Geometry 2– Similarity & Right Triangles

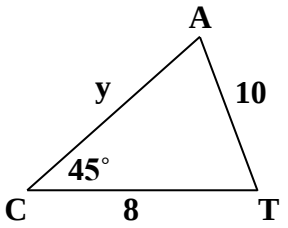
Name: _____ Date: _____

Similarity and Dilations

In the diagram, ΔCAT ~ΔDOG. Use the diagram to find each of the following.

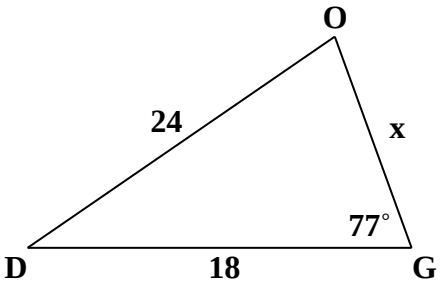
1. Scale factor of ΔCAT to ΔDOG (Simplify.)

Scale Factor =



2. Find x and y (Show Work!)

x = _____ y = _____



3. Find m∠D =

4. Find m∠O =

5. Find m∠A =

6. What is the ratio of the perimeter of ΔCAT to the perimeter of ΔDOG?

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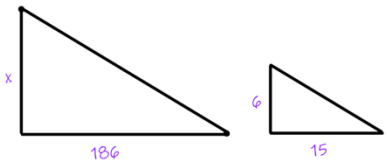
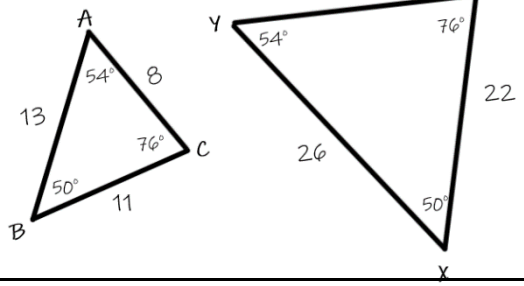
7. A boy who is 6 ft. tall cast a shadow that is 15 ft long. At the same time, a building nearby cast a shadow that is 186 ft long. How tall is the building? Draw a picture!

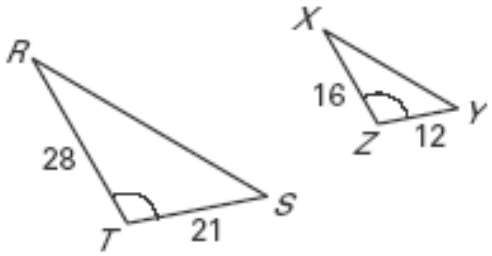


Determine why the triangles are similar (postulate or theorem), and write a similarity statement.

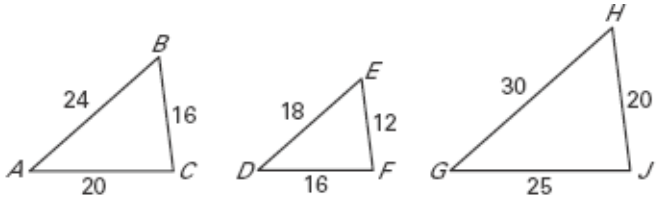
8. ΔBAC~



9. ΔTRS~



Determine which of the triangles (ΔDEF or ΔGHJ) is similar to ΔABC:

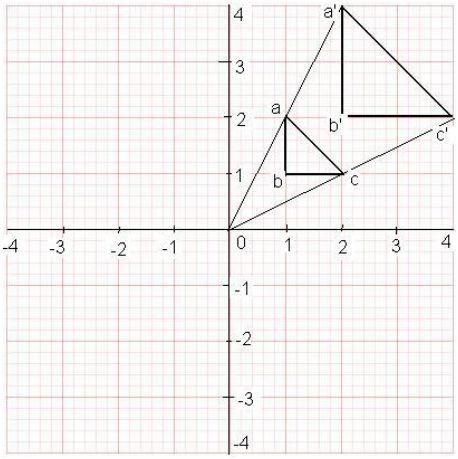


10. Complete the Similarity Statement to ΔCBA ~ Δ

11. Find the Scale Factor =

Determine whether the dilation from Figure ABC to Figure A'B'C' is a reduction or an enlargement. Then find its scale factor and simplify if possible.

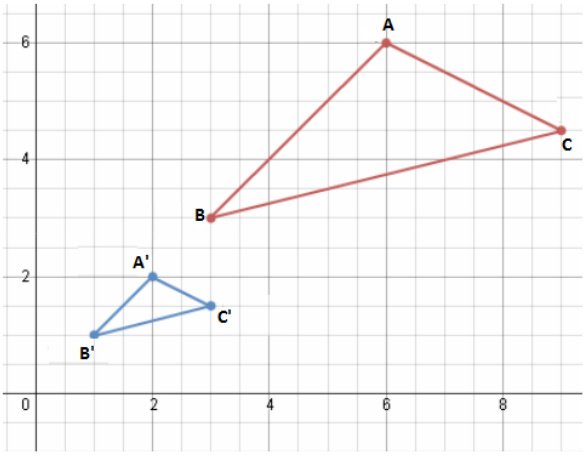
12.



Reduction or enlargement?

scale factor =

13.

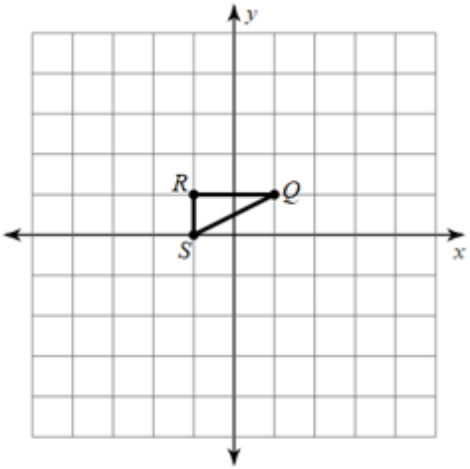


Reduction or enlargement?

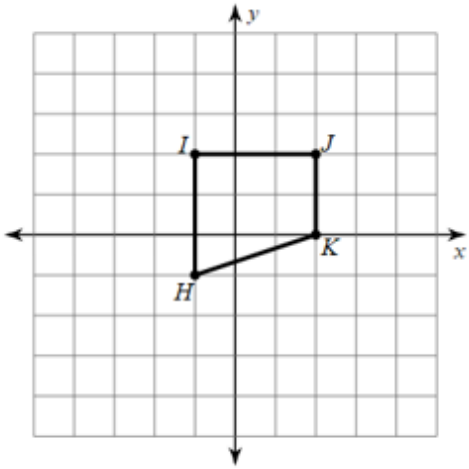
scale factor =

Graph the image of the figure using the transformation given.

14) dilation of 4 about the origin



15) dilation of $\frac{1}{2}$ about the origin



Find the coordinates of the vertices of each figure after the given transformation. Identify if it is an enlargement or reduction.

16) dilation of $\frac{1}{2}$ about the origin
R(-1, -1), S(0, 2), T(1, 2), U(2, -2)

17) dilation of 2 about the origin
Z(-1, -1), Y(-1, 2), X(1, 1)