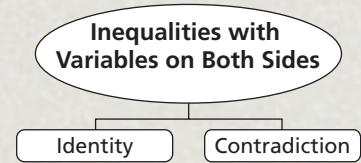


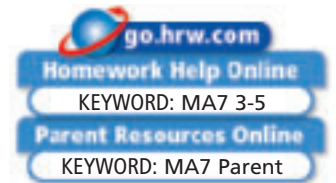
THINK AND DISCUSS

1. Explain how you would collect the variable terms to solve the inequality $5c - 4 > 8c + 2$.
2. **GET ORGANIZED** Copy and complete the graphic organizer. In each box, give an example of an inequality of the indicated type.



3-5

Exercises



GUIDED PRACTICE

SEE EXAMPLE 1

p. 194

Solve each inequality and graph the solutions.

1. $2x > 4x - 6$
2. $7y + 1 \leq y - 5$
3. $27x + 33 > 58x - 29$
4. $-3r < 10 - r$
5. $5c - 4 > 8c + 2$
6. $4.5x - 3.8 \geq 1.5x - 2.3$

SEE EXAMPLE 2

p. 195

7. **School** The school band will sell pizzas to raise money for new uniforms. The supplier charges \$100 plus \$4 per pizza. If the band members sell the pizzas for \$7 each, how many pizzas will they have to sell to make a profit?

SEE EXAMPLE 3

p. 195

Solve each inequality and graph the solutions.

8. $5(4 + x) \leq 3(2 + x)$
9. $-4(3 - p) > 5(p + 1)$
10. $2(6 - x) < 4x$
11. $4x > 3(7 - x)$
12. $\frac{1}{2}f + \frac{3}{4} \geq \frac{1}{4}f$
13. $-36.72 + 5.65t < 0.25t$

SEE EXAMPLE 4

p. 196

Solve each inequality.

14. $2(x - 2) \leq -2(1 - x)$
15. $4(y + 1) < 4y + 2$
16. $4v + 1 < 4v - 7$
17. $b - 4 \geq b - 6$
18. $3(x - 5) > 3x$
19. $2k + 7 \geq 2(k + 14)$

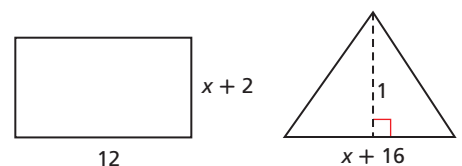
PRACTICE AND PROBLEM SOLVING

Solve each inequality and graph the solutions.

20. $3x \leq 5x + 8$
21. $9y + 3 > 4y - 7$
22. $1.5x - 1.2 < 3.1x - 2.8$
23. $7 + 4b \geq 3b$
24. $7 - 5t < 4t - 2$
25. $2.8m - 5.2 > 0.8m + 4.8$



26. **Geometry** Write and solve an inequality to find the values of x for which the area of the rectangle is greater than the area of the triangle.



Independent Practice

For Exercises	See Example
25	1
26	2
27–32	3
33–38	4

Extra Practice

Skills Practice p. 59

Application Practice p. 530

Solve each inequality and graph the solutions.

27. $4(2 - x) \leq 5(x - 2)$ 28. $-3(n + 4) < 6(1 - n)$ 29. $9(w + 2) \leq 12w$
 30. $4.5 + 1.3t > 3.8t - 3$ 31. $\frac{1}{2}r + \frac{2}{3} \geq \frac{1}{3}r$ 32. $2(4 - n) < 3n - 7$

Solve each inequality.

33. $3(2 - x) < -3(x - 1)$ 34. $7 - y > 5 - y$ 35. $3(10 + z) \leq 3z + 36$
 36. $-5(k - 1) \geq 5(2 - k)$ 37. $4(x - 1) \leq 4x$ 38. $3(v - 9) \geq 15 + 3v$

Solve each inequality and graph the solutions.

39. $3t - 12 > 5t + 2$ 40. $-5(y + 3) - 6 < y + 3$
 41. $3x + 9 - 5x < x$ 42. $18 + 9p > 12p - 31$
 43. $2(x - 5) < -3x$ 44. $-\frac{2}{5}x \leq \frac{4}{5} - \frac{3}{5}x$
 45. $-2(x - 7) - 4 - x < 8x + 32$ 46. $-3(2r - 4) \geq 2(5 - 3r)$
 47. $-7x - 10 + 5x \geq 3(x + 4) + 8$ 48. $-\frac{1}{3}(n + 8) + \frac{1}{3}n \leq 1 - n$



Recreation



The American Kitefliers Association has over 4000 members in 35 countries. Kitefliers participate in festivals, competitions, and kite-making workshops.

49. Recreation A red kite is 100 feet off the ground and is rising at 8 feet per second. A blue kite is 180 feet off the ground and is rising at 5 feet per second. How long will it take for the red kite to be higher than the blue kite? Round your answer to the nearest second.

50. Education The table shows the enrollment in Howard High School and Phillips High School for three school years.

School Enrollment			
	Year 1	Year 2	Year 3
Howard High School	1192	1188	1184
Phillips High School	921	941	961

- How much did the enrollment change each year at Howard?
- Use the enrollment in year 1 and your answer from part a to write an expression for the enrollment at Howard in any year x .
- How much did the enrollment change each year at Phillips?
- Use the enrollment in year 1 and your answer from part c to write an expression for the enrollment at Phillips in any year x .
- Assume that the pattern in the table continues. Use your expressions from parts b and d to write an inequality that can be solved to find the year in which the enrollment at Phillips High School will be greater than the enrollment at Howard High School. Solve your inequality and graph the solutions.

MULTI-STEP TEST PREP



- 51.** This problem will prepare you for the Multi-Step Test Prep on page 210.
- The school orchestra is creating a CD of their last concert. The cost of creating the CDs is $\$400 + 4.50$ per CD. Write an expression for the cost of creating the CDs based on the number of CDs n .
 - The orchestra plans to sell the CDs for $\$12$. Write an expression for the amount the orchestra earns from the sale of n CDs.
 - In order for the orchestra to make a profit, the amount they make selling the CDs must be greater than the cost of creating the CDs. Write an inequality that can be solved to find the number of CDs the orchestra must sell in order to make a profit. Solve your inequality.