Lesson 70 • Solving Direct Variation Problems

Power Up

– ***Facts***

– ***Mental Math***

– ***Problem Solving***

New Concepts

– ***Examples***

– ***Practice Set***

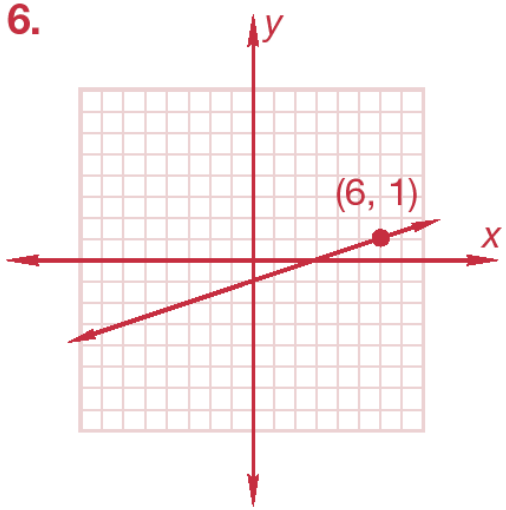
Written Practice

Facts Solve each proportion.

$\frac{x}{12} = \frac{4}{6}$ $x = 8$	$\frac{5}{x} = \frac{10}{30}$ $x = 15$	$\frac{8}{16} = \frac{x}{4}$ $x = 2$	$\frac{3}{6} = \frac{9}{x}$ $x = 18$
$\frac{x}{20} = \frac{2}{10}$ $x = 4$	$\frac{3}{x} = \frac{5}{15}$ $x = 9$	$\frac{7}{14} = \frac{x}{12}$ $x = 6$	$\frac{3}{12} = \frac{5}{x}$ $x = 20$
$\frac{x}{100} = \frac{5}{25}$ $x = 20$	$\frac{12}{x} = \frac{60}{20}$ $x = 4$	$\frac{10}{100} = \frac{x}{50}$ $x = 5$	$\frac{9}{27} = \frac{10}{x}$ $x = 30$

Written Practice

1. 5005
2. 125
3. $50
4. No; The ratio of L to W is not constant.
5. $x = 5$, $y = \frac{1}{5}$; $\frac{3}{5}$ or 0.6
6. yes
7. a. 63 ft^2
   b. 30 ft
8. a. 0.16
   b. $16\frac{2}{3}\%$
9. 

6. 

Written Practice *continued*

10. 

11. $\frac{3w^2y}{2}$

12. -1

13. $2x$

14. 0.32

15. $x = 1$

16. $x = 1$

17. $x = 8$

18. $\frac{30 \text{ in.}}{\text{sec}} \cdot \frac{1 \text{ ft}}{12 \text{ in.}} = \frac{2.5 \text{ ft}}{\text{sec}}$

19. a. $2(x^2 + 3x + 5)$

    b. $x^2(x - 1)$

20. a. $\{B_1B_2, B_1G, B_2B_1, B_2G, GB_1, GB_2\}$

    b. $P(B_1 \text{ and } B_2) = \frac{1}{3}$

21. 100°

22. $\left(\frac{1}{6}\right)^3 = \frac{1}{216}$

23. 6 in.

24. $\frac{21}{5}$ or 4.2

25. No, The relationship of cost to time is not proportional because the ratio is not constant.

23.