Name _____ Date _____ Class _____

LESSON 7-1

Writing and Solving One-Step Inequalities

Reteach

When solving an inequality, solve it as if it is an equation. Then decide on the correct inequality sign to put in the answer.

When adding or subtracting a number from each side of an inequality, the sign stays the same. When multiplying or dividing by a positive number, the sign stays the same. When multiplying or dividing by a negative number, the sign changes.

$x + 5 > -5$

$x + 5 - 5 > -5 - 5$

$x > -10$

Check:
Think: 0 is a solution because $0 > -10$. Substitute 0 for x to see if your answer checks.

$x + 5 > -5$

$0 + 5 \stackrel{?}{} -5$

$5 > -5$ ✓

$x - 3 \leq 8$

$x - 3 + 3 \leq 8 + 3$

$x \leq 11$

Check:
Think: 0 is a solution because $0 \leq 11$. Substitute 0 for x to see if your answer checks.

$x - 3 \leq 8$

$0 - 5 \stackrel{?}{} 8$

$-5 \leq 8$ ✓

$-2x \geq 8$

$\frac{-2x}{-2} \leq \frac{8}{-2}$

$x \leq -4$

Dividing by a negative, so reverse the inequality sign.

Check:
Think: -6 is a solution because $-6 \leq -4$. Substitute -6 for x to see if your answer checks.

$-2x \geq 8$

$-2 \cdot -6 \stackrel{?}{} 8$

$12 \geq 8$ ✓

$\frac{x}{3} < -6$

$\frac{x}{(3)}(3) < (-6)(3)$

$x < -18$

Check: Think: -21 is a solution because $-21 < -18$. Substitute -21 for x to see if your answer checks.

$\frac{x}{3} < -6$

$\frac{-21}{3} \stackrel{?}{} -6$

$-7 < -6$ ✓

Solve each inequality. Check your work.

1. $n + 6 \geq -3$

2. $-2n < -12$

3. $\frac{n}{3} \leq -21$

4. $n - (-3) \geq 7$

5. $-15 + n < -8$

6. $6n > -12$

7. $-6 + n < -9$

8. $\frac{n}{-6} > -2$

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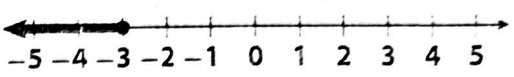
LESSON 7-1

Writing and Solving One-Step Inequalities

Practice and Problem Solving: D

Solve each inequality. Graph and check the solution. The first one is done for you.

1. $-2a \geq 6$ $a \leq -3$



$\frac{a}{-2} \leq \frac{6}{-2}$

$a \leq -3$

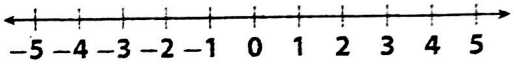
When you divide or multiply by a negative number, reverse the inequality sign.

Check: Think: –5 is one solution because $-5 \leq -3$. Substitute –5 for *a*.

$(-2)(-5) \stackrel{?}{} 6$

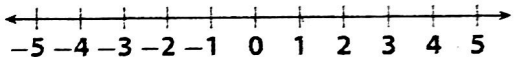
$10 \geq 6$ ✓

2. $1 > n + 4$ _____



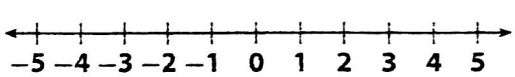
Check:

3. $b - 2 \geq -2$ _____



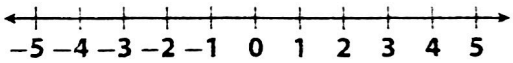
Check:

4. $\frac{e}{2} < -1$ _____



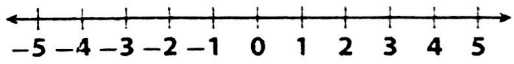
Check:

5. $t + 2 \geq 3$ _____



Check:

6. $\frac{c}{-2} < -2$ _____



Check:

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