

Name _____

Ch 2.1 and 2.2 worksheet

- I** 1 In four successive history tests a student received grades of 45, 73, 77, and 85. Which conclusions can be obtained from these figures by purely descriptive methods and which require generalizations? Explain your answers.
- (a) Only one of the grades exceeds 85.
 - (b) The student's grades increased from each test to the next.
 - (c) The student must have studied harder for each successive test.
 - (d) The difference between the highest and lowest grades is 41.
- 2 Mary and Jean are real estate salespersons. In the first three months of 1994 Mary sold 3, 6, and 2 one-family homes and Jean sold 4, 0, and 5 one-family homes. Which of the following conclusions can be obtained from these figures by purely descriptive methods and which require generalizations? Explain your answers.
- (a) During the three months Mary sold more one-family homes than Jean.
 - (b) Mary is a better real estate salesperson than Jean.
 - (c) Mary sold at least two one-family homes during each of the three months.
 - (d) Jean probably took her annual vacation during the second month.
- 3 The paid attendance of a minor league baseball team's first four home games was 5,308, 4,030, 6,386, and 5,770 in the year 1992 and 6,274, 5,883, 7,615 and 1,312 in the year 1993. Which of the following conclusions can be obtained from these figures by purely descriptive methods and which require generalizations? Explain your answers.
- (a) The fourth 1993 figure was probably recorded incorrectly and should have been 7,312 instead of 1,312.
 - (b) Among the eight games, the paid attendance for any one game was highest in 1993.
 - (c) Among the eight games, the paid attendance in 1993 exceeded 6,000 more often than in 1992.
 - (d) Since the paid attendance at each of the first three home games was higher in 1993 than in 1992, the weather must have been better on those days.
- 4 Driving the same model car, five persons averaged 22.5, 21.7, 23.0, 22.5, and 21.8 miles per gallon. Which of the following conclusions can be obtained by purely descriptive methods and which require generalizations? Explain your answers.
- (a) More often than any of the other figures, the drivers averaged 22.5 miles per gallon.
 - (b) The second and fifth persons must have done more city driving than the others.
 - (c) None of the averages differs from 22.0 by more than 1.0.
 - (d) If the whole experiment were repeated, none of the drivers would average less than 21.0 or more than 24.0 miles per gallon.
- 5 The three oranges which a person bought at a supermarket weighed 9, 8, and 13 ounces. Which of the following conclusions can be obtained from these data by purely descriptive methods and which require generalizations? Explain your answers.
- (a) The average weight of the three oranges is 10 ounces.
 - (b) The average weight of oranges sold at that supermarket is 10 ounces.

Construct a frequency distribution table with relative and cumulative frequencies as well. Use 10 classes

6. *Car and Driver* magazine often provides fuel-economy information about various cars. The following miles per gallon data were obtained by the EPA from a sample of fifty 1993 Saturn SW2 station wagons equipped with a 1.9-liter engine with dual overhead camshafts. (Note: MPG data are for highway driving.)

35	27	30	31	32	36	32	34	39	34
38	41	32	32	37	33	31	37	43	38
31	39	35	33	34	35	38	27	26	36
36	27	29	37	33	31	29	28	33	30
30	29	30	29	31	30	34	33	31	32

7. Miles-per-gallon data for city driving with the cars

21	26	24	25	29	25	25	24	21	24
23	24	23	26	20	20	29	20	28	23
29	25	29	23	23	26	21	27	21	25
20	21	20	22	24	23	24	29	24	26
39	27	22	20	25	29	23	22	22	27

8. Although the life insurance industry is largely unregulated, the National Association of Insurance Commissioners (NAIC), an organization made up of insurance regulators from all 50 states, attempts to regulate the industry. A 1995 survey of 35 companies selling life insurance in most states revealed the following premium costs for a \$100,000 whole-life insurance policy for a 45-year-old male nonsmoker.

\$3504	\$2055	\$1858	\$2053	\$2075	\$1600	\$1800
2156	2151	2130	2059	1880	2035	1778
2016	2135	2020	1898	1852	1708	1955
2101	2061	2082	1672	2063	1514	1960
2113	2425	2073	2002	2094	1743	1719