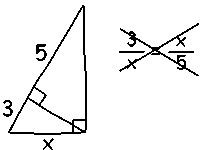
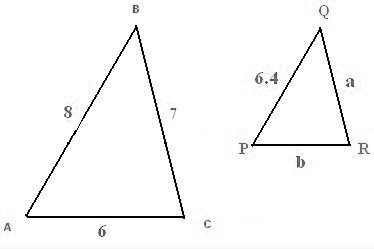
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| **THE LINK**  **Communicating what we know about: Similar Triangles and their *perimeters*** | |
| **FACTS** | **STATEMEMTS** |
| http://www.cliffsnotes.com/assets/18304.jpgWhen two triangles are similar, the reduced ratio of any two corresponding sides is called the **scale factor** of the similar triangles. In figure 1, Δ ABC∼ Δ DEF.  **Figure 1** Similar triangles whose scale factor is 2 : 1. | **Directions: Fill in the blanks**  The ratios of corresponding sides are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_.  These all reduce to \_\_\_\_. It is then said that the scale factor of these two similar triangles is \_\_\_\_.  The perimeter of Δ *ABC* is 24 inches, and the perimeter of Δ *DEF* is 12 inches.  When you compare the ratios of the perimeters of these similar triangles, you also get \_\_\_\_\_. |
| **FACTS** | **COMMUNICATION** |
| ***Theorem:***If two similar triangles have a scale factor of *a* : *b,* then the ratio of their perimeters is *a* : *b.*  http://www.cliffsnotes.com/assets/18305.jpg**Example 1:** In Figure 2, Δ *ABC*∼ Δ *DEF*. Find the perimeter of Δ *DEF* | **Directions: Fill in the blanks** |

*Summary* ***A classmate writes an incorrect proportion to find x. Explain and correct the error.* ****

1. The lengths of the sides of two triangles are in the ratio of 6:7. If the perimeter of the larger triangle is 30 cm, find the perimeter of the smallest triangle to the nearest ***hundredth***.

2. If the ratio of the perimeters of two squares is 5:7, find the length of the sides of the ***larger*** square if the length of the sides of the smaller square is 38 m. Round to the nearest tenth.



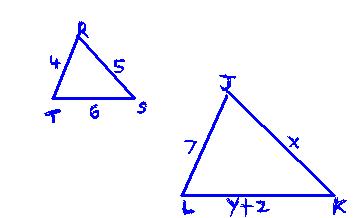
3. The two triangles on the right are similar.

a. Find scale factor.

b. Find a and b.

c. What is the ratio of perimeter of triangle PQR to triangle ABC?

d. What is the perimeter of triangle PQR?



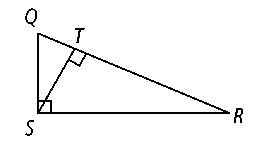
4. The two triangles on the right are similar.

a. What is the perimeter of triangle JKL?

b. Find x.

c. Find y.

**5.5 Similarity in Right Triangles**

**Identify the following in right Δ*QRS.***

**1.** the hypotenuse

**2.** the segments of the hypotenuse

**3.** the altitude

**4.** the segment of the hypotenuse adjacent to leg 