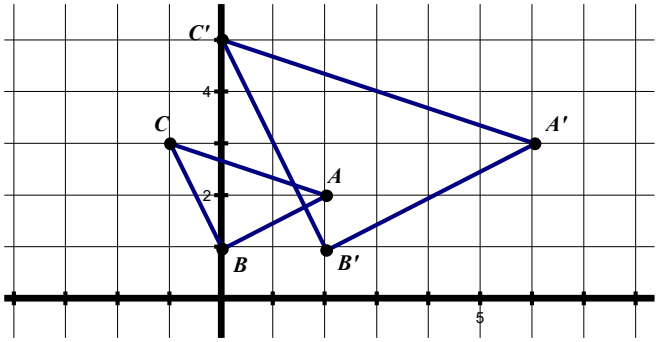
Name: _____

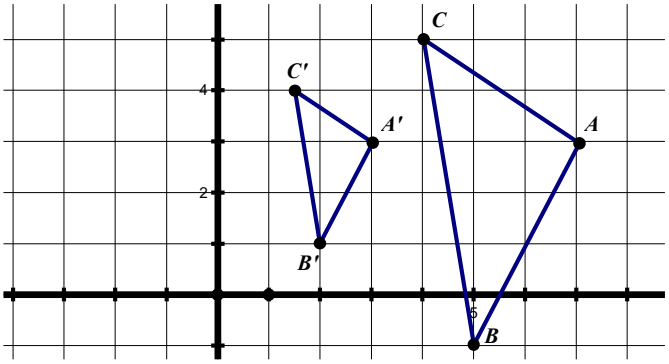
Unit 4 Review

1. Find the center of dilation and the scale factor.

a) Center (_____ , _____) Scale Factor = _____



b) Center (_____ , _____) Scale Factor = _____



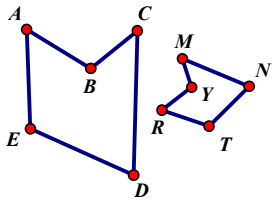
2. Given that $\Delta AFG \sim \Delta DRH$, complete the following.

$\angle H \cong \angle$ _____ $\quad \frac{DR}{AF} = \frac{DH}{\square}$ $\quad \angle D \cong \angle$ _____ $\quad \frac{\square}{RH} = \frac{AG}{DH}$

3. Pentagon ABCDE is similar to Pentagon RYMNT. Complete the following.

$\angle C \cong \angle$ _____ $\quad \frac{AB}{RY} = \frac{ED}{\square}$ $\quad \frac{MN}{RT} = \frac{CD}{\square}$

$\angle T \cong \angle$ _____ $\quad \frac{NT}{DE} = \frac{RT}{\square}$ $\quad \frac{AB}{BC} = \frac{RY}{\square}$



4. Solve for x.

a) $\frac{3}{5} = \frac{x}{15}$ x = _____

b) $\frac{1}{x} = \frac{6}{x+15}$ x = _____

c) $\frac{20-x}{x} = \frac{6}{4}$ x = _____

d) $\frac{4}{12} = \frac{x+2}{2x+13}$ x = _____

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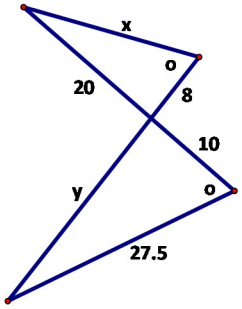
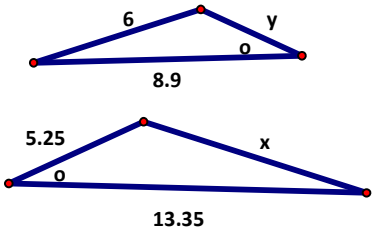
5. Solve for the missing information, given that the two triangles in each question are SIMILAR.

a)



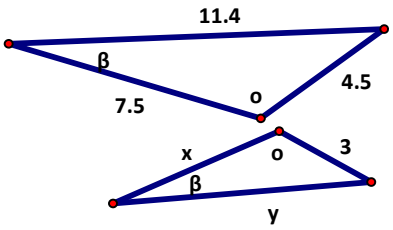
x = _____ y = _____

b)



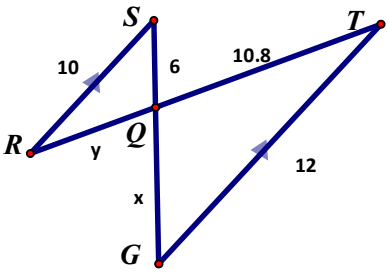
x = _____ y = _____

c)



