Name _____ Class _____ Date _____

Reteaching 3-2

Solving Inequalities Using Addition and Subtraction

OBJECTIVE: Using addition and subtraction to solve one-step inequalities

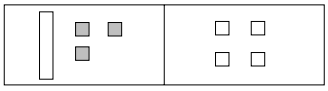
MATERIALS: Tiles

- To solve one-step inequalities, use the same strategies you use to solve equations. Apply the Addition and Subtraction Properties of Inequality.
- When you add or subtract the same quantity from each side of an inequality, the direction of the inequality symbol stays the same.

Example

Using tiles, solve the inequality $x - 3 < 4$.

a. Model the inequality with tiles.



$x - 3 < 4$

b. Add or subtract the same quantity on each side to get the variable alone on one side of the inequality symbol.

For this example, add 3 to each side.

$x - 3 + 3 < 4 + 3$

c. Simplify by removing zero pairs.

d. Write the solution to the inequality.

$x < 7$

Note that even though you are adding the same quantity to each side of the inequality, the direction of the inequality symbol stays the same.

Exercises

Use tiles and steps a–d to model and solve each inequality.

1. $y - 2 < 4$ **2.** $x - 4 < 1$ **3.** $7 < w + 2$

4. $x - 6 > 10$ **5.** $10 \leq y + 8$ **6.** $a - 1 > 3$

7. $4 + h \leq 7$ **8.** $s - 3 > 2$ **9.** $b + 3 < 8$

Solve.

10. $x - 9 < 6$ **11.** $a - 7 > 5$ **12.** $b - 4 < 10$

13. $c + 5 > 7$ **14.** $6 + d < 11$ **15.** $f - 4 > 15$

16. The band must earn at least \$75 for a trip. Band members already earned \$35. Write and solve an inequality to find how much money they still need to earn.

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