Name _____ Date _____ Period _____

Lesson 8-6

Reinforce Understanding

Solve and Graph Inequalities

I can solve an inequality and graph its solution set on a number line.

Worked model

Solve x + 3 > 53. The inverse of adding 3 is subtracting 3.

1. I subtract 3 from both sides: x + 3 − 3 > 53 − 3, so x > 50.
2. The symbol > does not include 50, so I use an open circle at 50.
3. 'Greater than' shades right. Check: x = 60 gives 60 + 3 = 63 > 53. True!

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Solve x + 3 > 9, then graph the solution on the number line.

Mark and label each value on the number line.

Show your thinking

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2. Solve: x + 6 > 14

Circle the letter of the best answer. Show how you know.

A. x > 8
B. x < 8
C. x = 8
D. x > 20

Show your work

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3. Solve: x − 9 ≤ 3

Circle the letter of the best answer. Show how you know.

A. x ≤ 6
B. x ≤ 12
C. x ≥ 12
D. x = 12

Show your work