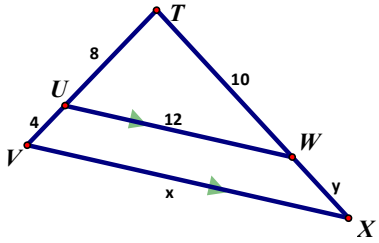
x = _____ y = _____

d)



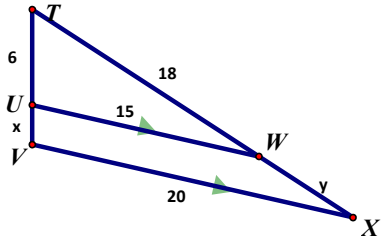
x = _____ y = _____

e)



x = _____ y = _____

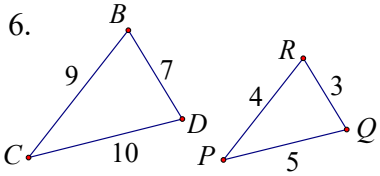
f)



x = _____ y = _____

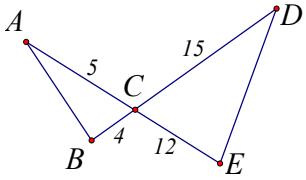
For Problems 6-8, determine if the triangles are similar. If they are similar, state the property that proves similarity <u>and</u> write a similarity statement.

6.



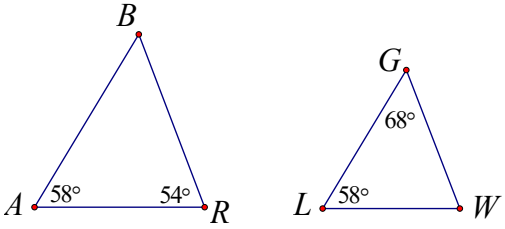
Similar: yes or no
<u>If similar</u>
Property _____
$\Delta BCD \sim \Delta$ _____

7.



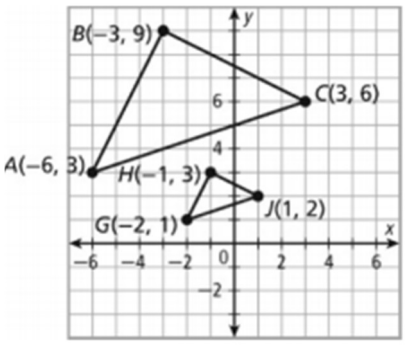
Similar: yes or no
<u>If similar</u>
Property _____
$\Delta ABC \sim \Delta$ _____

8.



Similar: yes or no
<u>If similar</u>
Property _____
$\Delta ABR \sim \Delta$ _____

9. Give the coordinate notation for the transformation that maps △ABC to △GHJ.



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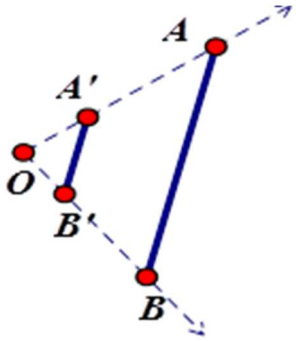
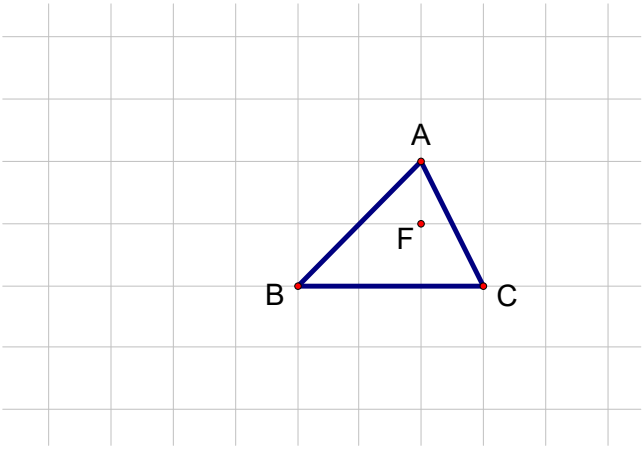
10. Give the scale factor for the figure if OA' = 4 and AA' = 6:

k = _____



11. Dilate ΔABC using center F and a scale factor of 3. (Label the image appropriately).



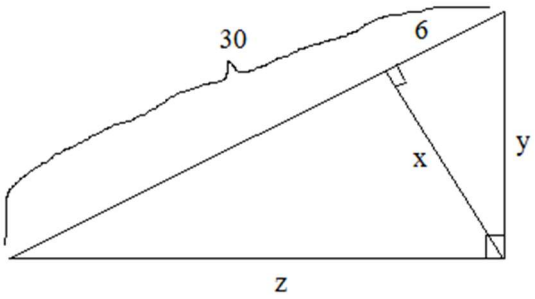
12. Find the geometric mean of:

