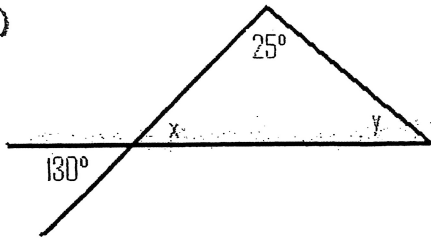


# Similar Triangles Review

1. Determine the unknown angles; provide your reasoning.

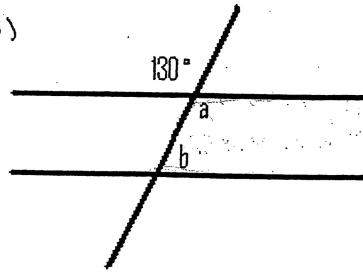
a)



$x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

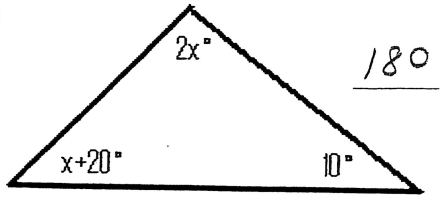
b)



$a =$  \_\_\_\_\_

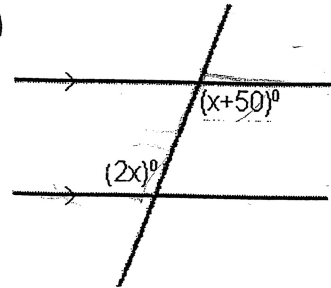
$b =$  \_\_\_\_\_

c)



$x =$  \_\_\_\_\_

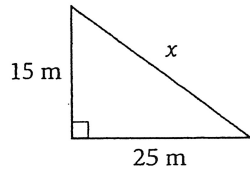
d)



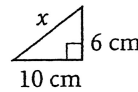
$x =$  \_\_\_\_\_

2. Find the length of the hypotenuse to the nearest tenth of a unit.

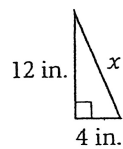
a)



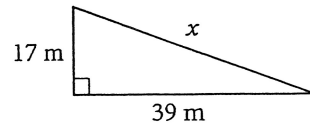
b)



c)

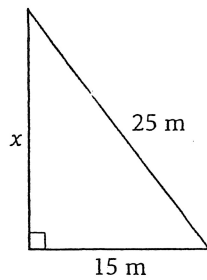


d)

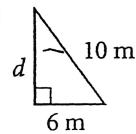


3. Find the length of the indicated side.

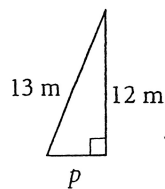
a)



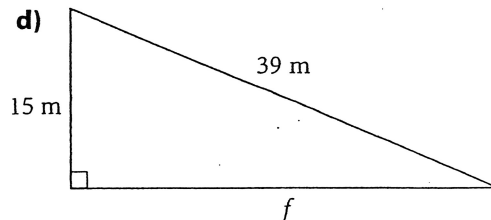
b)



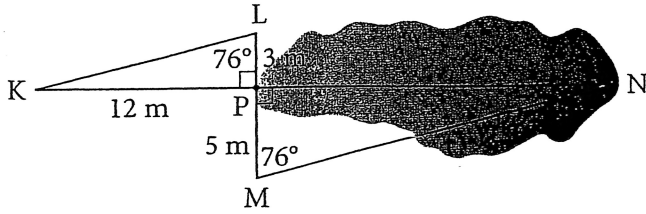
c)



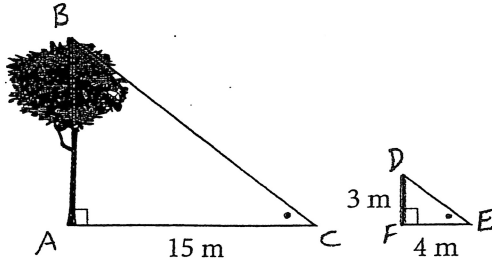
d)



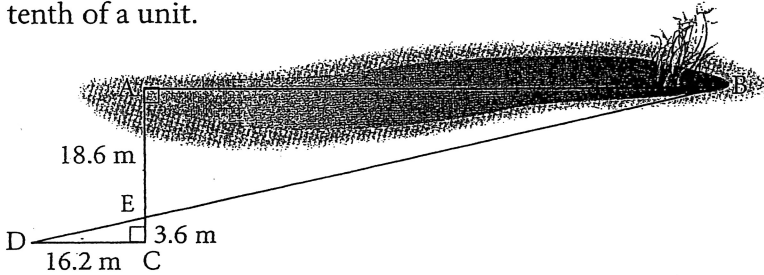
4. To find the length of a pond, a surveyor took some measurements. She recorded them on this diagram. What is the length of the pond?



