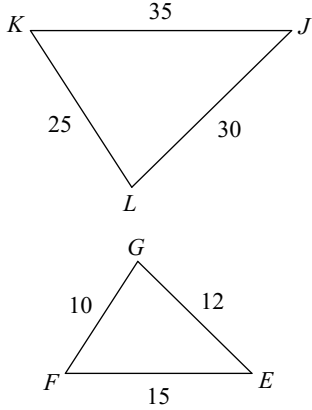


# Similar Triangles

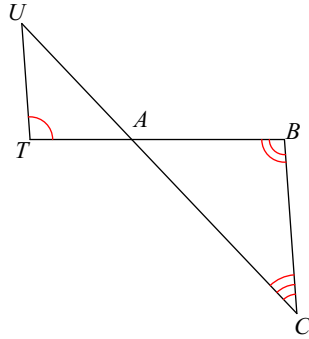
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

1)



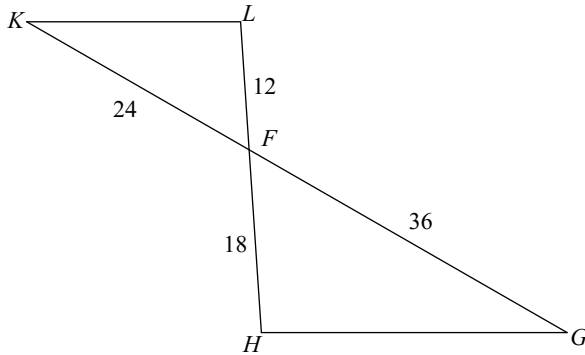
$\triangle JKL \sim$  \_\_\_\_\_

2)



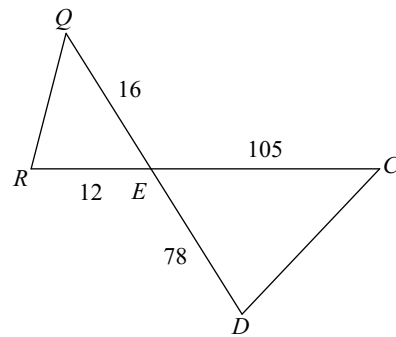
$\triangle ABC \sim$  \_\_\_\_\_

3)



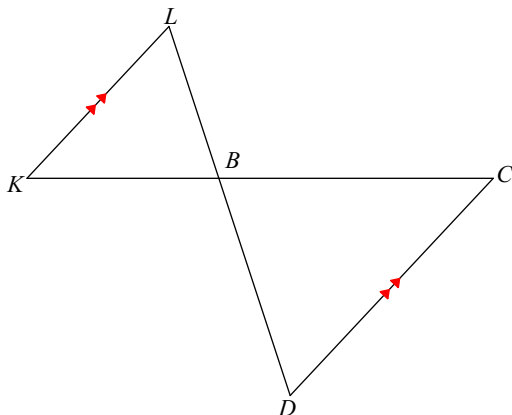
$\triangle FGH \sim$  \_\_\_\_\_

4)



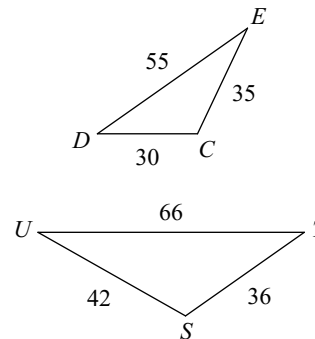
$\triangle EDC \sim$  \_\_\_\_\_

5)



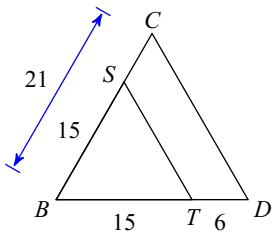
$\triangle BCD \sim$  \_\_\_\_\_

6)



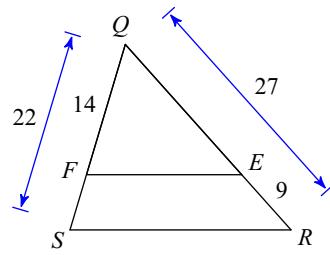
$\triangle STU \sim$  \_\_\_\_\_

7)



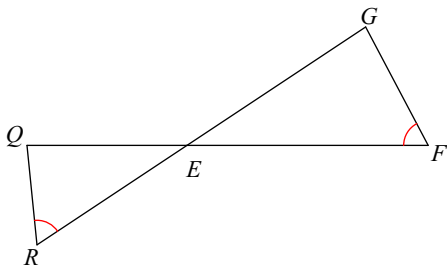
$\triangle BCD \sim$  \_\_\_\_\_

8)



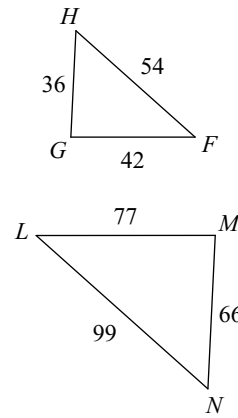
$\triangle QRS \sim$  \_\_\_\_\_

9)



