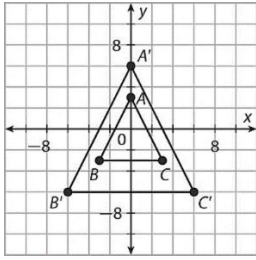


Unit 5 Review

Triangle $A'B'C'$ is a dilation of triangle ABC .

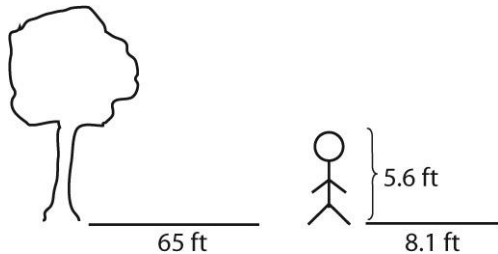


1. What is the scale factor of the dilation? _____
2. Find the center of dilation. _____
3. What is not preserved in the figure above?
 - a. betweenness
 - b. orientation
 - c. side lengths
 - d. angle measure
 - e. perimeter
 - f. area
4. Triangle RST is similar to triangle XYZ .
 - A. Write a proportion that contains RS and XZ .

- B. List any angles that must be congruent to $\angle S$ or $\angle Z$.

5. What is the geometric mean of 2 and 8?

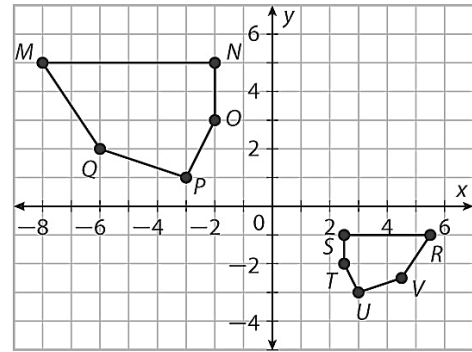
6. A person and a tree cast a shadow at the same time of day.



- How tall is the tree? Justify your reasoning.

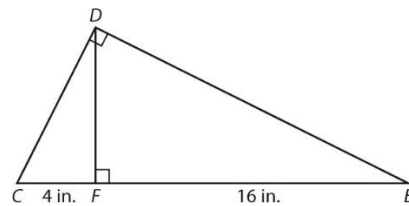
Name _____

Use the figure for 7–8.

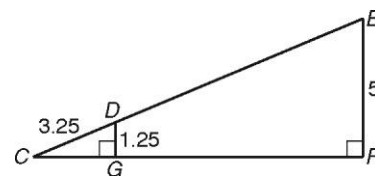


7. What is the sequence of similarity transformations that maps $MNOPQ$ to $RSTUV$?
8. What is the coordinate notation for each transformation?

9. Look at triangle CDE below.



What is DF ? _____

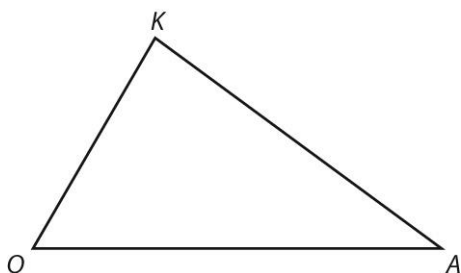
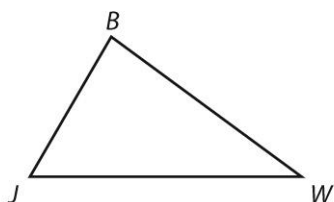


10. Explain how you know the triangles are similar. Calculate the length of DE . Justify your reasoning.

11. Find the coordinate that divides the directed line segment from $A(3, 4)$ to $B(-3, 1)$ in the ratio of 1 to 5. Show your work.

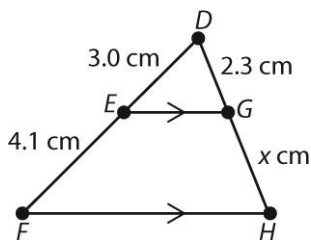
12. What is the geometric mean of 4 and 27? Give your answer in simplest radical form and show all work.

13. In this figure, triangle JBW is similar to triangle QKA .



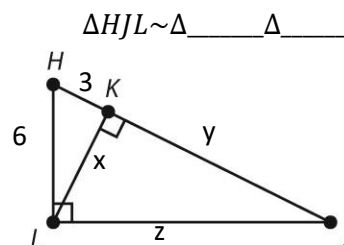
Which of the following is true?

- A $\frac{JW}{QA} = \frac{JB}{KA}$
 B $\frac{JB}{QK} = \frac{BW}{KA}$
 C $\frac{BW}{KQ} = \frac{JW}{KA}$



14. What is x ? Show your work.

15. Complete the triangle similarity statement.



- a. Find x .

- b. Find y .

- c. Find z .

16. The tip of the shadow cast by the tallest building in the city falls 1250 feet from the base of the building. You and your friend are standing on the sidewalk near the end of the shadow. You notice that when the top of your friend's head just moves into the shadow, that the end of their shadow exactly matches the end of the building shadow. You walk off the distance from your friend to the end of their shadow and estimate it as 10 feet long. If your friend is 6 feet tall, what is the height of the building? Draw a diagram.

17. Are the triangles similar? If so, by what theorem? Write a similarity statement.

