Exam

Name_____

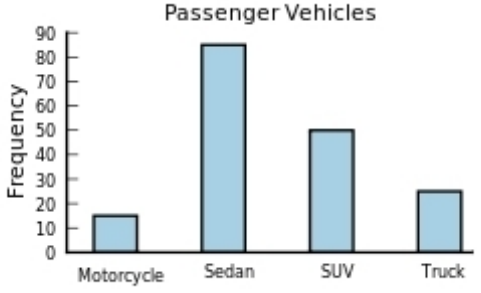
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) The following frequency distribution presents the frequency of passenger vehicles that pass through a certain intersection from 8:00 AM to 9:00 AM on a particular day. 1) _____

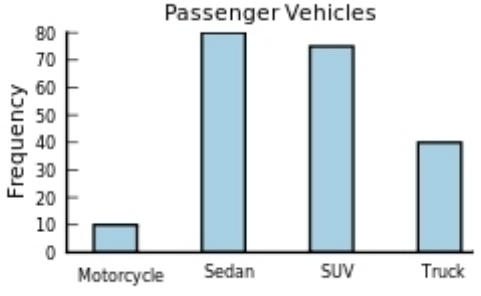
Vehicle Type	Frequency
Motorcycle	5
Sedan	95
SUV	65
Truck	30

Construct a frequency bar graph for the data.

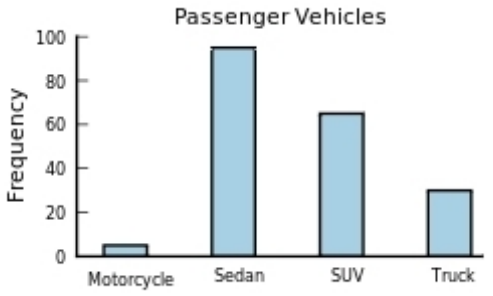
A)



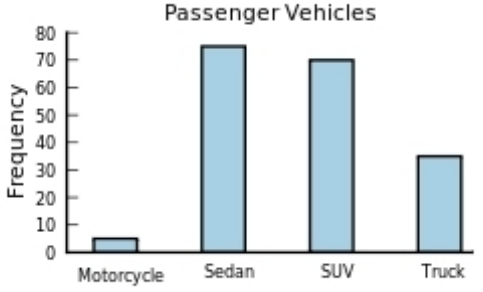
B)



C)

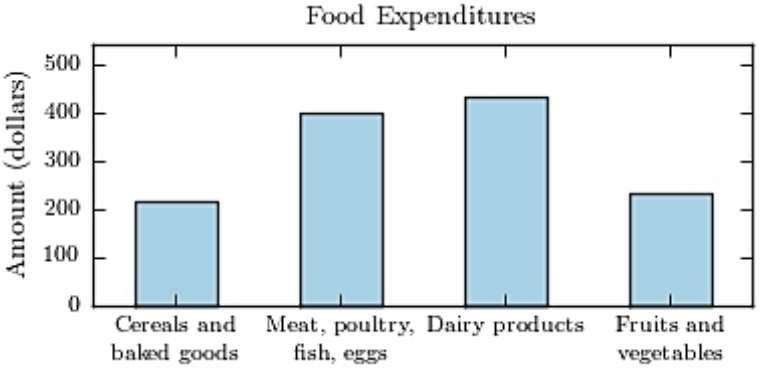


D)



2) The following bar graph presents the average amount a certain family spent, in dollars, o 2) _____
various food categories in a recent year.

On which food category was the most money spent?



A) Dairy products
B) Cereals and baked goods
C) Fruits and vegetables
D) Meat poultry, fish, eggs

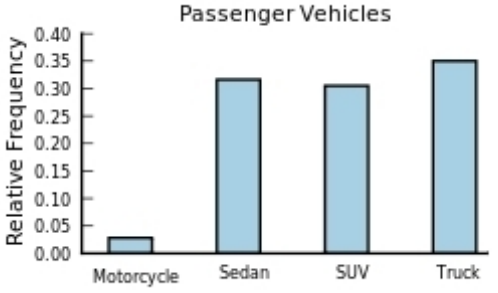
3) The following frequency distribution presents the frequency of passenger vehicles that 3) _____
pass through a certain intersection from 8:00 AM to 9:00 AM on a particular day.

Vehicle Type	Frequency
Motorcycle	9
Sedan	54
SUV	27

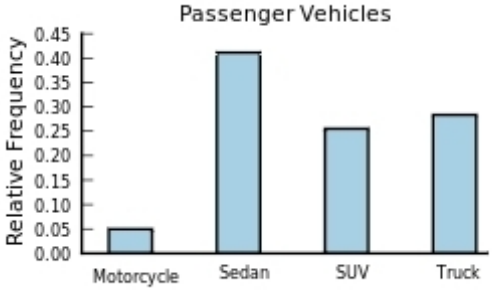
Truck 53

Construct a relative frequency bar graph for the data.

