

## 2.R.8 Exercises

### Concept Check

**True/False.** Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

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1. If only one endpoint is included in an interval, it is called a half-open interval.
2. When both sides of a linear inequality are multiplied by a negative constant, the sense of the inequality should stay the same.
3. To check the solution set of a linear inequality, every solution in the solution set must be checked in the original inequality.
4. The infinity symbol  $\infty$  does not represent a specific number.

### Practice

Graph each interval on a real number line and tell what type of interval it is.

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5.  $x \leq -3$
6.  $-1.5 \leq x < 3.2$

Solve each inequality and graph the solution set. Write each solution set using interval notation.

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7.  $x + 1 > 5$

8.  $-2x \geq 6$

9.  $4x - 7 \geq 9$

10.  $5x + 6 \geq 2x - 2$

## Applications

Solve.

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11. **Test Scores:** A statistics student has grades of 82, 95, 93, and 78 on four hour-long exams. He must average 90 or higher to receive an A for the course. What scores can he receive on the final exam and earn an A if:
- The final is equivalent to a single hour-long exam (100 points maximum)?
  - The final is equivalent to two hourly exams (200 points maximum)?
12. **Postage:** Allison is going to the post office to buy 34¢ stamps and 3¢ adjustment stamps. Since the current postage rate is 49¢, she will need 5 times as many 3¢ adjustment stamps as 34¢ stamps. If she has \$12.25 to spend, what is the largest number of 34¢ stamps she can buy?

