

**Section 12.1 Worksheet**

Name \_\_\_\_\_

Exercises 1 and 2 present numerical information. Describe the population whose properties are analyzed by the data.

1. During 2001, there were 583 crimes in a certain city per 100,000 residents.

*city's residents*

2. During 2001, 51% of households in city A were online.

*households in city A*

Exercises 3 and 4 are multiple choice. Read each scenario, and then select the most appropriate sampling method.

3. The government of a town needs to determine if the city's residents will support the construction of a new town hall. The government decides to conduct a survey of a sample of the city's residents. Which one of the following procedures would be most appropriate for obtaining a sample of the town's residents?
  - a. Survey the first 500 people listed in the town's telephone directory.
  - b. Survey every 4th person who walks into city hall on a given day.
  - c. Survey a random sample of persons within each geographic region of the city.
  - d. Survey a random sample of employees at the old city hall.

4. The city council of a small town needs to determine if the town's residents will support the building of a new library. The council decides to conduct a survey of a sample of the town's residents. Which one of the following procedures would be most appropriate for obtaining a sample of the town's residents?
  - a. Survey a random sample of librarians who live in the town.
  - b. Survey 400 individuals who are randomly selected from a list of all people living in the state in which the town is located.
  - c. Survey a random sample of persons within each neighborhood of the town.
  - d. Survey every 12th person who enters the old library on a given day.

5. A random sample of 30 high school students is selected. Each student is asked how much time he or she spent watching television during the previous week. The following times (in hours) are obtained:
 

9, 17, 11, 14, 11, 9, 11, 10, 8, 14, 12, 10, 10, 9, 12,  
11, 8, 8, 13, 10, 8, 10, 17, 12, 9, 13, 9, 12, 11, 10

Complete the frequency distribution for the data.

Hours of TV	Number of HS Students
8	4
9	5
10	6
11	5
12	4
13	2
14	2
17	2

6. The ages of 30 swimmers who participated in a swim meet are as follows:
 

17, 35, 29, 32, 39, 17, 49, 58, 18, 42, 50, 18, 25, 27, 40, 19, 28, 19, 57, 48, 23, 36, 45, 52, 32, 21, 21, 40, 29, 48

Construct a grouped frequency distribution for the data.

Use the classes 17–26, 27–36, 37–46, 47–56, 57–66.

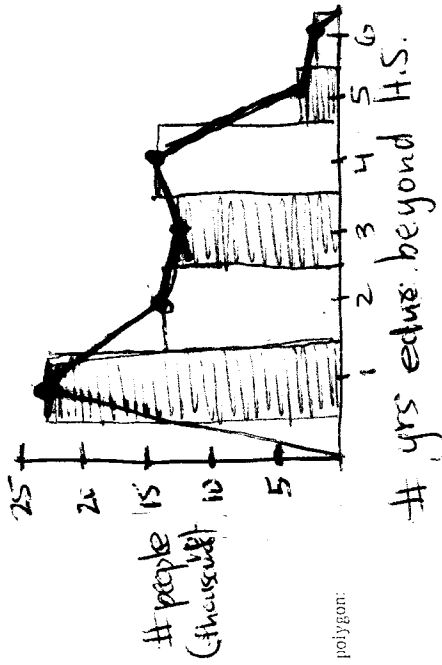
Age	Number of Swimmers
17–26	10
27–36	8
37–46	5
47–56	5
57–66	2

Name \_\_\_\_\_

7. Use the frequency distribution to construct a histogram and a frequency polygon.

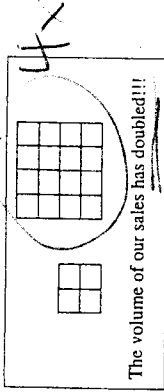
Years of Education Beyond High School	Number of People (thousands)
1	23
2	13
3	12
4	14
5	4
6	2

a. Histogram:



b. Frequency polygon:

8. Describe the error in the visual display shown.



9. A random sample of 30 attorneys is selected. The following list gives their ages: 40, 68, 52, 55, 65, 73, 62, 51, 39, 45, 53, 41, 71, 54, 70, 42, 39, 49, 54, 61, 48, 41, 58, 63, 77, 64, 40, 63, 82, 81

a. Construct a stem-and-leaf plot for the data.

Stems	Attorneys
3	99
4	00112589
5	1234450
6	1233458
7	0137
8	12

b. What does the shape of the plot reveal about the ages of the attorneys?

most are middle-aged  
40's - 60's