

A Postulate for Similar Triangles

For use after Section 7-4

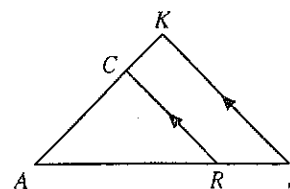
Refer to the diagram and complete.

1. $\triangle CAR \sim \triangle$ _____

2. $\frac{CR}{KS} = \frac{?}{AK}$ _____

3. $\angle S \cong \angle$ _____

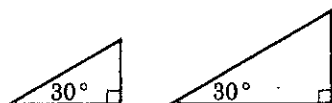
4. $\frac{SK}{RC} = \frac{AS}{?}$ _____



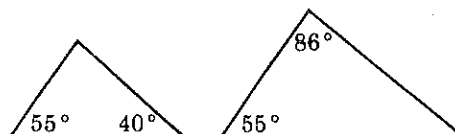
Exs. 1-4

Tell whether the triangles are similar or not similar.

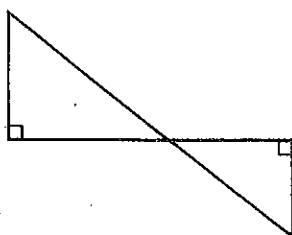
5.



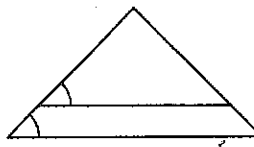
6.



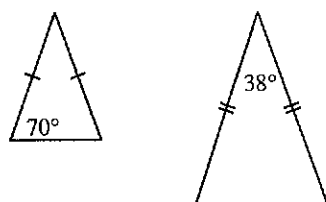
7.



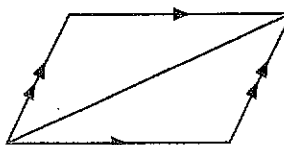
8.



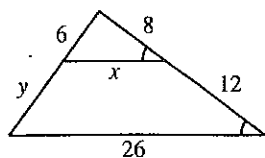
9.



10.


Similar triangles are shown. Find the values of x and y .

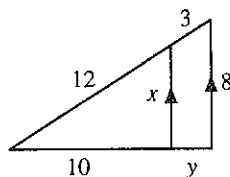
11.



$x =$ _____

$y =$ _____

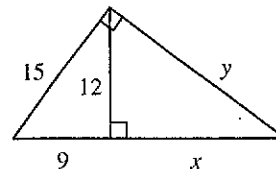
12.



$x =$ _____

$y =$ _____

13.



$x =$ _____

$y =$ _____

14) To estimate the height of a pole, a basketball player exactly 2 m tall stood so that the ends of his shadow and the shadow of the pole coincided. The player's shadow was 1.6 m and he was standing 2.8 m from the pole. About how tall was the pole?

15) A tower casts a shadow 48 m long. Tom is 2 m tall and casts a shadow 8 m long while standing beside the tower. How tall is the tower?

16) A film projector is showing an image on a screen. The film is 6 cm from the light source and the screen is 24 m from the light source. If the projected image is 2.2 m tall, how tall is the film image?

17) You can estimate the height of a flagpole by placing a mirror on ground level so that you can see the top of the flagpole in it. A woman is standing about 120cm from the mirror, she is 172 cm tall, and her eyes are about 12 cm from the top of her head. The flagpole is about 4.5 m from the mirror. From Physics we know that the angles of elevation from the mirror are congruent. Explain why the triangles are similar and find the approximate height of the pole.