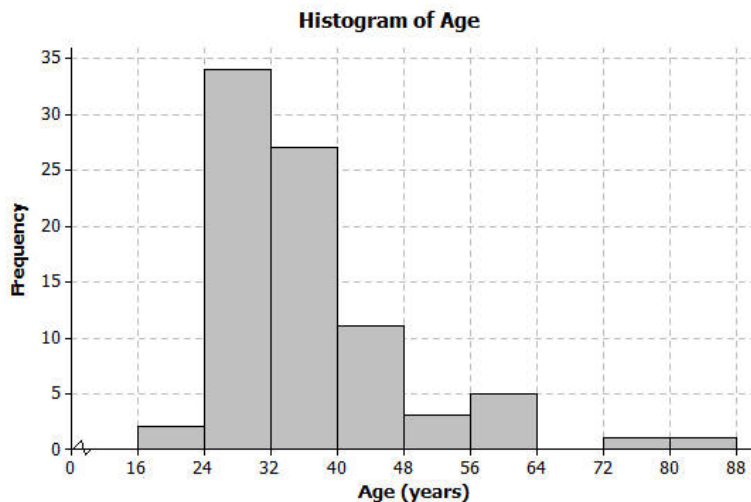


Problem Set

1. The following histogram summarizes the ages of the actresses whose performances have won in the Best Leading Actress category at the annual Academy Awards (i.e., Oscars).



- Which age interval contains the most actresses? How many actresses are represented in that interval?
 - Describe the shape of the histogram.
 - What does the histogram tell you about the ages of actresses who won the Oscar for best actress?
 - Which interval describes the center of the ages of the actresses?
 - An age of 72 would be included in which interval?
2. The frequency table below shows the seating capacity of arenas for NBA basketball teams.

Number of Seats	Tally	Frequency
17,000–< 17,500		2
17,500–< 18,000		1
18,000–< 18,500		6
18,500–< 19,000		5
19,000–< 19,500		5
19,500–< 20,000		5
20,000–< 20,500		2
20,500–< 21,000		2
21,000–< 21,500		0
21,500–< 22,000		0
22,000–< 22,500		1

- Draw a histogram for the number of seats in the NBA arenas data. Use the histograms you have seen throughout this lesson to help you in the construction of your histogram.
- What is the width of each interval? How do you know?

- c. Describe the shape of the histogram.
- d. Which interval describes the center of the number of seats data?
3. Listed are the grams of carbohydrates in hamburgers at selected fast food restaurants.

33 40 66 45 28 30 52 40 26 42
42 44 33 44 45 32 45 45 52 24

- a. Complete the frequency table using the given intervals of width 5.

Number of Carbohydrates (grams)	Tally	Frequency
20–< 25		
25–< 30		
30–< 35		
35–< 40		
40–< 45		
45–< 50		
50–< 55		
55–< 60		
60–< 65		
65–< 70		

- b. Draw a histogram of the carbohydrate data.
- c. Describe the center and shape of the histogram.
- d. In the frequency table below, the intervals are changed. Using the carbohydrate data above, complete the frequency table with intervals of width 10.

Number of Carbohydrates (grams)	Tally	Frequency
20–< 30		
30–< 40		
40–< 50		
50–< 60		
60–< 70		

- e. Draw a histogram.
4. Use the histograms that you constructed in Exercise 3 parts (b) and (e) to answer the following questions.
- a. Why are there fewer bars in the histogram in part (e) than the histogram in part (b)?
- b. Did the shape of the histogram in part (e) change from the shape of the histogram in part (b)?
- c. Did your estimate of the center change from the histogram in part (b) to the histogram in part (e)?