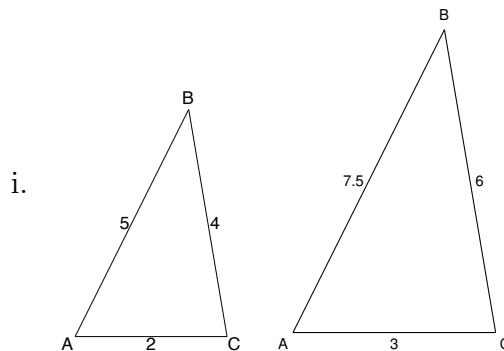


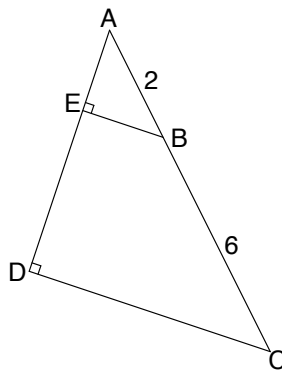
*This problem set will not be collected, so that you can use it in your studying. Nonetheless, you should have it completely done by Monday or at the latest, by Tuesday.*

**1. Which are similar**

- (a) Which of the following pairs of figures are similar? If they are similar, explain why.

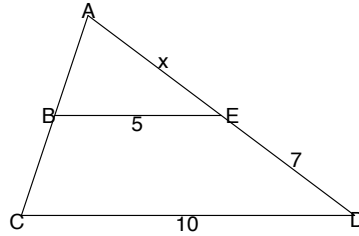


- ii. (Notice that the pair below consists of the big triangle and the smaller one inside it.)

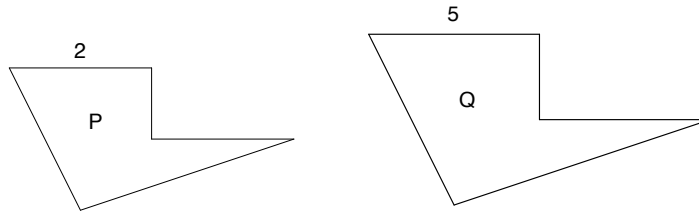


- (b) For the pair(s) above that you decided were similar, find the scale factor of the sides.

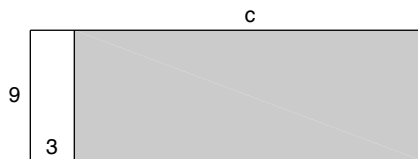
2. Assume that the following pair of triangles are similar, and find the unknown value  $x$ .



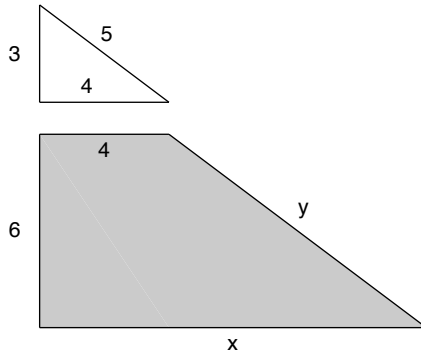
3.  $P$  and  $Q$ , shown below (but not to scale), are similar polygons. If the perimeter of  $P$  is 10, what is the perimeter of  $Q$ ?



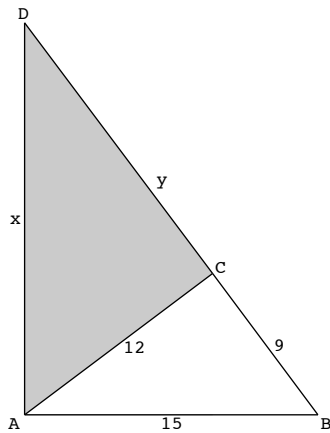
4. Find what the length of the shaded rectangle,  $c$ , needs to be so that it is a gnomon to the white rectangle with sides 3 and 9.



5. Find the values of  $x$  and  $y$  so that the shaded figure below is a gnomon to the white triangle.



6. Rectangle  $A$  is 10 by 20. Rectangle  $B$  is gnomon to rectangle  $A$ . What are the dimensions of rectangle  $B$ ?
7. Find the values of  $x$  and  $y$  so that the shaded triangle is a gnomon to the white triangle  $ABC$ .



8. A rectangle has a 10 by 10 square gnomon. What are the dimensions of the rectangle?