Answer Key

Lesson 6.3

Challenge Practice

1. $\frac{7}{4}$ **2.** 21 cm **3.** JK = 35 cm, JL = 36.75 cm,

RS = 20 cm, ST = 13 cm, RT = 21 cm

4. Area of $\triangle JKL = 385.875 \text{ cm}^2$;

Area of $\triangle RST = 126 \text{ cm}^2$; 3.0625;

The scale factor of the areas is the square of the scale factor of the perimeters.

5. Sample answer: _____40

10.0	x	1313
	r	13 ¹ / ₃
	2	13

 $\Box x \cong \Box y \cong \Box z$

Perimeter x = Perimeter y = Perimeter z

Area x =Area y =Area z

6. Sample answer:	40	
1	x	10
	r	20
	z	10

 $\Box x \sim \Box y; \ \Box y \sim \Box z, \ (\Box x \cong \Box z)$

Perimeter of $x \sim$ Perimeter of y, Perimeter of $y \sim$ Perimeter of z (perimeter of $x \cong$ perimeter of z).

Area of $x \sim$ Area of y; Area of $y \sim$ Area of z, (Area of $x \cong$ Area of z)

7. Yes; *Sample answer*: The side lengths are given (or can be determined by addition); trapezoid *ABGF* ~ trapezoid *ACDE*; Scale factor of the side lengths of trapezoid *ABGF* to trapezoid *ACDE* is 1:2.