

# Answers for 8.1

For use with pages 555–557

## 8.1 Skill Practice

- jointly
- If the product of the  $x$ -values and the corresponding  $y$ -values are the same.
- inverse variation
- neither
- direct variation
- direct variation
- inverse variation
- neither
- direct variation
- inverse variation
- C
- $y = \frac{-20}{x}; -\frac{20}{3}$
- $y = \frac{9}{x}; 3$
- $y = \frac{-24}{x}; -8$
- $y = \frac{14}{x}; \frac{14}{3}$
- $y = \frac{21}{x}; 7$
- $y = \frac{5}{x}; \frac{5}{3}$
- $y = \frac{2}{x}; \frac{2}{3}$
- $y = \frac{-35}{3x}; -\frac{35}{9}$

- inverse variation
  - direct variation
  - neither
  - inverse variation
  - $z = -2xy; 40$
  - $z = \frac{1}{4}xy; -5$
  - $z = 20xy; -400$
  - $z = \frac{1}{14}xy; \frac{-10}{7}$
  - $z = -\frac{1}{3}xy; \frac{20}{3}$
  - $z = -5xy; 100$
  - A
  - $x = \frac{ay}{z}$
  - $y = axz^2$
  - $w = \frac{axz}{y}$
  - The inverse and direct variation pieces are reversed;  $z = \frac{axy^3}{\sqrt{w}}$ .
  - Sample answer:  
 $f(x) = 2x, g(x) = \frac{2}{x}$
  - directly;  
 $x = \frac{a}{y}, y = \frac{b}{z}, x = \frac{a}{\left(\frac{b}{z}\right)} \rightarrow x = \left(\frac{a}{b}\right)z$
- ## 8.1 Problem Solving
- $n = \frac{103.68}{s}; 26$  photos

# Answers for 8.1 continued

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38. *Sample answer:*  $R = \frac{9000}{I}$ ;

about 265 ohms

39.  $P = \frac{172}{A}$ ; about 2.87 lb/in.<sup>2</sup>

40. a.  $f = \frac{64.3\sqrt{T}}{Ld}$

b. about 26.27 Hz

41. a.  $F = \frac{Gm_1m_2}{d^2}$

b.  $6.7 \times 10^{-11}$

c. It decreases; it increases.

42. a. It remains the same.

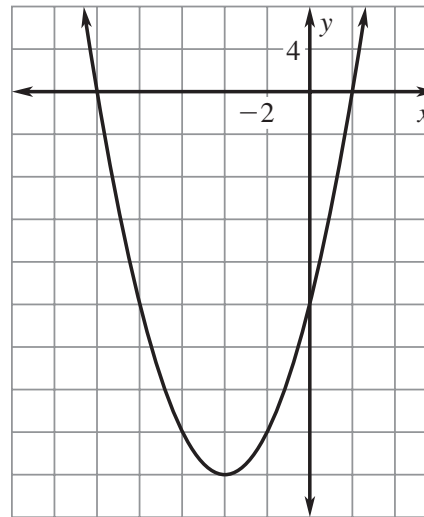
b. 8 times greater

c. 4 times greater

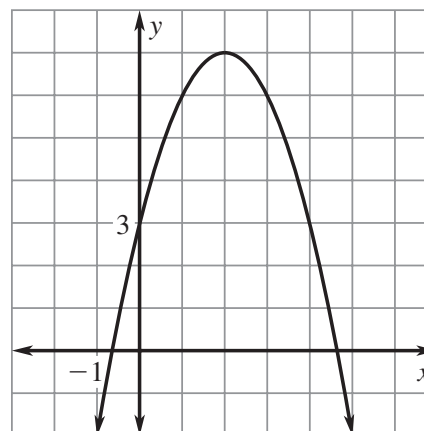
d. *Sample answer:* Double the depth, 4 times the width, or 8 times the width and twice the length

## 8.1 Mixed Review

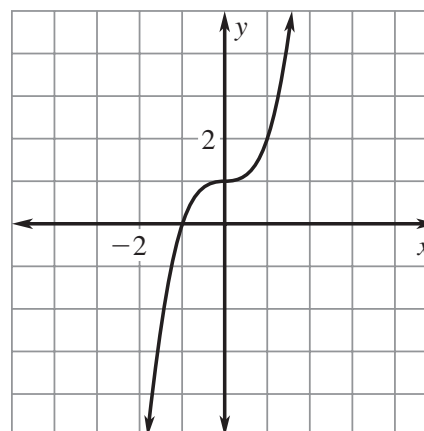
43.



