6.2 EXERCISES

HOMEWORK KEY

= **WORKED-OUT SOLUTIONS** on p. WS1 for Exs. 5, 9, and 39

= **TAKS PRACTICE AND REASONING** Exs. 34, 41, 43, and 44

= **MULTIPLE REPRESENTATIONS** Ex. 38

SKILL PRACTICE

1. VOCABULARY Which property are you using when you solve $5x \geq 30$ by dividing each side by 5?

2. WRITING Are $\frac{x}{-4} < -9$ and $x < 36$ equivalent inequalities? *Explain* your answer.

EXAMPLES 1, 2, and 3 on pp. 363–364 for Exs. 3–29

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

3. $2p \geq 14$

4. $\frac{x}{-3} < -10$

5. $-6y < -36$

6. $40 > \frac{w}{5}$

7. $\frac{q}{4} < 7$

8. $72 \leq 9r$

9. $\frac{g}{6} > -20$

10. $-11m \leq -22$

11. $-90 \geq 4t$

12. $\frac{n}{3} < -9$

13. $60 \leq -12s$

14. $\frac{v}{-4} \geq -8$

15. $-8.4f > 2.1$

16. $\frac{d}{-2} \leq 18.6$

17. $9.6 < -16c$

18. $0.07 \geq \frac{k}{7}$

19. $-1.5 \geq 6z$

20. $\frac{x}{-5} \leq -7.5$

21. $1.02 < -3j$

22. $\frac{y}{-4.5} \geq -10$

23. $\frac{r}{-30} < 1.8$

24. $1.9 \leq -5p$

25. $\frac{m}{0.6} > -40$

26. $-2t > -1.22$

27. WRITING How is solving $ax > b$ where $a > 0$ similar to solving $ax > b$ where $a < 0$? How is it different?

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

28.

$-15x > 45$

$\frac{-15x}{-15} > \frac{45}{-15}$

$x > -3$ ✗

29.

$\frac{x}{9} \leq -7$

$9 \cdot \frac{x}{9} \leq 9 \cdot (-7)$

$x \geq -63$ ✗

TRANSLATING SENTENCES **In Exercises 30–33, write the verbal sentence as an inequality. Then solve the inequality and graph your solution.**

30. The product of 8 and x is greater than 50.

31. The product of -15 and y is less than or equal to 90.

32. The quotient of v and -9 is less than -18.

33. The quotient of w and 24 is greater than or equal to $-\frac{1}{6}$.

34. TAKS REASONING Write an inequality in the form $ax < b$ such that the solutions are all real numbers greater than 4.