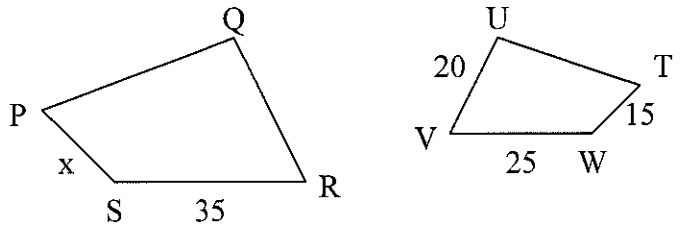
Math 7 Name _____

Class Notes Date _____

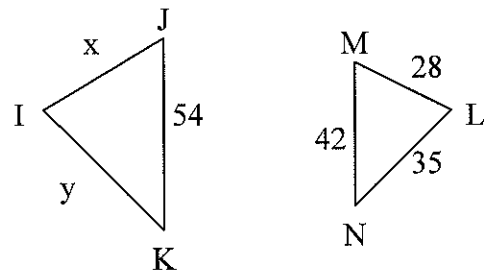
Similar Figures

Given two figures are similar, corresponding sides must be in proportion. Therefore, we can write a proportion to find the missing side length of one of the figures.

1. Given quadrilateral PQRS ~ TUVW, write a proportion to find the length of $\overline{PS}$.



2. Given $\Delta IJK \sim \Delta LMN$, Find the length of $\overline{IJ}$ and then the length of $\overline{IK}$.



3. If a 36-inch yardstick casts a 21-foot shadow, how tall is a building whose shadow is 168 feet? (Draw a picture with two similar polygons.)

4. Sam wants to enlarge a triangle with sides 3, 6 and 6 inches. If the shortest side of the new triangle is 13 inches, how long will the other two sides be?

Use similar triangles to find the missing information.

7. A giraffe is 18 feet tall and casts a shadow of 12 feet. Corry casts a shadow of 4 feet. How tall is Corry?

8. When a Ferris wheel casts a 20-meter shadow, a man 1.8 meters tall casts a 2.4-meter shadow. How tall is the Ferris wheel?

9. A flagpole casts a shadow 28 feet long. A person standing nearby casts a shadow eight feet long. If the person is six feet tall, how tall is the flagpole?

10. A photograph measuring four inches wide and five inches long is enlarged to make a wall mural. If the mural is 120 inches wide, how long is the mural?

11. A 9-foot ladder leans against a building six feet above the ground. At what height would a 15-foot ladder touch the building if both ladders form the same angle with the ground?

12. Chris wants to reduce a triangular pattern with sides 16, 16 and 20 centimeters. If the longest side of the new pattern is to be 15 cm, how long should the other two sides be?