

# 1.5 EXERCISES

## HOMWORK KEY

- = **WORKED-OUT SOLUTIONS**  
on p. WS1 for Exs. 3, 11, and 27
- ✦ = **TAKS PRACTICE AND REASONING**  
Exs. 15, 16, 21, 27, 34, 35, and 36
- ◆ = **MULTIPLE REPRESENTATIONS**  
Ex. 28

### SKILL PRACTICE

- VOCABULARY** Copy and complete: A word equation that represents a real-life problem is called a(n)   ?  .
- WRITING** Give an example of how a problem solving strategy can help you write an equation that models a real-life problem.

#### EXAMPLE 1

on p. 34  
for Exs. 3–10

**USING A FORMULA** Use the formula  $d = rt$  for distance traveled to solve for the missing variable.

- $d = 20$  mi,  $r = 40$  mi/h,  $t =$    ?
- $d =$    ?,  $r = 30$  mi/h,  $t = 3$  h
- $d = 300$  mi,  $r =$    ?,  $t = 4$  h
- $d = 250$  mi,  $r = 50$  mi/h,  $t =$    ?

**GEOMETRY** Use the formula  $P = 2l + 2w$  for the perimeter of a rectangle to solve for the missing variable.

- $P =$    ?,  $l = 15$  ft,  $w = 12$  ft
- $P = 46$  in.,  $l =$    ?,  $w = 4$  in.
- $P = 100$  m,  $l = 30$  m,  $w =$    ?
- $P = 25$  cm,  $w = 5$  cm,  $l =$    ?

#### EXAMPLE 2

on p. 35  
for Exs. 11–15

**USING PATTERNS** Look for a pattern in the table. Then write an equation that represents the table.

11. 

$x$	0	1	2	3
$y$	11	15	19	23

12. 

$x$	0	1	2	3
$y$	60	45	30	15

13. 

$x$	0	1	2	3
$y$	46	36	26	16

14. 

$x$	0	1	2	3
$y$	57	107	157	207

15. **MAKING REASONING** Which equation represents the table at the right?

$x$	0	1	2	3
$y$	12	19	26	33

- A  $y = 5x + 7$       B  $y = 7x + 5$   
 C  $y = 12x - 5$       D  $y = 7x + 12$

16. **SHORT RESPONSE** The first story of a building is 24 feet high, and each additional story is 18 feet high. Write an expression for the height to the top of the  $n$ th story. *Explain* the meaning of each term in the expression.

#### EXAMPLE 3

on p. 35  
for Exs. 17–18

**USING DIAGRAMS** Write and solve an equation to find  $x$ .

