

# Chapter 7 Study Guide

Name: \_\_\_\_\_

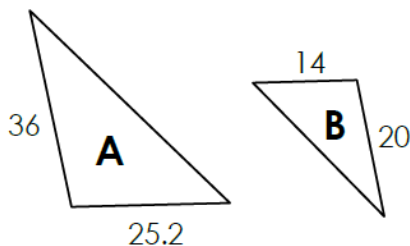
Date: \_\_\_\_\_ Period: \_\_\_\_\_

## Topic 1: Ratios and Proportions

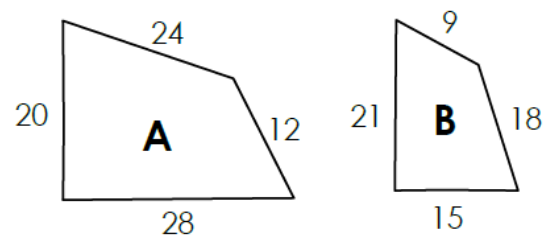
- |   |  |
|---|--|
| 1. The ratio of the measures of the angles in a triangle is 8:3:4. Find the measures of the angles.   | 2. The ratio of the measures of the sides of a triangle is 9:12:5. If the perimeter of the triangles is 130ft, find the measures of the sides. |
| 3. The ratio of the length to width of a rectangle is 7:5. If the perimeter of the rectangle is 216 in, find the dimensions of the rectangle. | 4. The angles in a triangle have a ratio of 2:9:4. Find the measure of each angle.   |

## Topic 2: Similar Triangles

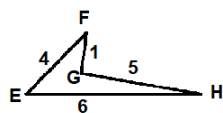
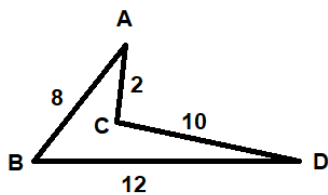
5. Find the scale factor of **Figure A to Figure B**.



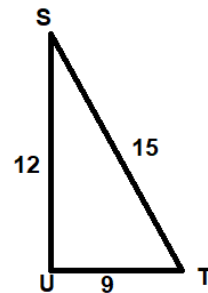
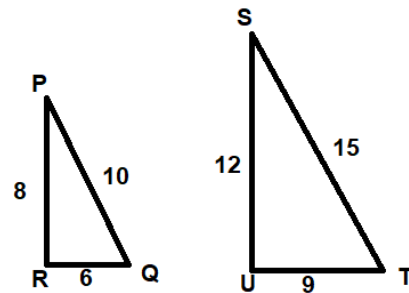
6. Find the scale factor of **Figure B to Figure A**.



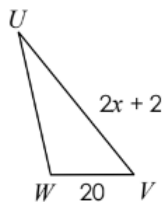
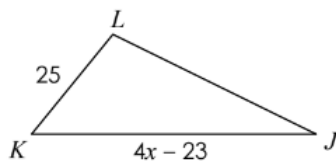
7. Are the figures similar? If so, write a similarity statement and give the scale factor. Assume that the angles all match.



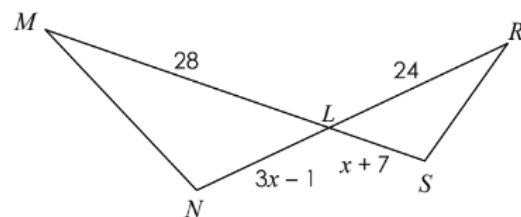
8. Are the figures similar? If so, write a similarity statement and give the scale factor. Assume that the angles all match.



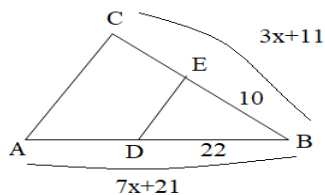
9. If  $\triangle KLJ \sim \triangle VWU$ , find the value of  $x$ .



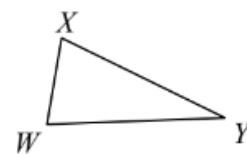
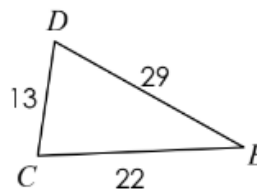
10. If  $\triangle NML \sim \triangle SRL$ , find the value of  $x$ .



11. If  $\triangle BED \sim \triangle BCA$ , find  $BC$ .



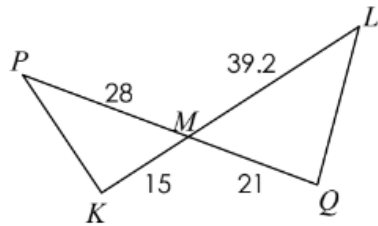
12. If  $\triangle CDE \sim \triangle WXY$  with a scale factor of 4:3, find the perimeter of  $\triangle WXY$ .



Topic 3: Proving Triangles Similar

Determine if the triangles are similar. If yes, state how (by AA~, SSS~, or SAS~) and complete the similarity statement.