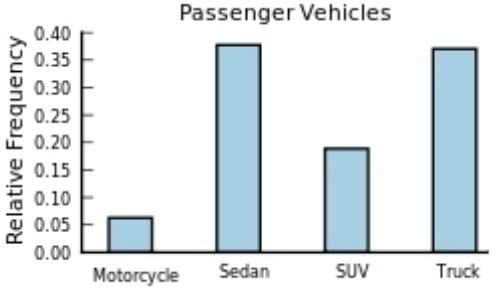
A)



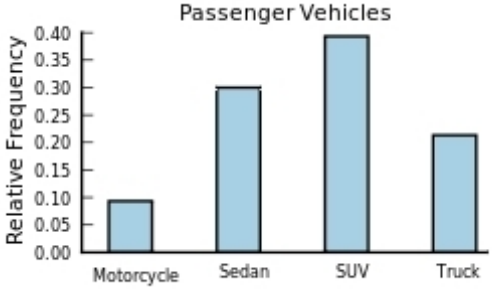
B)



C)



D)

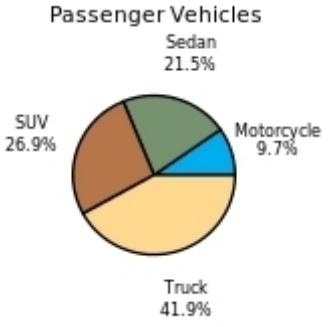


4) The following frequency distribution presents the frequency of passenger vehicles that pass through a certain intersection from 8:00 AM to 9:00 AM on a particular day. 4) _____

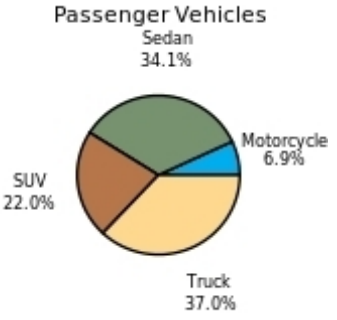
Vehicle Type	Frequency
Motorcycle	9
Sedan	20
SUV	25
Truck	39

Construct a pie chart for the data.

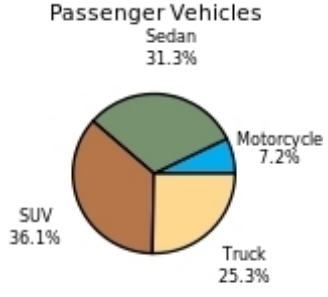
A)



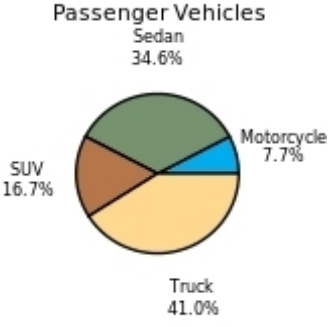
B)



C)

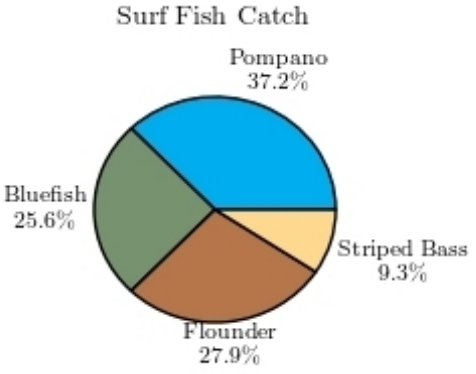


D)

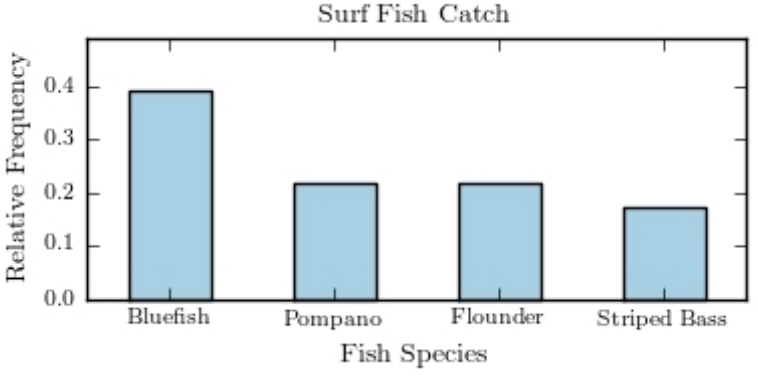


5) The following pie chart presents the percentages of fish caught in each of four ratings categories. 5) _____

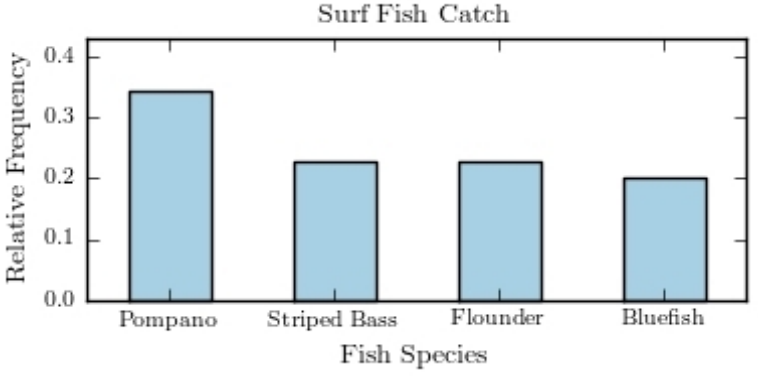
Match this pie chart with its corresponding Parato chart.


