3.6 EXERCISES

HOMEWORK KEY

- = **WORKED-OUT SOLUTIONS** on p. WS1 for Exs. 13 and 39
- = **TAKS PRACTICE AND REASONING** Exs. 15, 16, 41, 42, 44, and 45
- = **MULTIPLE REPRESENTATIONS** Ex. 40

SKILL PRACTICE

1. **VOCABULARY** Copy and complete: In a proportion, a(n) ? is the product of the numerator of one ratio and the denominator of the other ratio.

2. **WRITING** A scale drawing has a scale of 1 cm : 3 m. *Explain* how the scale can be used to find the actual distance between objects in the drawing.

EXAMPLES 1 and 2 on pp. 168–169 for Exs. 3–18

SOLVING PROPORTIONS **Solve the proportion. Check your solution.**

3. $\frac{2}{3} = \frac{4}{x}$
4. $\frac{3}{y} = \frac{15}{35}$
5. $\frac{13}{6} = \frac{52}{z}$
6. $\frac{10}{45} = \frac{v}{27}$
7. $\frac{5m}{6} = \frac{10}{12}$
8. $\frac{3k}{27} = \frac{2}{3}$
9. $\frac{-49}{7} = \frac{a+7}{6}$
10. $\frac{6}{t+4} = \frac{42}{77}$
11. $\frac{8}{12} = \frac{r}{r+1}$
12. $\frac{n}{n-12} = \frac{9}{5}$
13. $\frac{11}{w} = \frac{33}{w+24}$
14. $\frac{18}{d+13} = \frac{6}{d-13}$

15. **TAKS REASONING** What is the value of h in the proportion $\frac{15}{-2h} = \frac{5}{12}$?

Ⓐ -36 Ⓑ -18 Ⓒ 18 Ⓓ 36

16. **TAKS REASONING** What is the value of s in the proportion $\frac{7}{s-14} = \frac{21}{s+18}$?

Ⓐ -48 Ⓑ -16 Ⓒ 3 Ⓓ 30

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

17.
$$\frac{4}{3} = \frac{16}{x}$$
$$4 \cdot 16 = 4 \cdot x$$
$$64 = 4x$$
$$16 = x$$

18.
$$\frac{18}{14} = \frac{b+2}{b}$$
$$18b = 14b + 2$$
$$4b = 2$$
$$b = 0.5$$

SOLVING PROPORTIONS **Solve the proportion. Check your solution.**

19. $\frac{7}{3} = \frac{2x+5}{x}$
20. $\frac{a}{9a-2} = \frac{1}{8}$
21. $\frac{24}{5z+4} = \frac{4}{z-1}$
22. $\frac{c-8}{-2} = \frac{11-4c}{11}$
23. $\frac{k-8}{7+k} = \frac{-1}{5}$
24. $\frac{2}{-3} = \frac{4v+4}{2v+14}$
25. $\frac{m+1}{4} = \frac{3m+6}{7}$
26. $\frac{6}{4+2w} = \frac{-2}{w-10}$
27. $\frac{n+0.3}{n-3.2} = \frac{9}{2}$
28. $\frac{-3}{11} = \frac{5-h}{h+1.4}$
29. $\frac{4}{b-3.9} = \frac{2}{b+1}$
30. $\frac{16.5+3t}{3} = \frac{0.9-t}{-5}$