Reteaching 4-2  
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.  
   ![Diagram showing tiles with $x - 3 < 4$]

b. Add or subtract the same quantity on each side to get the variable alone on one side of the inequality symbol.  
   ![Diagram showing tiles with $x - 3 + 3 < 4 + 3$]

   For this example, add 3 to each side.

c. Simplify by removing zero pairs.  
   ![Diagram showing tiles with $x < 7$]

d. Write the solution to the inequality.

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. $10 = y + 8$  
6. $a - 1 > 3$

7. $4 + h < 7$  
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.