Surf Fish Catch
Pompano
37.2%
Bluefish
25.6%
Striped Bass
9.3%
Flounder
27.9%

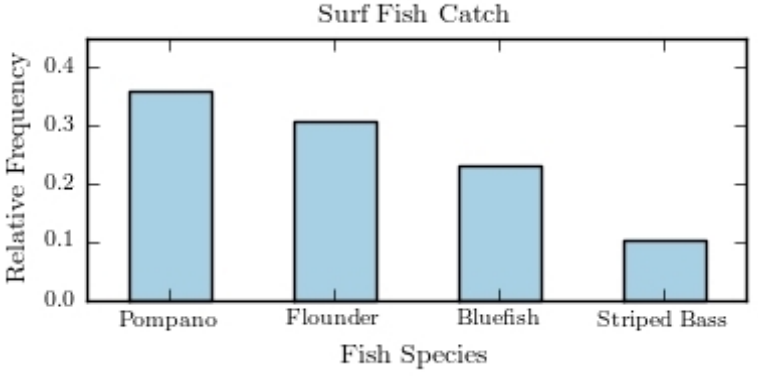
A)


Surf Fish Catch
Relative Frequency
0.0
0.1
0.2
0.3
0.4
Bluefish
Pompano
Flounder
Striped Bass
Fish Species

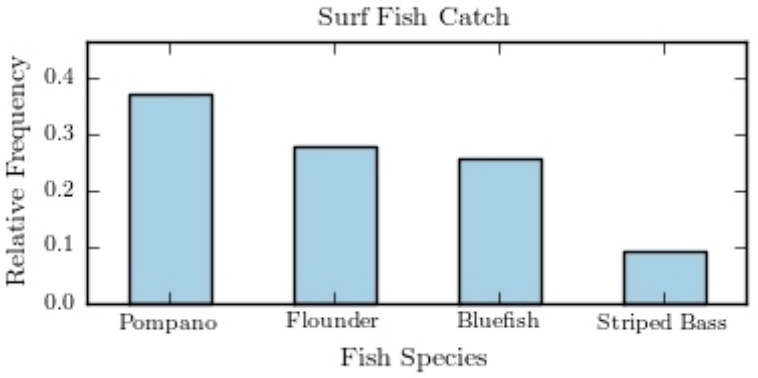
B)


Surf Fish Catch
Relative Frequency
0.0
0.1
0.2
0.3
0.4
Pompano
Striped Bass
Flounder
Bluefish
Fish Species

C)


Surf Fish Catch
Relative Frequency
0.0
0.1
0.2
0.3
0.4
Pompano
Flounder
Bluefish
Striped Bass
Fish Species

D)



SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

6) Construct a Pareto chart for the following distribution: 6) _____

Year in School	Number of Students
Freshmen	28
Sophomores	14
Juniors	40
Seniors	18

7) Construct a Pareto chart for the following distribution: 7) _____

Major	Number of Students
Business	49
Science	15
Engineering	41
Social Sciences	8
Liberal Arts	33
Education	22

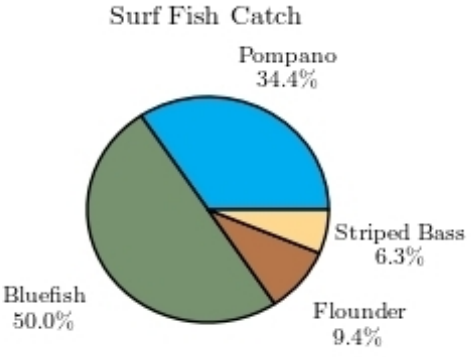
8) A local fundraiser wants to graphically display the contributions he has received over the past five years. Construct a time series graph for the following data. 8) _____

Year	Contributions
1996	$550
1997	$700
1998	$800
1999	$1050
2000	$1200

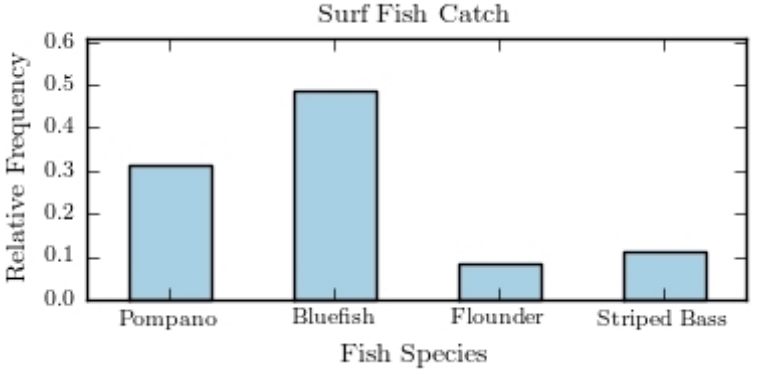
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

9) The following pie chart presents the percentages of fish caught in each of four ratings categories. 9) _____

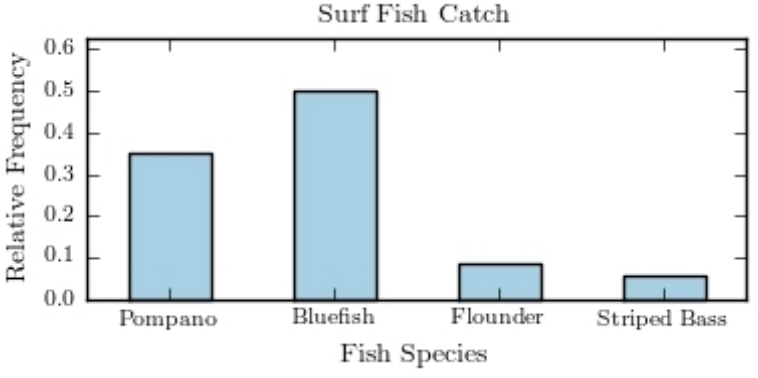
Match this pie chart with its corresponding bar graph.



