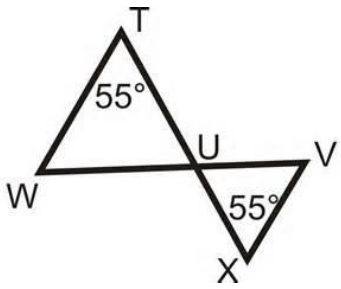
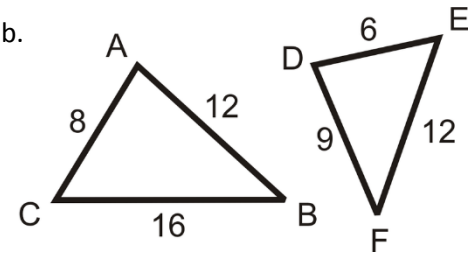
Similarity, Dilations, Triangle Theorem Review Name_____ Block___

1. Determine if the following triangles are similar and show how you decided. If they are similar write a similarity statement.

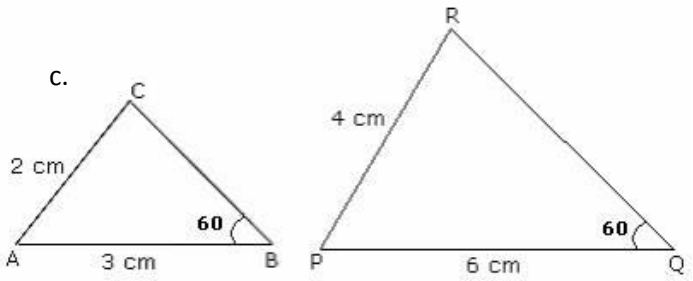
a.



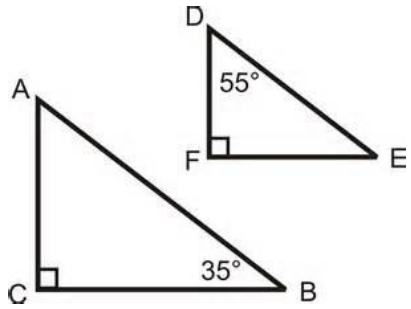
b.



c.



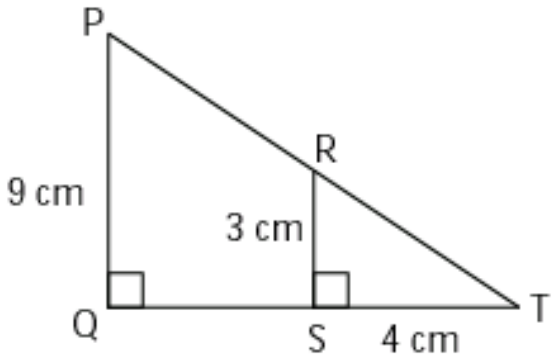
d.



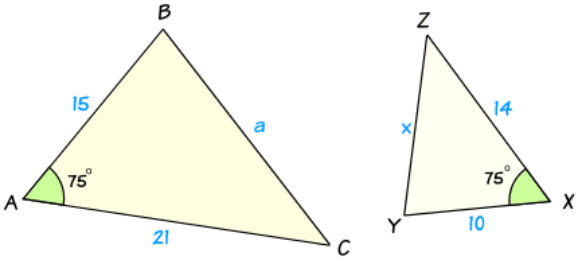
2. Looking at the triangles in the figure on the right:
   a. Are the two triangles similar? How do you know?

   b. What is the length of *QT*?

   c. If *PT* is 15 cm, what is the length of *RT*?



3. Is the following pair of triangles similar? What postulate/theorem could you use? Show your work.

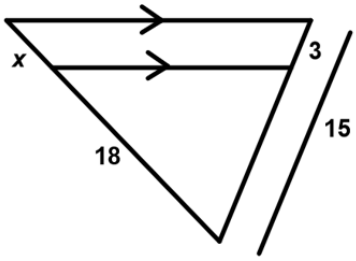


If a = 18 what is the value of x?

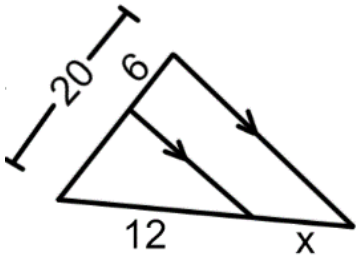
4. Tonya is 1.3 meters tall. She stands 7 meters in front of a tree and casts a shadow 1.8 meters long. How tall is the tree?

5. Find the value of x for each of the following.

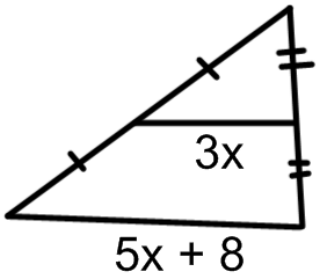
a.



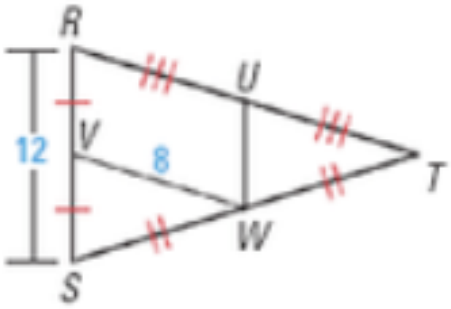
b.



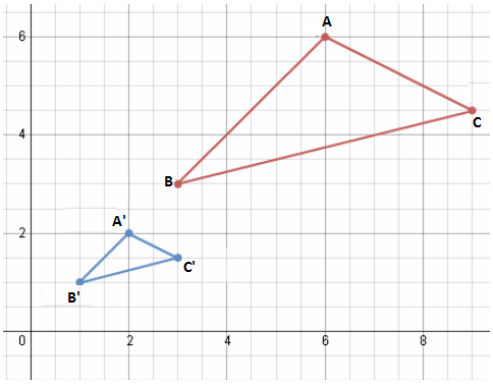
6. Find the value of x in the following image.



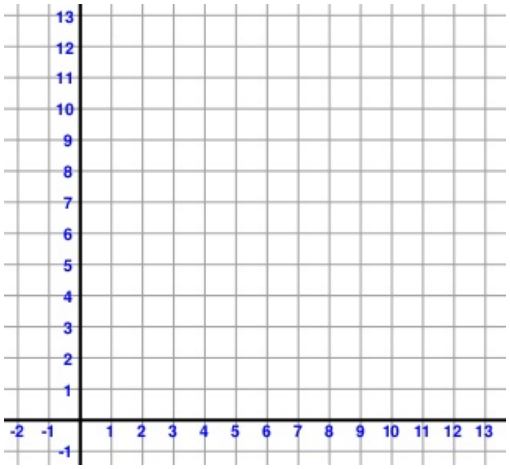
7. UW and VW are midsegments of triangle RST. Find the length of UW and TR.



8. Identify the image, pre-image, dilation, and scale factor of the following dilation with a center at the origin.



9. Under a dilation of scale factor 1/3 with center at the (1,1) if A is (4,10), B is (7,4), C is (13, 13), what would the coordinates for A', B' and C' be?



10. Under a dilation of scale factor 3 with center at (2, -2).) if A is (-1,-1), B is (-2,-2), C is (-2, 1), and D is (-1,2) what would the coordinates for A', B', C' and D' be?