a) 3 & 27

b) 5 & 15

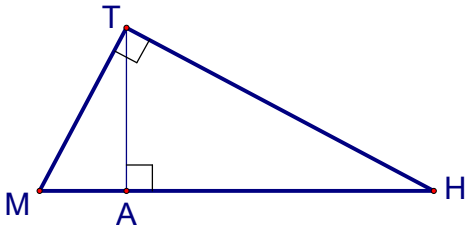
c) 7 & 13

13. Solve for x, y and z.



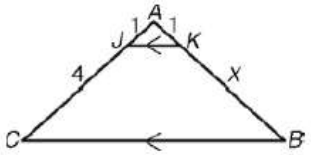
14. Complete the similarity statement.

$\Delta TMH \sim \Delta$ _____ $\sim \Delta$ _____



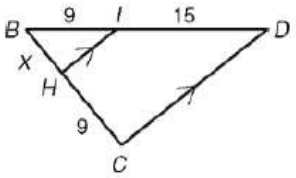
15. Solve for x:

a)



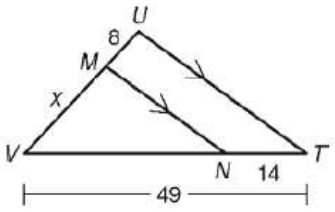
_____

b)



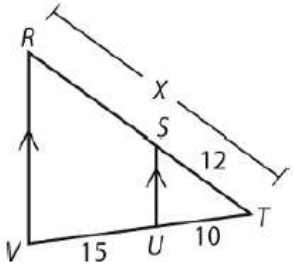
_____

c)



_____

d)



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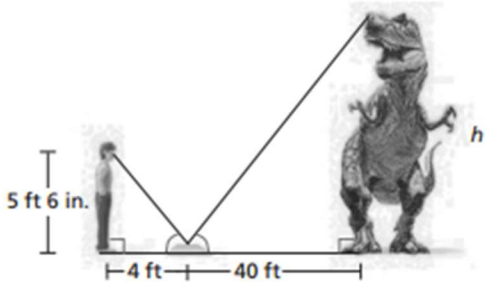
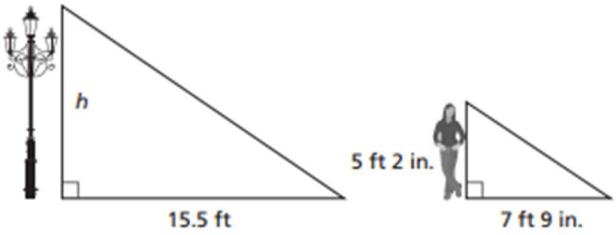
16. The sun casts a 20 foot long shadow on a tree. If the shadow of a 6 foot tall person is 8 feet long, approximately how tall is the tree?

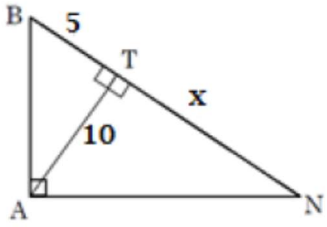
17. To find the height h of a dinosaur in a museum, Amir placed a mirror on the ground 40 feet from its base. Then he stepped back 4 feet so that he could see the top of the dinosaur in the mirror. Amir's eyes were approximately 5 feet 6 inches above the ground. What is the height of the dinosaur?

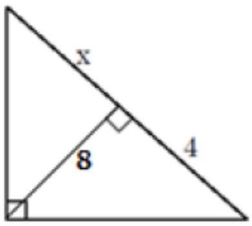


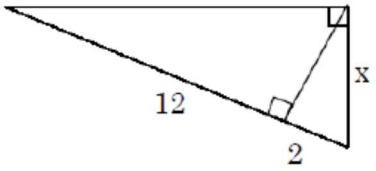
18. Jenny is 5 feet 2 inches tall. To find the height h of a light pole, she measured her shadow and the pole's shadow. What is the height of the pole?

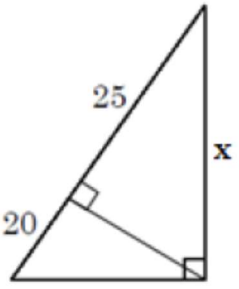


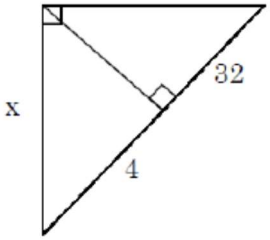
Find x.

19. 

20. 

21. 

22. 

23. 

Name: _____

Vocab Words

Geometric Mean	Indirect Measurement
Center of Dilation	Scale Factor
Reduction	Similar
Altitude	Enlargement
Dilation	Similarity Transformations