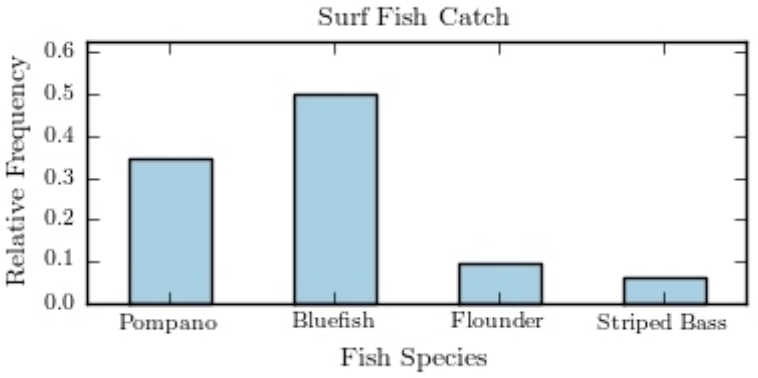
A)



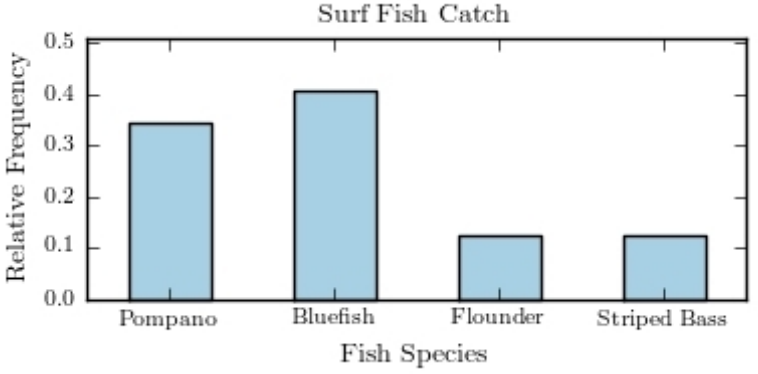
B)



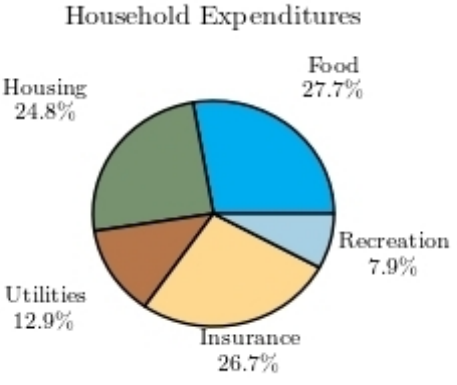
C)



D)



10) Following is a pie chart that presents the percentages spent by a certain household on its five largest annual expenditures. What percentage of the money spent was spent on food, housing, and utilities? 10) _____



A) 60.4% B) 65.4% C) 52.5% D) 47%

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

11) The following information shows the colors of cars preferred by customers. Draw a pie graph and indicate how many degrees that black represents in a pie graph?

Color	Number
Red	50
Black	60
White	30
Green	20
Blue	40

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

12) Construct a pie chart for the following distribution: 12) _____

Year in School	Number of Students
Freshmen	28
Sophomores	14
Juniors	40
Seniors	18

13) Construct a pie chart for the following distribution: 13) _____

Major	Number of Students
Business	128
Science	36
Engineering	60
Social Sciences	40
Liberal Arts	88
Education	48

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

14) Karen is constructing a pie graph to represent the number of hours her classmates do homework each day. She found that 8 of 24 classmates did homework for three hours each day. In her pie graph, this would represent how many degrees? 14) _____

A) 135° B) 45° C) 240° D) 120°

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

15) Construct a pie graph using the following data from a local bakery. 15) _____

Cookie Types	Number Sold
Chocolate Chip	20
Peanut Butter	15
Oatmeal	30
Sugar	10

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

16) A weatherman records the amount of rain that fell in Portland, Oregon each day for a year. What type of graph should he use to show how rainfall changes during the year? 16) _____

A) Pareto chart B) pie graph
C) time series graph D) pictograph

17) A time series graph represents data that occur over a specific time period. 17) _____

A) False B) True

18) A Pareto chart does not have which of the following properties? 18) _____

A) frequencies displayed by the heights of vertical bars
B) classes of data are categorical
C) quantitative variable on the horizontal axis
D) frequencies arranged from highest to lowest

19) A pie graph is not useful in showing which of the following characteristics of a data set? 19) _____

A) categories that make up the smallest proportions of the total
B) frequency changes over time
C) categories that make up the largest proportions of the total
D) relative frequencies for each category in the distribution

20) A time series graph is useful for which of the following purposes? 20) _____

A) representing relative frequencies of categories at a specific time
B) representing the frequencies of the data, sorted from largest to smallest
C) representing the cumulative frequencies of the data at a specific time
D) representing the changing frequencies of a data category over a period time

21) A time series graph is useful for detecting trends that occur over the period of time. 21) _____

A) False B) True

22) Which graph should be used to represent the frequencies with which certain courses are taken at Highlands Middle School? 22) _____

A) pictograph B) Pareto chart
C) pie graph D) time series graph

23) A pie graph would best represent the number of inches of rain that has fallen in Ohio each day for the past 2 months. 23) _____

A) False B) True

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

24) The percentages of white, wheat, and rye bread sold at a supermarket each week is best shown using a _____ graph. 24) _____

25) A _____ graph would most appropriately represent the number of students that were enrolled in Statistics for each of the past ten years. 25) _____

