

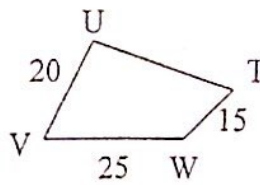
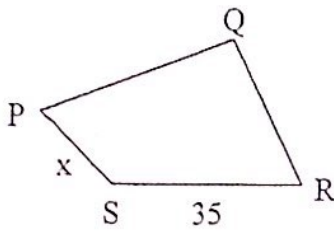
63

Name Key
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} .

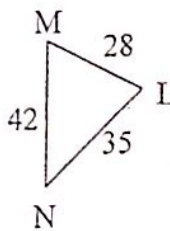
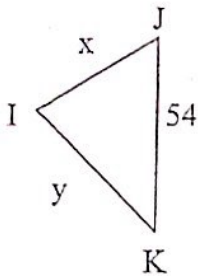


$$\frac{x}{35} = \frac{15}{25}$$

$$25x = 525$$

$$x = 21$$

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



$$\frac{x}{54} = \frac{28}{42}$$

$$42x = 1512$$

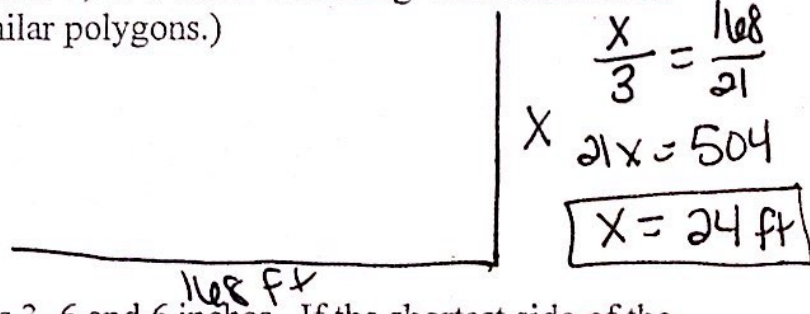
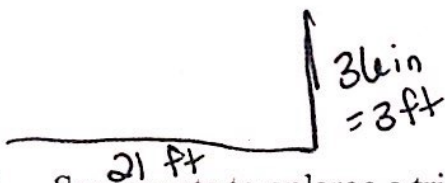
$$x = 36$$

$$\frac{y}{54} = \frac{35}{42}$$

$$42y = 1890$$

$$y = 45$$

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.)

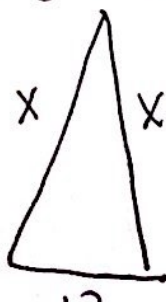


$$\frac{x}{3} = \frac{168}{21}$$

$$21x = 504$$

$$x = 24 \text{ ft}$$

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?



$$\frac{x}{13} = \frac{6}{3}$$

$$3x = 78$$

$$x = 26 \text{ in}$$

Similar Figure Word Problems

Answer each question and round your answer to the nearest whole number.

- 1) A 6 ft tall tent standing next to a cardboard box casts a 9 ft shadow. If the cardboard box casts a shadow that is 6 ft long then how tall is it?
4 ft
- 2) A telephone booth that is 8 ft tall casts a shadow that is 4 ft long. Find the height of a lawn ornament that casts a 2 ft shadow.
4 ft
- 3) A map has a scale of 3 cm : 18 km. If Riverside and Smithville are 54 km apart then they are how far apart on the map?
9 cm
- 4) Find the distance between Riverside and Milton if they are 12 cm apart on a map with a scale of 4 cm : 21 km.
63 km
- 5) A model house is 12 cm wide. If it was built with a scale of 3 cm : 4 m then how wide is the real house?
16 m
- 6) Oak Grove and Salem are 87 mi from each other. How far apart would the cities be on a map that has a scale of 5 in : 29 mi?
15 in
- 7) A map has a scale of 2 in : 6 mi. If Clayton and Centerville are 10 in apart on the map then how far apart are the real cities?
30 mi
- 8) A statue that is 12 ft tall casts a shadow that is 15 ft long. Find the length of the shadow that a 8 ft cardboard box casts.
10 ft

Answer each question and round your answer to the nearest tenth.

- 9) A model house has a scale of 1 in : 2 ft. If the real house is 26 ft wide then how wide is the model house?
13 in
- 10) A 6.5 ft tall car standing next to an adult elephant casts a 33.2 ft shadow. If the adult elephant casts a shadow that is 51.5 ft long then how tall is it?
10.1 ft
- 11) If a 42.9 ft tall flagpole casts a 253.1 ft long shadow then how long is the shadow that a 6.2 ft tall woman casts?
36.6 ft
- 12) Georgetown and Franklin are 9.7 in apart on a map that has a scale of 1.1 in : 15 mi. How far apart are the real cities?
132.3 mi