

Consider the following set of data which shows the number of sit-ups students completed in a freshman P. E. class

55 19 15 13 50 53 12 4 14 34
7 50 28 20 19 10 19 17

- 1) Make a line plot to represent these data. 1) _____
- 2) Construct a frequency distribution with a first class of 3-9. 2) _____
- 3) Construct a histogram of the frequency distribution. 3) _____
- 4) Find the mean. 4) _____
- 5) Given is the volume of all types of mail handled by the U.S. postal Service in 1988. 5) _____

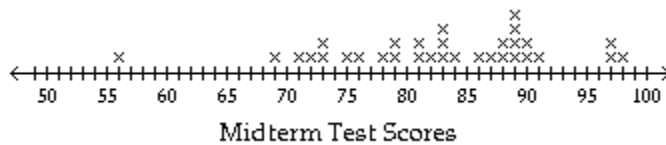
VOLUME OF MAIL HANDLED, 1988

TYPE	PIECES (billions)
First Class	89.92
Second Class	10.68
Third Class	63.73
Forth Class	0.66
International	0.80
Priority	0.52

Construct a circle graph of this information.

Use the figure to answer the question.

- 6) The midterm test scores for the seventh-period typing class are shown below on a line plot. 6) _____



What are the low and high scores?

7) The heights (in inches) of a group of high school students are listed below in a back-to-back stem-and-leaf plot.

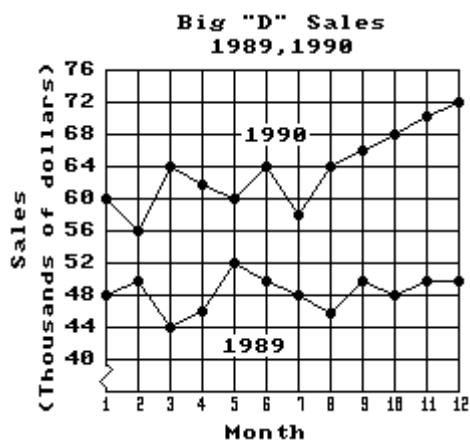
7) _____

Male	Stem	Female
8 8 9	5	5 7 8
1 3 4 6 6 7 8 9	6	0 1 2 2 2 3 4 5 5 6 8 9
0 0 1 2 2 2 3	7	0 0 2

What is does 6 | 5 represent on the plot?

8) The sales figures for the Big "D" Company area shown below in a line plot.

8) _____

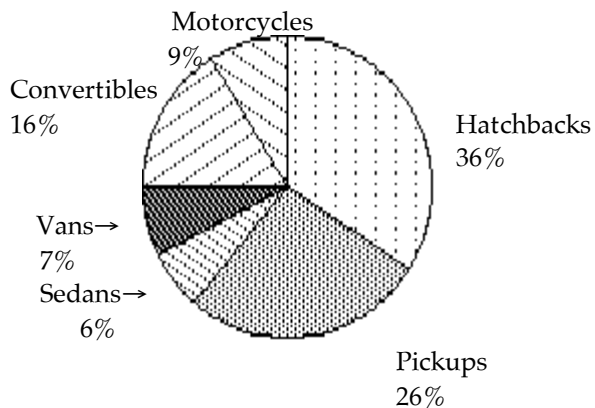


What were the total sales for the first 6 months of 1989?

Use the circle graph to solve the problem.

9) A survey of the 3042 vehicles on the campus of State University yielded the following circle graph.

9) _____



Find the number of convertibles. Round your result to the nearest whole number.

Find the mean, median, and mode. Round to the nearest tenth when necessary.

- 10) Given these test results: 10) _____
19.0, 0.7, 3, 8.5, 13, 19.0, 3, 0.7, 19.0, 19.0

Solve the problem.

- 11) Frank's Furniture employees earned \$155.72, \$465.52, \$390.48, \$210.51, \$514.27, and \$484.44 last week. Find the mean wage of the employees. Round your answer to the nearest cent. 11) _____

- 12) Frank's Furniture employees earned \$524.36, \$545.83, \$429.18, \$248.32, \$440.57, and \$472.20 last week. Find the mean wage of the employees. Round your answer to the nearest cent. 12) _____

- 13) Liz ran 15 mi, 37 mi, and 32 mi during three weeks. How many miles must she run the fourth week to give her an average of 25 miles per week? 13) _____

- 14) The mean height of 5 students is 62.6. If one of the students leaves, the mean height becomes 60.75. What is the height of the absent student? 14) _____

15) The following scores on the midterm exam in Chemistry 102 were recorded: 15) _____

93 81 59 69 82 75 61 77 95 84 88 71
87 97 63 72 89 80 60 98 91 62 78 83
76 81 94 66 83 96

Find the 1st quartile, Q_1 .
Find the 3rd quartile, Q_3 .