26) The scores on a recent statistics exam are shown below. Construct a stem and lea plot for the data. 26) _____

98, 73, 64, 69, 86, 89, 77, 86, 91, 73

27) Given the following two sets of data, draw a back-to-back stem and leaf plot. 27) _____

A - 12, 22, 22, 24, 34, 31, 26, 35, 27, 39, 49, 10
B - 45, 36, 23, 16, 37, 28, 18, 13, 10, 23, 30, 31

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

28) Construct a stem-and-leaf plot for the following data. 28) _____

28	47	19	39	30	54	48	21	58	52
36	36	53	63	29	24	43	30	30	46

A)

1	9
2	1489
3	00066
4	36789
5	2348
6	3

B)

1	9
2	1489
3	000669
4	3678
5	2348
6	3

C)

1	9
2	1489
3	00669
4	03678
5	2348
6	3

D)

1	9
2	1489
3	000669
4	3678
5	248
6	33

29) Construct a stem-and-leaf plot for the following data, in which the leaf represents the tenths place. 29) _____

7.0	7.4	10.4	10.9	9.7	9.3	7.3	8.7	7.1	5.4	6.6	9.3
9.8	8.9	9.3	7.7	8.4	8.7	8.8	7.3	2.4	2.5	9.6	8.8

A)

1	5
2	
3	4
4	
5	4
6	6
7	013347
8	477889
9	333678
10	49

B)

2	45
3	
4	
5	4
6	6
7	013347
8	477889
9	333678
10	49

C)

2	45
3	
4	
5	4
6	36
7	0147
8	3477889
9	333678
10	49

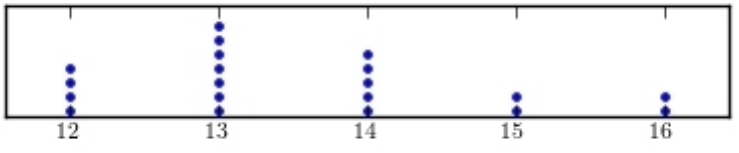
D)

2	45
3	
4	
5	4
6	6
7	01334
8	34777889
9	33678
10	49

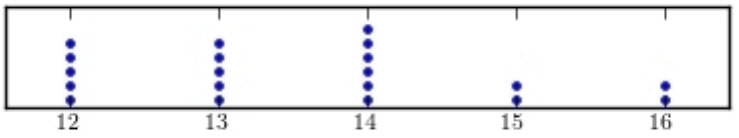
30) Construct a dotplot for the following data. 30) _____

16	13	14	12	15	13	14	14	12	12
14	13	13	14	12	13	15	14	12	16

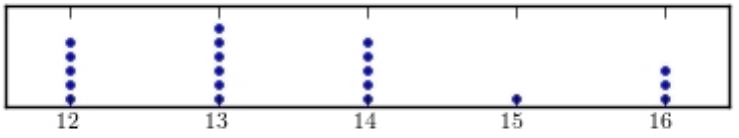
A)



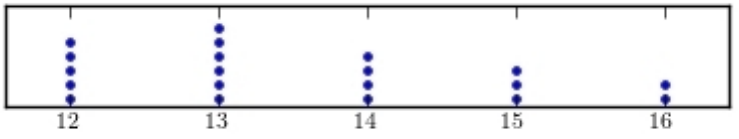
B)



C)



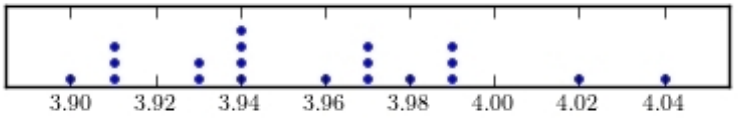
D)



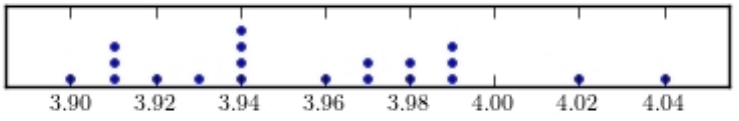
31) Construct a dotplot for the following data. 31) _____

3.99	4.02	3.97	3.94	3.94	3.92	3.91	3.91	3.91	4.04
3.98	3.94	3.96	3.97	3.94	3.99	3.93	3.90	3.97	3.99

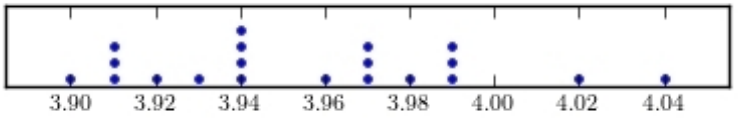
A)



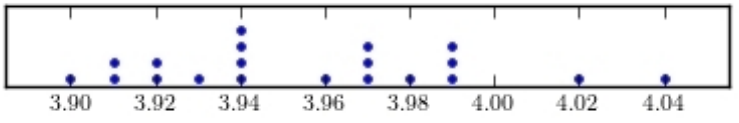
B)



C)



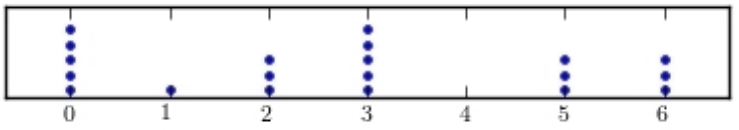
D)



