

12-2 Reteaching

Frequency and Histograms

Sometimes it is helpful to break data up into intervals and evaluate the frequency of the intervals. The frequency can be displayed graphically in a histogram.

Problem

The ages of people attending the meeting are given below. What would a histogram representing the frequency of the various ages look like?

62, 52, 38, 55, 47, 42, 32, 46, 29, 37, 38, 49, 50, 56, 72, 68, 36, 28, 51, 49, 71

- a. How do you know what the intervals should be?

Step 1: Find the difference between the greatest value, 72, and the least value, 28: $72 - 28 = 44$.

Step 2: Use this difference to determine the number of intervals.

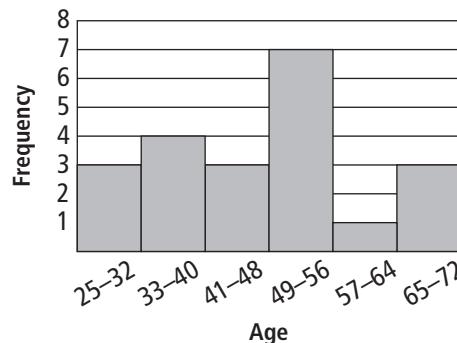
The Interval		
If the number of years in the interval is:	Divide	Intervals
2	$\frac{44}{2} = 22$	22—too many
10	$\frac{44}{10} = 4.4$	4—too few
8	$\frac{44}{8} = 5.5$	6—good

There should be about 6 intervals of 8 years each.

- b. How can you make a frequency table for the data?
 Since there should be 6 intervals of 8 years each, the table should reflect this. To find the frequency of each age range, simply count the number of people in the data set that are in that age range.

Age of Attendees	
Age	Frequency
25–32	3
33–40	4
41–48	3
49–56	7
57–64	1
65–72	3

- c. How can you represent the data in a histogram?
 Use the frequency table to make the histogram. Each bar should be drawn to correspond with the frequency.



12-2 **Reteaching** (continued)

Frequency and Histograms

Exercises

Use the data to make a frequency table.

1. height (in.): 78 56 99 82 108 65 76
82 95 100 85 73 99

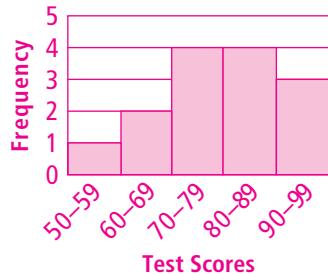
Height	
Inches	Freq.
50 – 59	1
60 – 69	1
70 – 79	3
80 – 89	3
90 – 99	3
100 – 109	2

2. distance (mi): 12 21 19 25 8 17 16
29 31 20 5 13

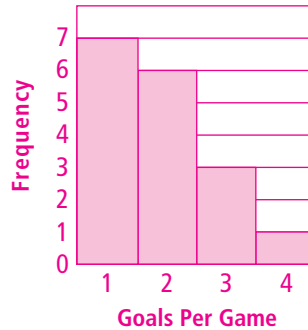
Distance	
Miles	Frequency
5 – 9	2
10 – 14	2
15 – 19	3
20 – 24	2
25 – 29	2
30 – 34	1

Use the data to make a histogram.

3. test scores: 99 72 65 83 87 76 94
80 67 59 73 91 70 82

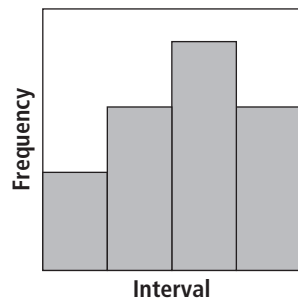


4. goals per game: 2 1 4 2 2 1 1 3
1 3 2 2 1 3 1 1 2



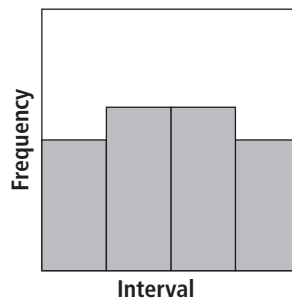
Tell whether each histogram is *uniform*, *symmetric*, or *skewed*.

5.



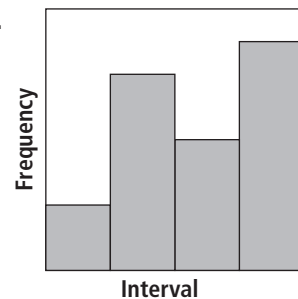
symmetric

6.



uniform

7.



skewed