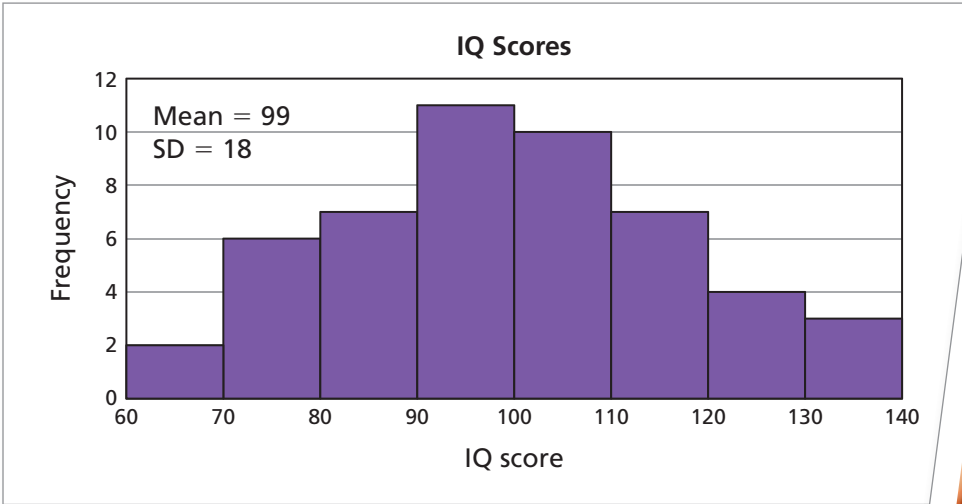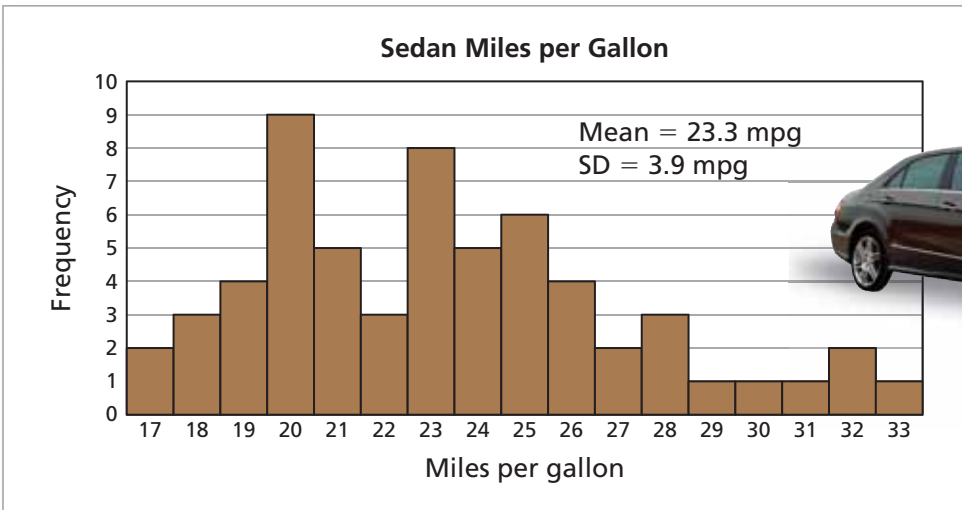# 9.4 Exercises

IQ Scores **The histogram shows the distribution of the IQ scores of 50 adults. In Exercises 1 and 2, use the histogram.** *(See Examples 1 and 2.)*

IQ Scores

Mean = 99
SD = 18

1. Use the *Confidence Interval Calculator* at *Math.andYou.com* and a 95% confidence level to estimate the population mean IQ score.

2. Repeat Exercise 1 using a sample size of 100. Compare the confidence intervals. What happens when the sample size increases? Explain.

Fuel Efficiency **The graph shows the distribution of the fuel efficiencies of 60 sedans. In Exercises 3 and 4, use the histogram.** *(See Examples 1 and 2.)*

Sedan Miles per Gallon

Mean = 23.3 mpg
SD = 3.9 mpg

3. Use the *Confidence Interval Calculator* at *Math.andYou.com* and a 90% confidence level to estimate the population mean fuel efficiency.

4. Repeat Exercise 3 using a 99% confidence level. Compare the confidence intervals. What happens when the confidence level increases? Explain.