

1. For the following sets of information, determine if the three angle measures could form a triangle.

a)  $40^\circ, 80^\circ, 60^\circ$

b)  $90^\circ, 10^\circ, 50^\circ$

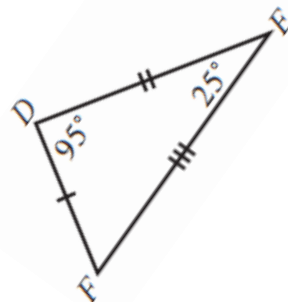
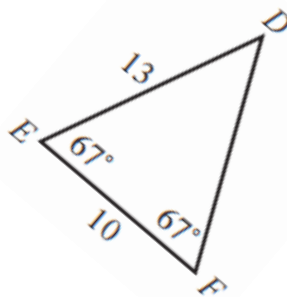
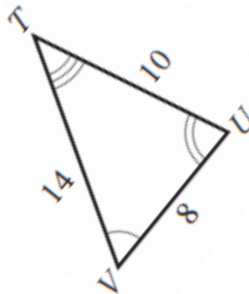
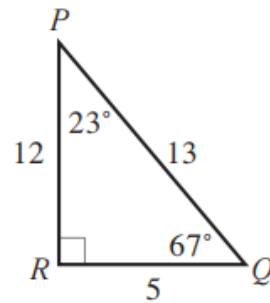
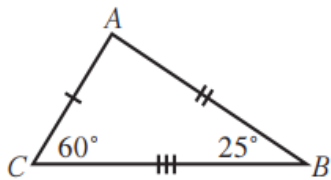
c)  $120^\circ, 120^\circ, 120^\circ$

d)  $30^\circ, 60^\circ, 90^\circ$

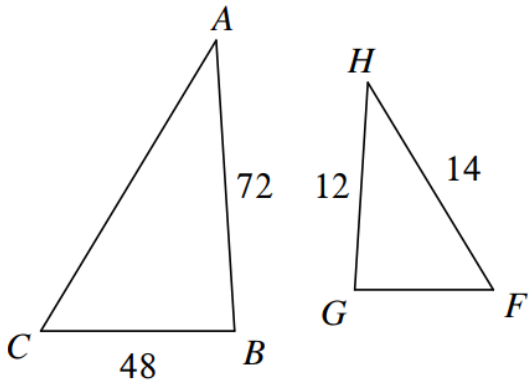
e)  $100^\circ, 80^\circ$

f)  $45^\circ, 45^\circ, 90^\circ$

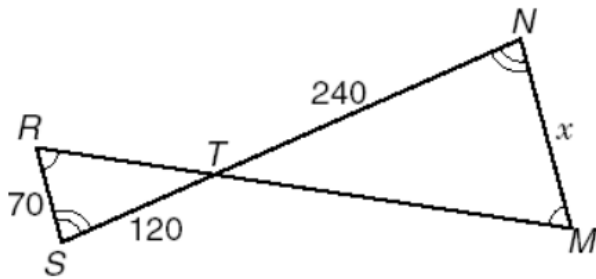
2. Which of these triangles are congruent?



3. Triangle ABC is similar to Triangle HGF. Find the missing length of each triangle.

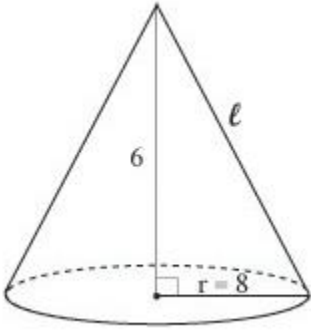


4. Triangle TRS is similar to Triangle TMN. Find the value of  $x$ .

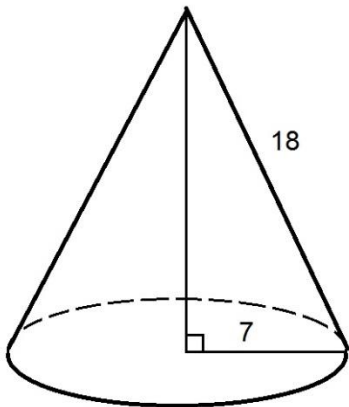


5. A photograph has a length of 5 inches and a width of 7 inches. The photograph is enlarged so the new length is 20 inches. What is the width of the enlargement?

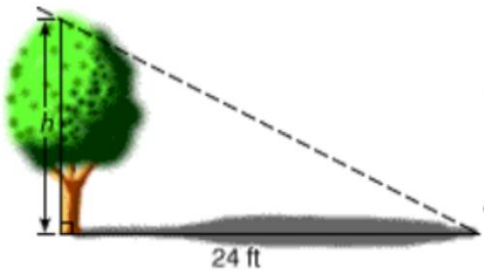
6. Find the slant height,  $l$ , of the cone pictured below. Round your answer to the nearest tenth, if necessary.



7. Find the height of the cone in the diagram below. Round your answer to the nearest tenth, if necessary.



8. A tree is 18 ft tall and casts a shadow that is 24 feet long. Find the distance from the top of the tree, to the top of the tree's shadow.



9. What is the distance between the following set of points? Round your answers to the nearest tenth of a unit, if necessary.

a) (2, 6) and (6, 15)

b) (-3, 6) and (9, 14)

c) (-10, -4) and (-2, 18)

d) (4, 12) and (-3, 15)