

Lesson 5.8 Solving Inequalities

Inequalities can be solved the same way that equations are solved.

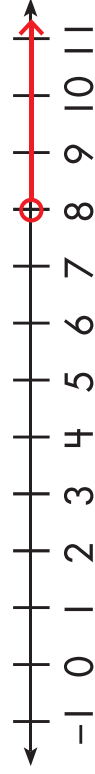
$$6 + q > 14$$

1. Subtract 6 from both sides of the inequality to isolate the variable on one side of the inequality.

$$6 + q - 6 > 14 - 6$$

$$q > 8$$

2. The variable q represents a value that is greater than 8.



A number line can be used to represent the possible values of the variable. An open circle shows that the values do not include 8. For inequalities that use \leq or \geq , a closed circle indicates that the values do include that point.

Solve the inequalities and represent the possible values of the variable on a number line.

1. $6 > z - 2$

2. $g + 7 < -12$

3. $d - 5 < 7$

4. $15 > k + 2$

5. $l + x > -16$

6. $y + 8 < -9$

7. $8 \leq 8 + r$

8. $w + 8 \geq 11$

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Solve the inequalities and represent the possible values of the variable on a number line.

1. $x - 2 < 12$

2. $-1 + y > 17$

3. $p + 2 < -13$

4. $-7 + v < -17$

5. $6 + s \geq -6$

6. $f + 2 \geq 8$

7. $-10 > w - 1$

8. $-3 + g \leq 9$