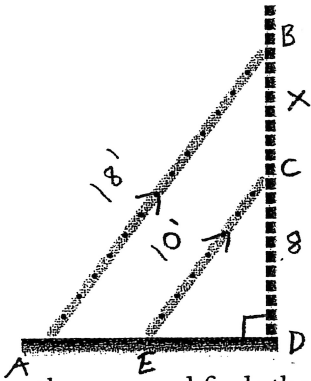
5. A pole 3 m tall casts a shadow 4 m long. A nearby tree casts a 15 m shadow. What is the height of the tree?



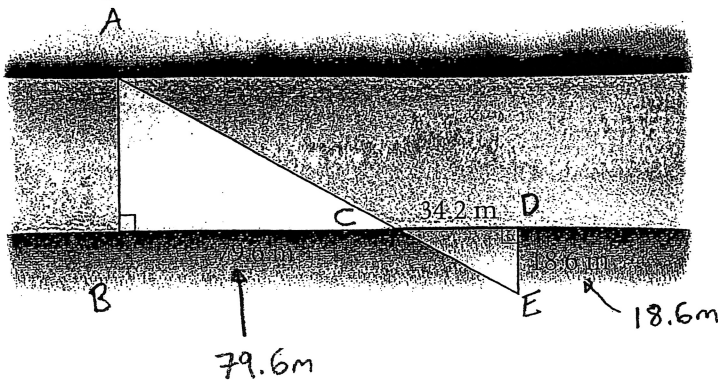
6. To calculate the length of a marsh, a surveyor produced the following diagram. Find the length of the marsh to the nearest tenth of a unit.



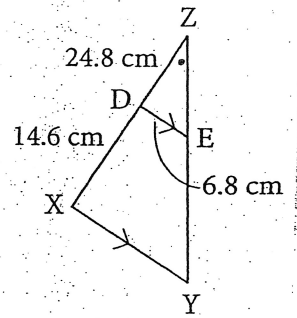
7. Two ladders are leaned against a wall so that they make the same angle with the ground. The 10' ladder reaches 8' up the wall. How much further up the wall does the 18' ladder reach?



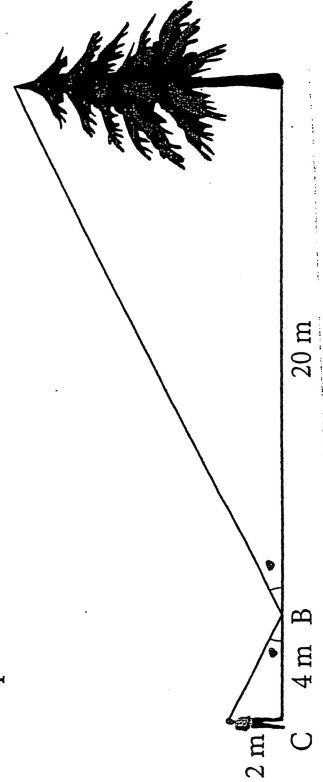
8. To find the width of a river, Jordan surveys the area and finds the following measures. Find the width of the river.



9. In the diagram, DE is parallel to XY,  $XD = 14.6$  cm,  $ZX = 24.8$  cm, and  $DE = 6.8$  cm. Name the similar triangles and find the measure of XY.



10. A hiker, whose eye level is 2 m above the ground, wants to find the height of a tree. He places a mirror horizontally on the ground 20 m from the base of the tree, and finds that if he stands at a point C, which is 4 m from the mirror B, he can see the reflection of the top of the tree. How tall is the tree?



## Answers

- 1a)  $x=130$ (oat),  $y=25$ (astt),  
 b)  $a=130$ (oat),  $b=50$ (plt-c),  
 c)  $x=50$ (astt), d)  $x=50$ (plt-z)  
 2a) 29.2 m b) 11.7 cm c) 12.6 in. d) 42.5 m  
 3a) 20 m b) 8 m c) 5 m d) 36 m  
 4. 20 m 5. 11.25 m 6. 83.7 m  
 7. 6.4 ft. 8. 43.3 m 9. 16.53 cm  
 10. 10 m