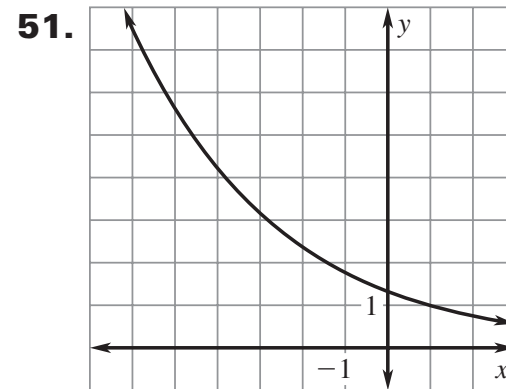
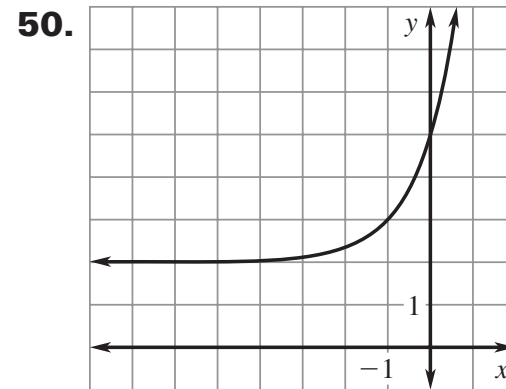
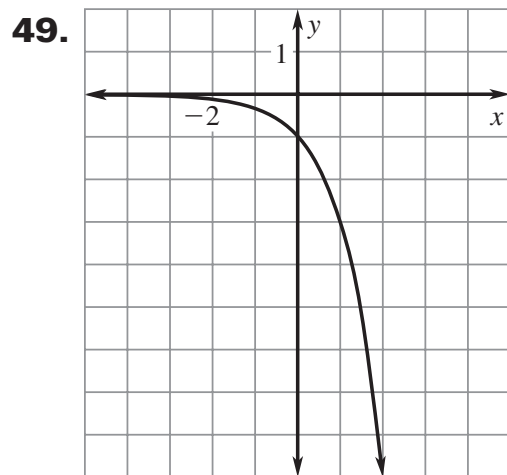
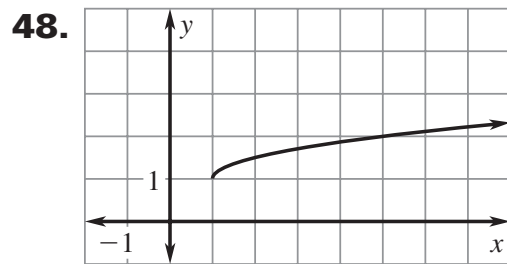
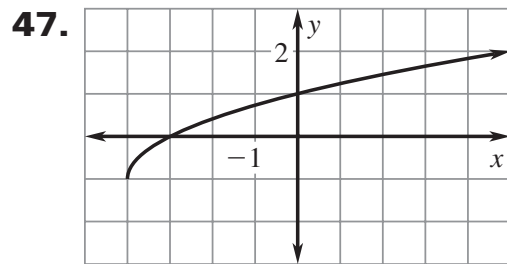
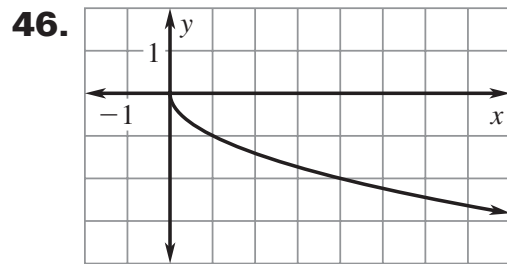
44.



45.



**Answers for 8.1** *continued*  
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**52.** 196

**53.** 625

**54.** 27

**55.** 12

**56.** 8

**57.** 8