

Answer Key

Lesson 6.1

Challenge Practice

1. $-8, -1$ 2. $-\frac{1}{3}, 6$ 3. $\frac{7}{3}, 0$ 4. $\frac{7}{25}, 2$

5. $x = 5, y = 2$ 6. $y \approx -8.088, 3.904, 9.184$
 $x \approx -7.930, 0.212, -2.283$

7. $x = \frac{1}{3}, \frac{1}{2}, y = \frac{5}{3}, \frac{17}{8}$ 8. 20 cm

9. $12 + 12\sqrt{2}$ in. 10. 24.5 cm

11. $\frac{a}{b} = \frac{c}{d}$ implies $ad = bc$.

$$\frac{a}{b} = \frac{e}{f} \text{ implies } af = be.$$

$ab = ab$ by the Reflexive property of congruence

Then $ab + ad + af = ba + bc + be$

$$a(b + d + f) = b(a + b + e)$$

$$\frac{a}{b}(b + d + f) = (a + b + e)$$

$$\frac{a}{b} = \frac{a + b + e}{b + d + f}$$

12. a. 7.9 in. by 11.1 in. b. about 158%

c. No; *Sample answer:* the percent change in area accounts for the percent change in the length and the width so it is larger.