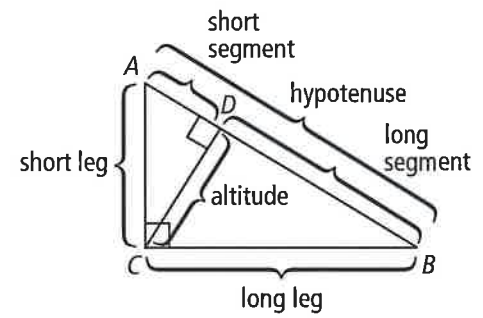


7-4 Reteach to Build Understanding

Similarity in Right Triangles

1. Use the diagram to match each description to the appropriate equation.



$$\frac{AB}{AC} = \frac{AC}{AD}$$

$$\frac{AB}{CB} = \frac{CB}{DB}$$

$$\frac{AD}{CD} = \frac{CD}{DB}$$

The length of the **altitude** is the **geometric mean** of the **hypotenuse segments**.

The length of the **short leg** is the **geometric mean** of the length of the **hypotenuse** and the length of the **short segment**.

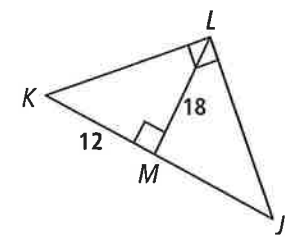
The length of the **long leg** is the **geometric mean** of the length of the **hypotenuse** and the length of the **long segment**.

2. Given $\triangle JKL$, Jamie writes a proportion to find MJ .

$$\frac{12}{18} = \frac{18}{12 + MJ}$$

Jamie's proportion is incorrect. Fill in the blanks to write the correct proportion.

$$\frac{12}{18} = \frac{18}{MJ}$$



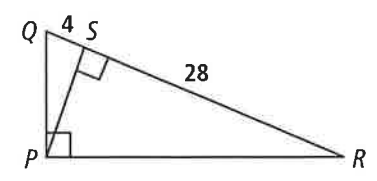
3. Fill in the blanks and solve the proportion to find QP .

$$\frac{QR}{QP} = \frac{QP}{QS}$$

$$\frac{4+20}{QP} = \frac{QP}{QP}$$

$$(QP)^2 = 128$$

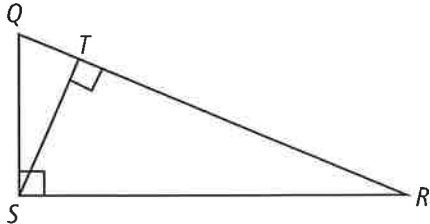
$$QP = 8\sqrt{2}$$



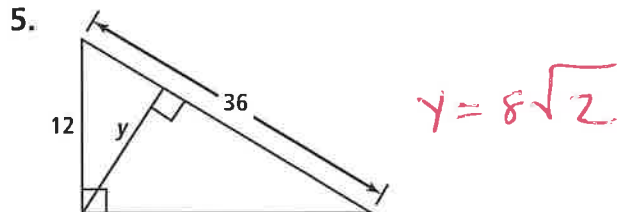
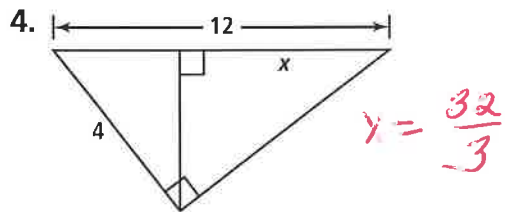
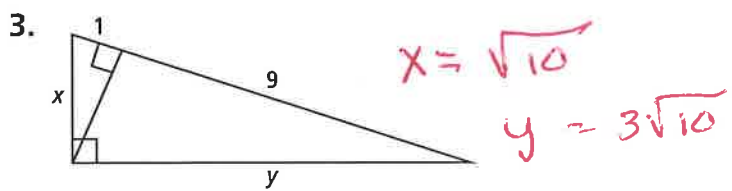
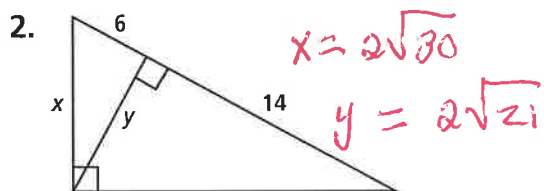
7-4 Additional Practice

Similarity in Right Triangles

1. Name the right triangles that are similar to $\triangle QRS$. $\triangle QST \triangle SRT$

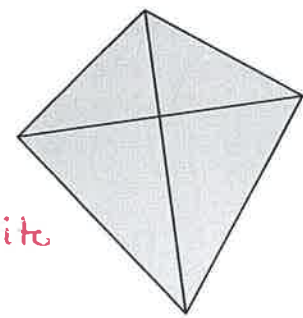


For Exercises 2–5, find the values of x and y .



6. Devin says that since the diagonals of the kite intersect at right angles, the small right triangles are similar to both the left half and the right half of the kite. Is he correct? Explain.

Answer may vary: He is correct only if the vertical diagonal divides the kite into two congruent right triangles; otherwise he is correct.



7. Isabel and Helena have built a frame and covered it with cloth. The frame is in the shape of a right triangle, $\triangle ABC$, with side lengths 6 ft, 8 ft, and 10 ft. They use a vertical pole \overline{AE} to raise corner A 3 ft, as shown. What is the distance ED from the base of the pole to the edge of the frame? Round to the nearest foot.

4 ft -

