

3-4**Think About a Plan****Solving Multi-Step Inequalities**

Commission A sales associate in a shoe store earns \$325 each week, plus a commission equal to 4% of her sales. This week her goal is to earn at least \$475. At least how many dollars' worth of shoes must the associate sell in order to reach her goal?

What do you know?

1. Write an expression to represent how much a sales associate earns each week.
Let s = total sales.

2. How much does she want to earn this week?

How do you plan to solve the problem?

3. Should you use an equation or an inequality to compare the amount the sales associate earns and her goal? Explain.

How do you solve the problem?

4. What inequality can you use to find how many dollars' worth of shoes she must sell this week to reach her goal?

5. Solve the inequality. Show your work.

3-4

Practice

Form G

Solving Multi-Step Inequalities

Solve each inequality. Check your solutions.

1. $3f + 9 < 21$

2. $4n - 3 \geq 105$

3. $33y - 3 \leq 8$

4. $2 + 2p > -17$

5. $12 > 60 - 6r$

6. $-5 \leq 11 + 4j$

Solve each inequality.

7. $2(k + 4) - 3k \leq 14$

8. $3(4c - 5) - 2c > 0$

9. $15(j - 3) + 3j < 45$

10. $22 \geq 5(2y + 3) - 3y$

11. $-53 > -3(3z + 3) + 3z$

12. $20(d - 4) + 4d \leq 8$

13. $-x + 2 < 3x - 6$

14. $3v - 12 > 5v + 10$

Solve each inequality, if possible. If the inequality has no solution, write *no solution*. If the solutions are all real numbers, write *all real numbers*.

15. $6w + 5 > 2(3w + 3)$

16. $-5r + 15 \geq -5(r - 2)$

17. $-2(6 + s) < -16 + 2s$

18. $9 - 2x < 7 + 2(x - 3)$

19. $2(n - 3) \leq -13 + 2n$

20. $-3(w + 3) < 9 - 3w$