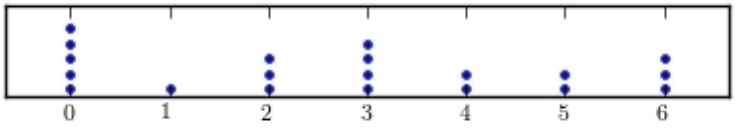
32) Following are the numbers of Dean's List students in a random sample of 20 university courses. Construct a dotplot for these data. 32) _____

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

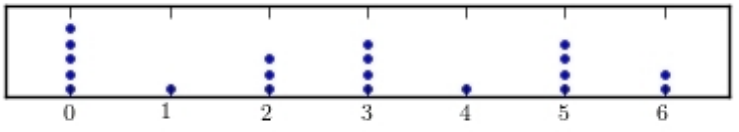
A)



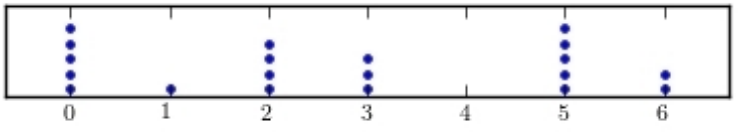
B)



C)

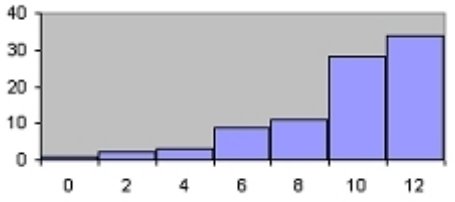


D)

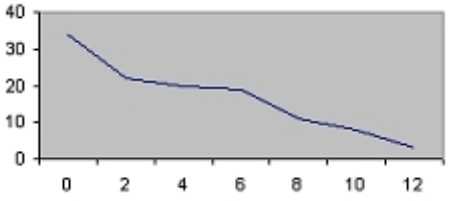


33) Which of the following is a Pareto chart? 33) _____

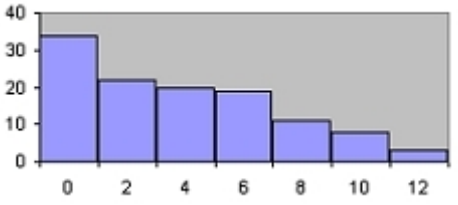
A)



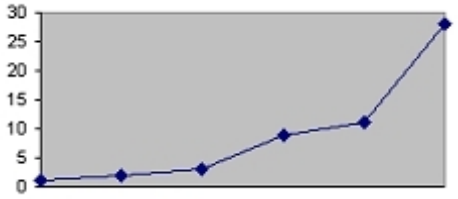
B)



C)



D)



34) An automobile dealer wants to construct a pie graph to represent types of cars sold in July. He sold 72 cars, 16 of which were convertibles. How many degrees should be used for the convertibles section ? 34) _____

A) 100° B) 50° C) 60° D) 80°

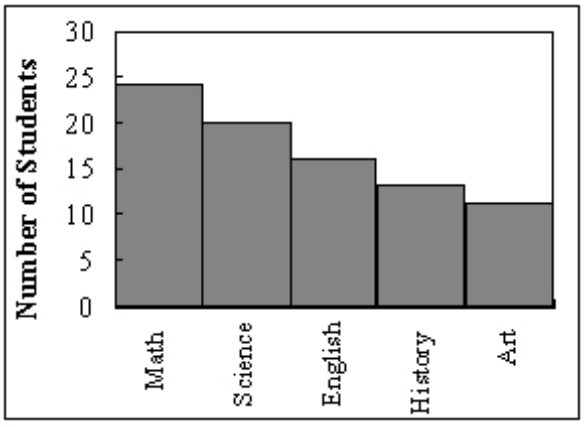
35) If a data set showing types of pizza ordered at a particular restaurant indicates 24 out of 72 orders were for pepperoni pizza, how many degrees would be needed to represent pepperoni pizza in a pie chart? 35) _____

A) 120° B) 150° C) 60° D) 90°

36) A Pareto chart is useful for showing percentages of the total at different times. 36) _____

A) False B) True

37) What type of graph is the figure below? 37) _____



A) pie graph B) Pareto chart C) pictograph D) ogive

38) Graphs give a visual representation that may enable readers to analyze and interpret data more easily than simply looking at tables of numbers. 38) _____

A) False B) True

39) When making Pareto charts, data should be arranged _____ according to frequency. 39) _____

A) clockwise B) with increasing time

C) from largest to smallest D) from smallest to largest

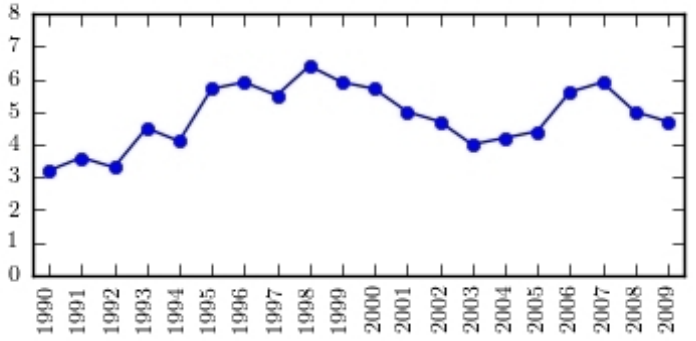
40) A Pareto chart arranges data from largest to smallest according to frequencies. 40) _____

