

1.4 EXERCISES

HOMEWORK KEY

 = **WORKED-OUT SOLUTIONS**
on p. WS1 for Exs. 3, 9, and 35

 = **TAKS PRACTICE AND REASONING**
Exs. 6, 15, 27, 36, 38, 40, 41, and 42

SKILL PRACTICE

EXAMPLES 1 and 2

on pp. 26–27
for Exs. 3–6

1. **VOCABULARY** Copy and complete: A(n) ? is an equation that relates two or more quantities.

2. **WRITING** What does it mean to solve for a variable in an equation?

REWRITING FORMULAS Solve the formula for the indicated variable. Then use the given information to find the value of the variable.

3. Solve $A = lw$ for l . Then find the length of a rectangle with a width of 50 millimeters and an area of 250 square millimeters.

4. Solve $A = \frac{1}{2}bh$ for b . Then find the base of a triangle with a height of 6 inches and an area of 24 square inches.

5. Solve $A = \frac{1}{2}(b_1 + b_2)h$ for h . Then find the height of a trapezoid with bases of lengths 10 centimeters and 15 centimeters and an area of 75 square centimeters.

6. **MULTIPLE CHOICE** What equation do you obtain when you solve the formula $A = \frac{1}{2}(b_1 + b_2)h$ for b_1 ?

(A) $b_1 = \frac{2A}{h} - b_2$

(B) $b_1 = \frac{A}{2h} - b_2$

(C) $b_1 = 2A - b_2h$

(D) $b_1 = \frac{2A}{h - b_2}$

EXAMPLE 3

on p. 28
for Exs. 7–17

REWRITING EQUATIONS Solve the equation for y . Then find the value of y for the given value of x .

7. $3x + y = 26$; $x = 7$

8. $4y + x = 24$; $x = 8$

9. $6x + 5y = 31$; $x = -4$

10. $15x + 4y = 9$; $x = -3$

11. $9x - 6y = 63$; $x = 5$

12. $10x - 18y = 84$; $x = 6$

13. $8y - 14x = -22$; $x = 5$

14. $9y - 4x = -30$; $x = 8$

15. **MULTIPLE CHOICE** What equation do you obtain when you solve the equation $4x - 5y = 20$ for y ?

(A) $x = \frac{5}{4}y + 5$

(B) $y = -\frac{4}{5}x + 4$

(C) $y = \frac{4}{5}x - 4$

(D) $y = \frac{4}{5}x - 20$

ERROR ANALYSIS Describe and correct the error in solving the equation for y .

16.

$$-7x + 5y = 2$$

$$5y = 7x + 2$$

$$y = \frac{7}{5}x + 2$$



17.

$$4y - xy = 9$$

$$4y = 9 + xy$$

$$y = \frac{9 + xy}{4}$$

