




# 6.4 EXERCISES

## HOMEWORK KEY

-  = **WORKED-OUT SOLUTIONS**  
on p. WS1 for Exs. 7, 11, and 41
-  = **TAKS PRACTICE AND REASONING**  
Exs. 27, 39, 45, and 47
-  = **MULTIPLE REPRESENTATIONS**  
Ex. 43

### SKILL PRACTICE

- VOCABULARY** Copy and complete: A(n) ? is an inequality that consists of two inequalities joined by *and* or *or*.
- WRITING** Describe the difference between the graphs of  $-6 \leq x \leq -4$  and  $x \leq -6$  or  $x \geq -4$ .

#### EXAMPLE 1

on p. 380  
for Exs. 3–6


**TRANSLATING VERBAL PHRASES** Translate the verbal phrase into an inequality. Then graph the inequality.

- All real numbers that are less than 6 *and* greater than 2
- All real numbers that are less than or equal to  $-8$  *or* greater than 12
- All real numbers that are greater than or equal to  $-1.5$  *and* less than 9.2
- All real numbers that are greater than or equal to  $-7\frac{1}{2}$  *or* less than or equal to  $-10$

#### EXAMPLE 2

on p. 381  
for Exs. 7–8


**WRITING AND GRAPHING INEQUALITIES** Write and graph an inequality that describes the situation.

-  The minimum speed on a highway is 40 miles per hour, and the maximum speed is 60 miles per hour.
- The temperature inside a room is uncomfortable if the temperature is lower than  $60^\circ\text{F}$  or higher than  $75^\circ\text{F}$ .

#### EXAMPLES 3, 4, and 5

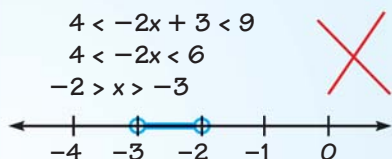
on pp. 381–382  
for Exs. 9–22

**SOLVING COMPOUND INEQUALITIES** Solve the inequality. Graph your solution.

- |   |  |
|---|--|
| 9. $6 < x + 5 \leq 11$  | 10. $-7 > y - 8 \geq -12$                            |
| 11.  $-1 \leq -4m \leq 16$ | 12. $-6 < 3n + 9 < 21$                               |
| 13. $-15 \leq 5(3p - 2) < 20$   | 14. $7 > \frac{2}{3}(6q + 18) \geq -9$               |
| 15. $2r + 3 < 7$ or $-r + 9 \leq 2$   | 16. $16 < -s - 6$ or $2s + 5 \geq 11$                |
| 17. $v + 13 < 8$ or $-8v < -40$   | 18. $-14 > w + 3$ or $5w - 13 > w + 7$               |
| 19. $9g - 6 > 12g + 1$ or $4 < -\frac{2}{5}g + 8$   | 20. $-2h - 7 > h + 5$ or $\frac{1}{4}(h + 8) \geq 9$ |

**ERROR ANALYSIS** Describe and correct the error in solving the inequality or in graphing the solution.

21.



22.

