

Practice

Form G

Analyzing Data

Find the mean, median, and mode of each set of values.

1. Customers per day: 98 87 79 82 101 99 97 97 102 91 93 about 93.3; 97; 97

2.

Weight (g)	2.3	2.4	2.5	2.6	2.8	2.9
Frequency	1	4	1	1	1	2

 2.56; 2.45; 2.4

3.

Length (m)	12	13	14	15	16	17	18
Frequency	2	5	3	7	4	9	1

 about 15.2; 15; 17

Identify the outlier of each set of values.

4. 32 35 3 36 37 35 38 40 42 34 3

5. 153 156 176 156 165 110 159 169 172 110

6. The table shows the average monthly rainfall for two cities. How can you compare the rainfall amounts? City A: mean = 3, mode = 3.1, min = 0.8, max = 5, range = 4.2, $Q_1 = 2.25$,

	J	F	M	A	M	J	J	A	S	O	N	D
City A	3.2	3.1	4.5	5.0	4.1	2.9	1.8	0.8	2.2	2.3	3.1	3.0
City B	4.2	4.0	4.7	4.8	4.5	4.3	4.0	3.9	4.3	4.4	4.6	4.5

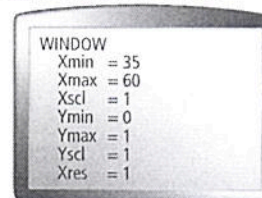
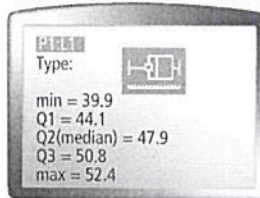
median = 3.05, $Q_3 = 3.65$, IQ range = 1.4; City B: mean = 4.35, modes = 4, 4.3, 4.5, min = 3.9, max = 4.8, range = 0.9, $Q_1 = 4.1$, median = 4.35, $Q_3 = 4.55$, IQ range = 0.45

7. The list gives the average temperatures in January for several cities in the mid-South.

Make a box-and-whisker plot of the data.

49.1 50.8 42.9 44.0 44.2 51.4 45.7

39.9 50.8 46.7 52.4 50.4

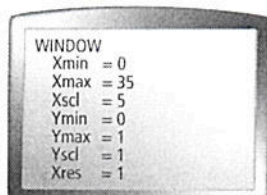
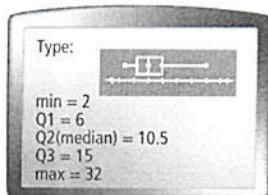


Make a box-and-whisker plot for each set of values.

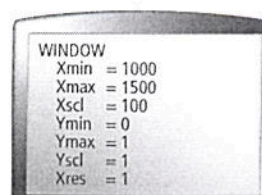
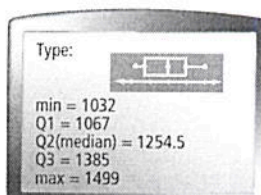
8. 2 8 3 7 3 6 4 9 10 15 21 29 32 30 5 7 32 4 11 13 11 14 10 12 13 15

9. 1054 1165 1287 1385 1456 1398 1298 1109 1067 1384 1499 1032 1222 1045

8.



9.



Practice (continued)

Form G

Analyzing Data

Find the values at the 20th and 80th percentiles for each set of values.

10. 188 168 174 198 186 170 180 182 186 176 174; 188

11. 376 324 346 348 350 352 356 368 345 360 346; 368

Identify the outlier in each data set. Then find the mean, median, and mode of the data set when the outlier is included and when it is not.

12. 23 76 79 76 77 74 75 23; about 68.6, 76, 76; about 76.2, 76, 76

13. 43 46 49 50 52 54 78 47 78; about 52.4, 49.5, no mode; about 48.7, 49, no mode

14. The table shows the number of shaved-ice servings sold during the first week of July. See below

Date	7/1	7/2	7/3	7/4	7/5	7/6	7/7
Number Sold	65	70	67	98	72	67	64

a. Make a box-and-whisker plot of the data for the number of shaved-ice servings sold.

b. Find any outliers. Remove them from the data set and make a revised box-and-whisker plot. 98

c. **Writing** How does removing the outliers affect the box-and-whisker plot?

How does it affect the measures of central tendency? Answers may vary. Sample: Removing the outliers shortens the right-hand whisker and narrows the box; the mean is reduced from ≈ 71.9 to 67.5; the median and mode are unchanged.

For Exercises 15–18, use the set of values below.

1 2 2 2 2 2 2 2 3 3 3 3 3 4 4 4 5 25 26 27

15. At what percentile is 1? 0th

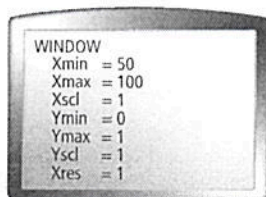
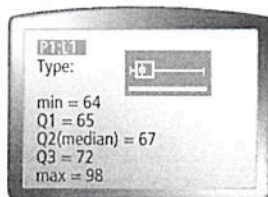
16. At what percentile is 25? 85th

17. Find the mean, median, and mode of the data set. 6.25, 3, 2

18. **Writing** Suppose these values represent years of experience of the accountants at an accounting firm. Which measure(s) of central tendency best describe(s) the experience of the firm's accountants? Explain.

Answers may vary. Sample: median and mode; 60% (12 out of 20) of the accountants have 2 or 3 years of experience, but only 15% (3 out of 20) of them have more than the mean years of experience.

14a.



14b.

