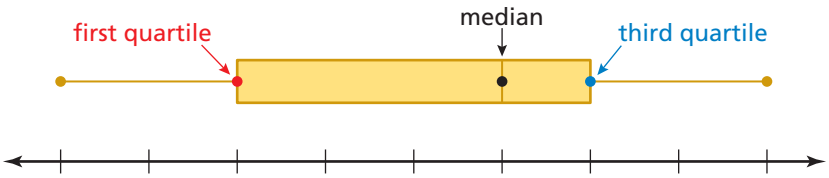
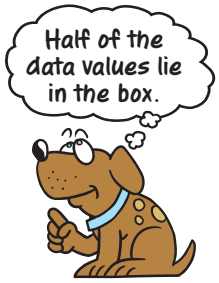
REVIEW: Identifying Outliers

Name _____

Key Concept and Vocabulary





interquartile range (IQR) = third quartile − first quartile

An outlier is any data value that is:

- < first quartile − 1.5 × IQR
- > third quartile + 1.5 × IQR

Skill Example

1. lower half: 10 21 21 23 — upper half: 25 26 28 42

first quartile, 21 — third quartile, 27

IQR = 27 − 21 = 6

21 − 1.5 × 6 = 12

Because 10 < 12, 10 is an outlier.

27 + 1.5 × 6 = 36

Because 42 > 36, 42 is an outlier.

Application Example

2. The table shows the heights of seven students. Identify any outlier(s).

Height (inches)						
52	47	55	81	61	49	59

Order the data: 47, 49, 52, 55, 59, 61, 81

IQR = 61 − 49 = 12

49 − 1.5 × 12 = 31

61 + 1.5 × 12 = 79

Because 81 > 79, 81 is an outlier. There are no data values less than 31.

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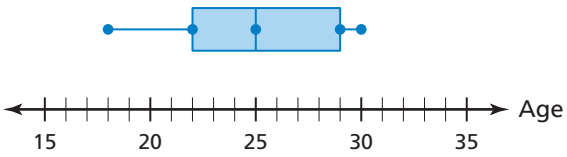
Check your answers at BigIdeasMath.com.

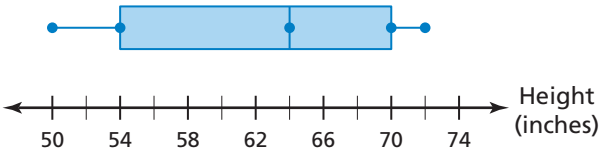
Find the interquartile range.

3.



IQR = 29 − 22 = 7

4.



IQR = 70 − 54 = 16

Identify any outlier(s) of the data set.

5. 8, 10, 13, 13, 14, 16, 27 27

6. 20, 22, 22, 25, 28, 32, 34, 43 none

7. 44, 51, 36, 19, 40, 69, 49, 46 19, 69

8. 76, 72, 64, 93, 80, 78, 96, 75, 70, 72 93, 96

9. **BASKETBALL** The table shows the free throw percentage of each player on a basketball team. Identify any outlier(s). 51, 54

Free Throw Percentage			
75	72	54	69
82	51	74	76
79	85	75	84