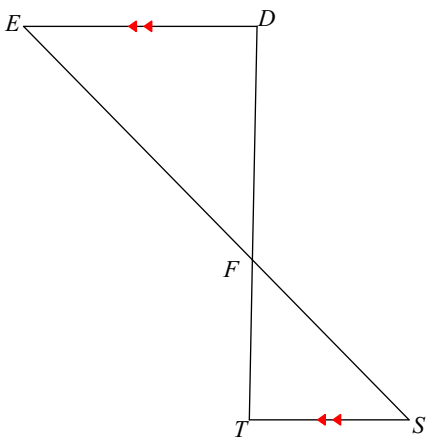
$\triangle EFG \sim$  \_\_\_\_\_

10)



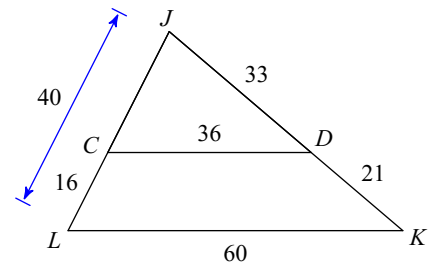
$\triangle LMN \sim$  \_\_\_\_\_

11)



$\triangle FED \sim$  \_\_\_\_\_

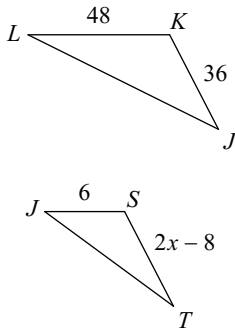
12)



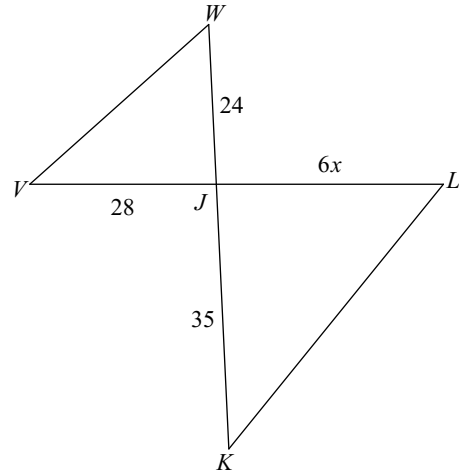
$\triangle JKL \sim$  \_\_\_\_\_

The triangles in each pair are similar. Solve for  $x$ .

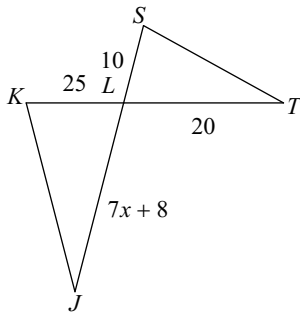
13)



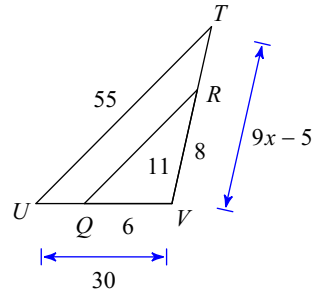
14)  $\triangle JKL \sim \triangle JVW$



15)  $\triangle LKJ \sim \triangle LST$



16)



Draw a picture for each description, then solve the problem.

17) A tree is 24 feet tall and casts a shadow that is 12 feet long. Brad is 6 feet tall. How long is his shadow?

18) A 1.8 meter lamp post casts a shadow that is 2.7 meters long. At the same time, a garage casts a shadow that is 9 meters long. What is the height of the garage?

- 19)  $\triangle ABC$  and  $\triangle XYZ$  are similar. The length of the sides of  $\triangle ABC$  are 40, 50, and 24. The length of the longest side of  $\triangle XYZ$  is 275. What is the length of the shortest side of  $\triangle XYZ$ ?
- 20) A statue is  $12\text{ ft}$  tall and casts a shadow that is  $5\text{ ft}$  long. Nearby, a fence post casts a shadow that is  $1.25\text{ ft}$  long. How tall is the fence post?
- 21)  $\triangle DEF$  and  $\triangle STU$  are similar. The length of the sides of  $\triangle STU$  are 144, 128, and 112. The length of the medium side of  $\triangle DEF$  is 280. What is the length of the longest side of  $\triangle DEF$ ?
- 22) A telephone booth that is  $8\text{ ft}$  tall casts a shadow that is  $5\text{ ft}$  long. Find the height of a lawn gnome that casts a shadow of  $0.75\text{ ft}$ .
- 23) The height of a ramp at a point 2.5 meters from its bottom edge is 1.2 meters. If the ramp runs for 6.7 meters along the ground, what is its height at its highest point? Round your answer to the nearest tenth of a meter.