16) The manager of an electrical supply store measured the diameters of the rolls of wire in the inventory. The diameters of the rolls (in m) are listed below. 16) _____

0.161 0.112 0.55 0.355 0.656 0.249
Compute the range.

17) Jeanne is currently taking college economics. The instructor often gives quizzes. On the past nine quizzes, Jeanne got the following scores: 17) _____

100 52 98 83 91
86 95 75 87

Determine what test scores are outliers.

18) The pH for a patient's blood during one week is shown below: 18) _____

7.35, 7.35, 7.37, 7.37, 7.42

Find the standard deviation and variance for the data. Round the results to the nearest thousandth.

Identify the abuse of statistics.

19) "7 out of 10 dentists recommend Brand X toothpaste". This finding is based on the results of a survey of 10 randomly selected dentists. What is wrong with this survey? 19) _____

20) A researcher wished to gauge public opinion on gun control. He randomly selected 1000 people from among registered voters and asked them the following question " Do you believe that gun control laws which restrict the ability of Americans to protect their families should be eliminated?" Identify the abuse of statistics and suggest a way the researcher's methods could be improved. 20) _____

Find the mean, median, and mode. Round to the nearest tenth when necessary.

21) 17 11 15 17 12 22 15 10 21) _____

22) Chelsea's mean average on eight exams is 91. Find the sum of her scores. 22) _____

Answer the following question.

23) If a retailer is interested in determining the most common women's shoe size, which measure of central tendency should be used? 23) _____

24) Find the variance and standard deviation of the following set of data:

24) _____

17 11 15 17 12 22 15 10

25) Jack's median score on three tests was 90. His mean score was 92 and his range was 6. What are his three test scores?

25) _____

Answer the following question.

26) Which average is best for the following test scores? Explain why?

26) _____

88 92 88 25 96 82 86 100

The mileage per gallon of various university cars is given below:

12 18 13 20 36

15 22 16 26 37

28 29 29 30 55

27) Find the median, lower quartile, and upper quartile.

27) _____

28) Find the interquartile range for the data.

28) _____

29) Find any outliers.

29) _____

30) Construct a box and whisker plot.

30) _____

Answer the following question.

31) What does standard deviation measure?

31) _____

- a. Maximum of the data
- b. Range of the data
- c. Dispersion of the data
- d. Average of the data
- e. Minimum of the data

32) Both the age and the yearly movie attendance of 16 people were recorded as shown below. Draw a scatter graph for the data and discuss the type of correlation that exists for this data.

32) _____

AGE in YEARS	12	12	14	14	15	15	16	16	17	17	18	18	19	19	20	20
NUMBER OF MOVIES PER YEAR	12	15	20	24	20	26	30	28	24	30	32	34	40	30	38	36

Answer Key

Testname: T102PRACTICE EXAM 4.TST

- 1) Answer:
- 2) Answer:
- 3) Answer:
- 4) Answer: $\bar{x} = 24.4$
- 5) Answer:
- 6) Answer: 56; 98
- 7) Answer: 65 inches
- 8) Answer: \$290,000
- 9) Answer: 487
- 10) Answer: 10.5, 10.8, 19.0
- 11) Answer: \$370.16
- 12) Answer: \$443.41
- 13) Answer: 16 mi
- 14) Answer: 70
- 15) Answer: 71, 89
- 16) Answer: 0.544
- 17) Answer: 52
- 18) Answer: $s = 0.026$, $v = 0.001$
- 19) Answer: The sample was too small.
- 20) Answer: The question is loaded. A more neutral way to phrase the question would be, for example, "Do you believe that gun control laws should be strengthened, weakened, or left in their current form?"
- 21) Answer: $\bar{x} = 14.9$ median is 15 mode 15 or 17
- 22) Answer: $8(91) = 728$
- 23) Answer: mode
- 24) Answer: $v = 13.36$ $s = 3.66$
- 25) Answer: 90 90 96
- 26) Answer: mode or median because the score of 25 greatly effects the mean.
- 27) Answer: median 26 lower quartile 16 upper quartile 30
- 28) Answer: $IQR = 30 - 16 = 14$
- 29) Answer: 55 is an outlier.
- 30) Answer:
- 31) Answer: c
- 32) Answer: positive correlation