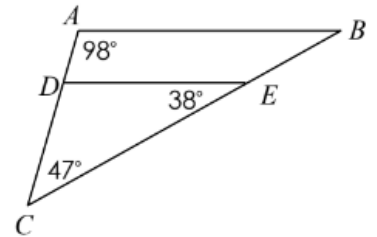
13.



Similar By: \_\_\_\_\_

$\triangle PKM \sim$  \_\_\_\_\_

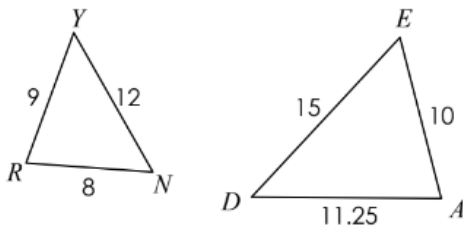
14.



Similar By: \_\_\_\_\_

$\triangle CAB \sim$  \_\_\_\_\_

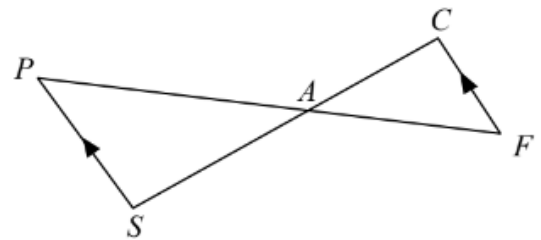
15.



Similar By: \_\_\_\_\_

$\triangle RYN \sim$  \_\_\_\_\_

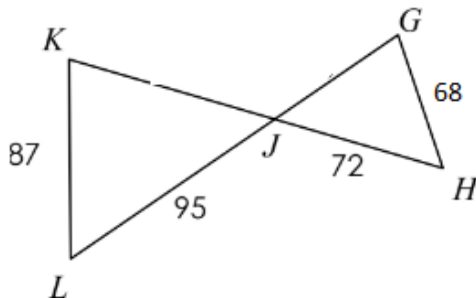
16.



Similar By: \_\_\_\_\_

$\triangle PAS \sim$  \_\_\_\_\_

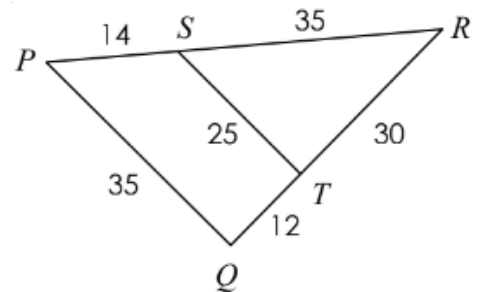
17.



Similar By: \_\_\_\_\_

$\triangle KJL \sim$  \_\_\_\_\_

18.



Similar By: \_\_\_\_\_

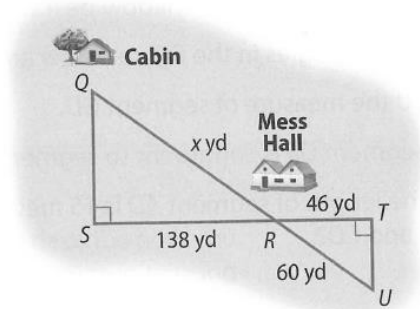
$\triangle PQR \sim$  \_\_\_\_\_

Topic 4: Indirect measurement

19. The Gateway Arch in Missouri casts a 140ft shadow while an 18ft pole casts a 4ft shadow. How tall is the Arch?

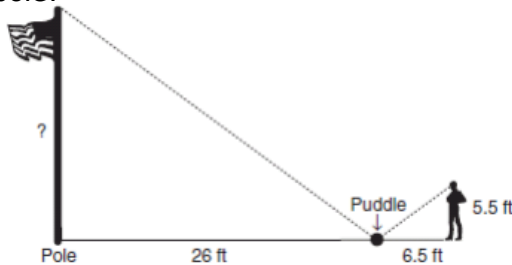
20. Kate would like to find the height of her favorite rollercoaster at the amusement park. She noticed that she casts a 2ft shadow while the rollercoaster casts a 60ft shadow. If Kate is 5ft tall, how tall is the coaster?

21. In the figure,  $\triangle QRS \sim \triangle URT$ . Find the distance from the Cabin to the Mess Hall.



22. In Disney world, Cinderella's castle stands in the middle of the park. Sally wants to find how tall it is. Sally places a mirror 500m from the castle and stands 502.75m from the castle to see the top. If the height sally's eyes is 1.8m, how tall is Cinderella's castle?

23. As shown in the drawing, Raymond used similar triangles to find the height of a pole. When he stood 6.5 feet from a small puddle, he could see the reflection of the top of the pole in the puddle. The puddle was 26 feet from the pole, and Raymond's eye level was 5.5 feet about the ground. What is the height of the pole?



24. To estimate the height of the Unisphere, the World's largest globe, you can place a mirror on the ground and stand where you can see the top of the Unisphere in the mirror, as shown in the diagram. What is the height of the Unisphere?