A) True B) False

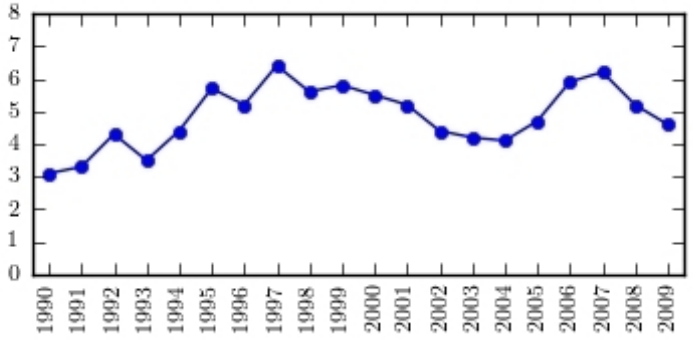
41) The following table presents the rate of population growth of a suburb of Atlanta, Georgia for each of the years 1990 through 2009. Construct a time-series plot of the growth rate. 41) _____

Year	Percent Growth	Year	Percent Growth
1990	3.1	2000	5.5
1991	3.3	2001	5.2
1992	4.3	2002	4.4
1993	3.5	2003	4.2
1994	4.4	2004	4.1
1995	5.7	2005	4.7
1996	5.2	2006	5.9
1997	6.4	2007	6.2
1998	5.6	2008	5.2
1999	5.8	2009	4.6

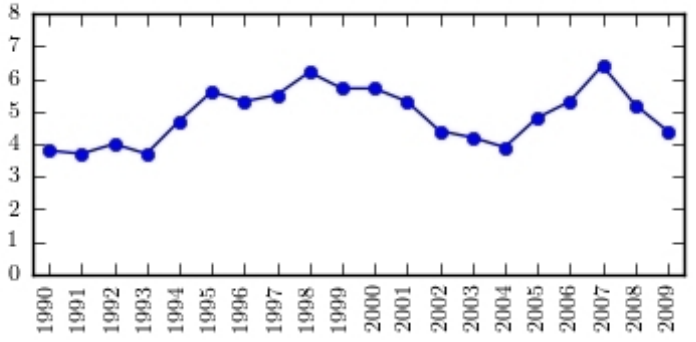
A)


0 1 2 3 4 5 6 7 8
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

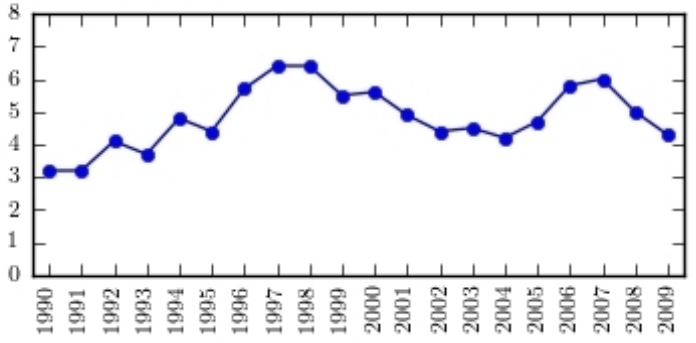
B)


0 1 2 3 4 5 6 7 8
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

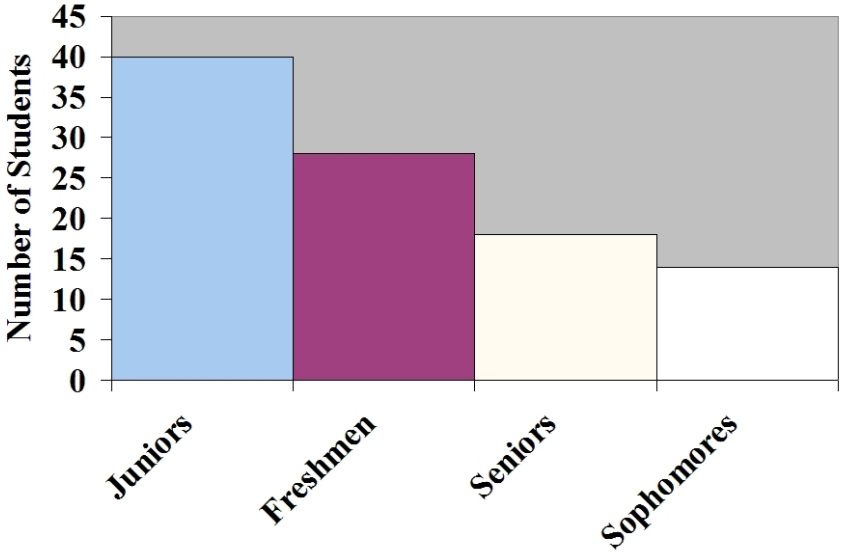
C)


