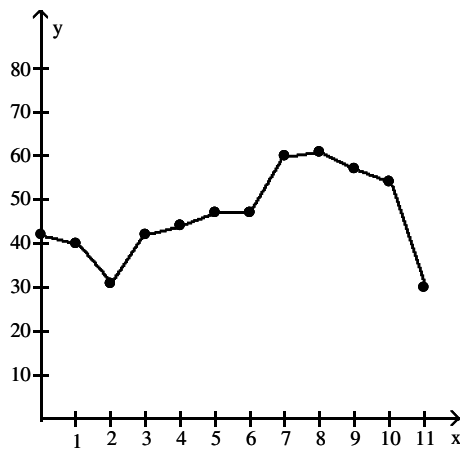
20) The area of the television on the right is nine times (not three times) the area of the television on the left. The graph gives the visual impression that sales in 2005 were nine times the sales in 1995.