0 1 2 3 4 5 6 7 8
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

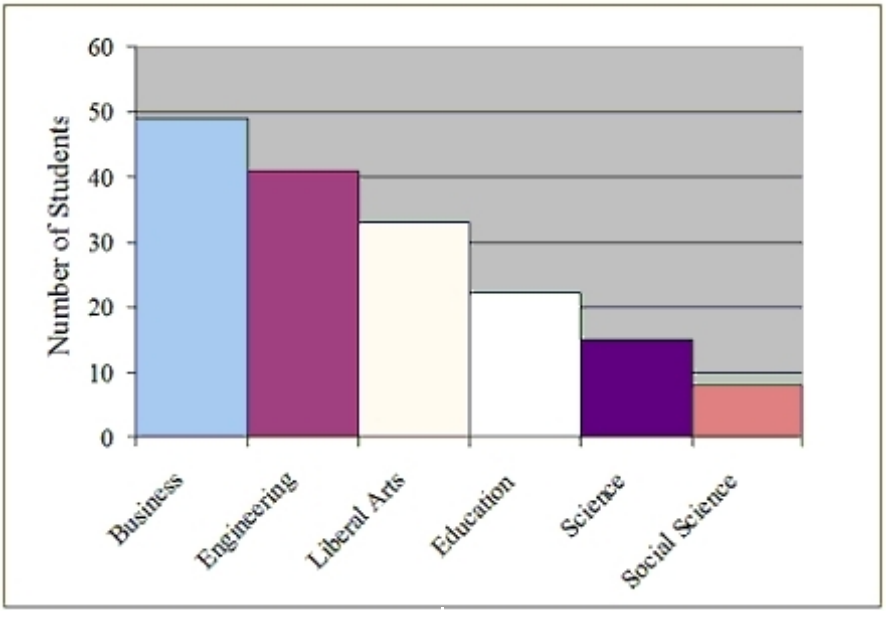
D)


0 1 2 3 4 5 6 7 8
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

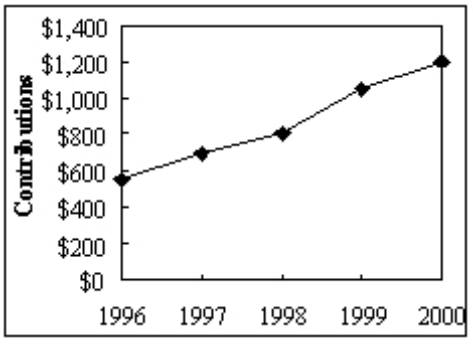
1) C
2) A
3) C
4) A
5) D
6)



7)



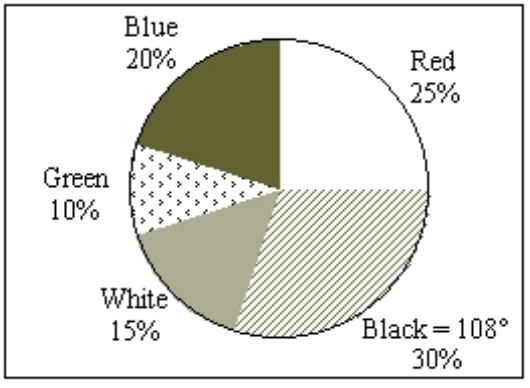
8)


Contributions
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
1996
1997
1998
1999
2000

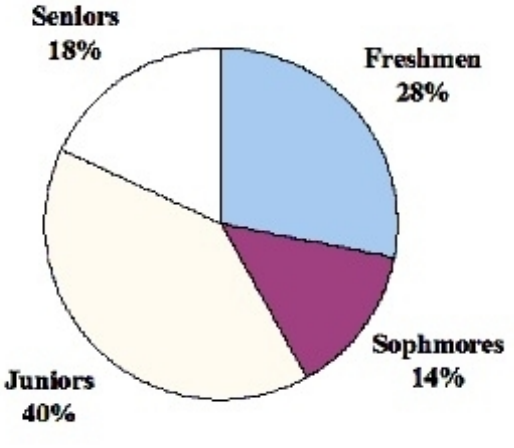
9) C

10) B

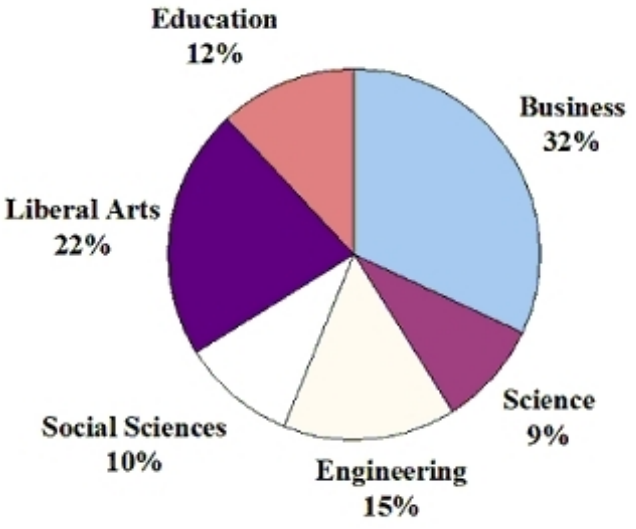
11)


Blue
20%
Red
25%
Green
10%
White
15%
Black = 108°
30%

12)

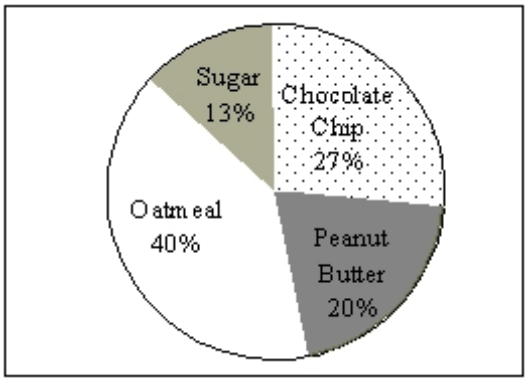

Seniors
18%
Freshmen
28%
Sophmores
14%
Juniors
40%

13)



14) D

15)



16) C
17) B
18) C
19) B
20) D
21) B
22) B
23) A
24) pie
25) time series

26) 6 | 4 9
7 | 3 3 7
8 | 6 6 9
9 | 1 8

27)

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

28) B
29) B
30) B
31) C
32) C
33) C
34) D
35) A
36) A
37) B
38) B
39) C
40) A
41) B