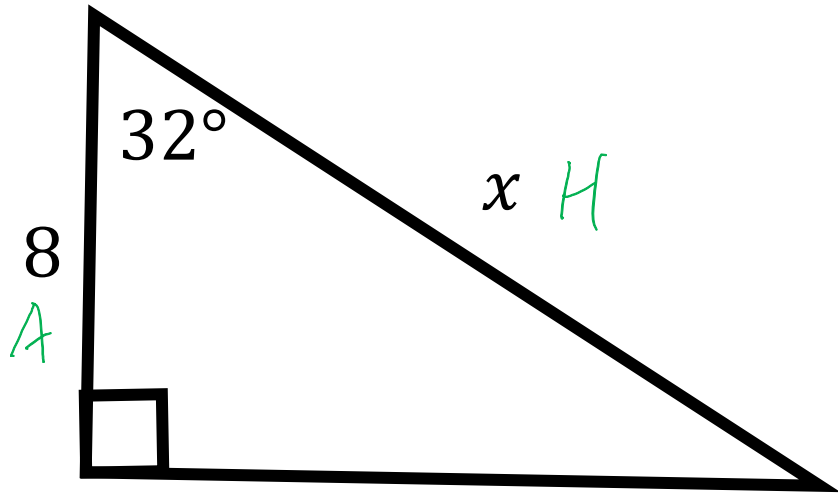


Warm Up

Label each leg opposite, adjacent or hypotenuse.

Write the formula and solve for each missing side to the nearest tenth.

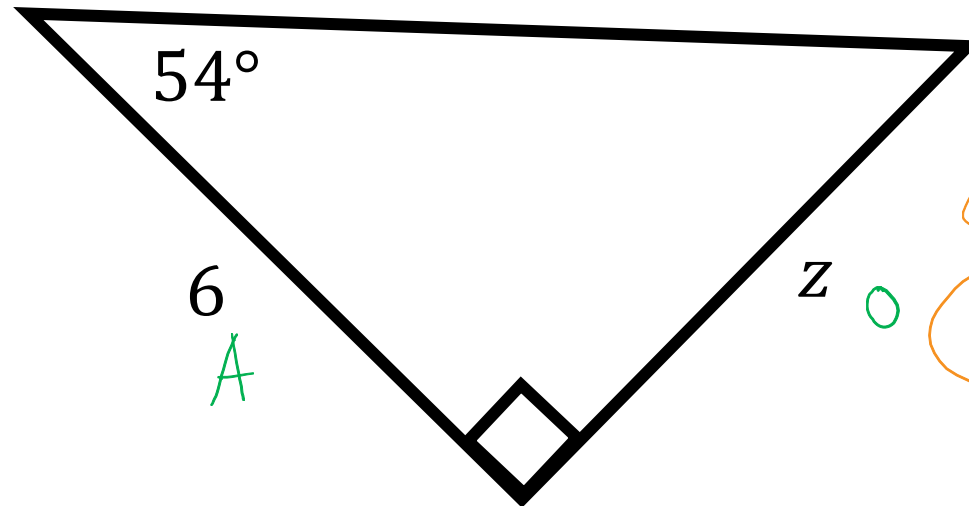
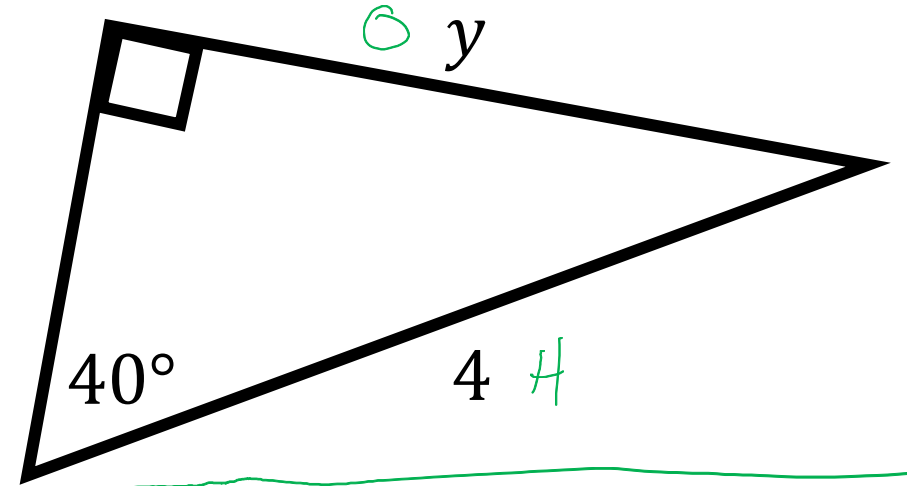


$$\cos(32^\circ) = \frac{8}{x}$$

$$x \cos(32^\circ) = 8$$

$$x = \frac{8}{\cos(32^\circ)} = 9.43$$

$$\cancel{4 \sin(40^\circ) = \frac{4}{4}}$$
$$4 \sin(40^\circ) = 4$$
$$2.5 = 4$$



$$\tan(54^\circ) = \frac{z}{6}$$

$$6 \tan(54^\circ) = z$$

$$8.26$$

# Homework

1) 9.18 cm

2) 8.69 m

3) 14.69 km

4) 21.5 mm

5) 12.38 cm

6) 19.63 m

7)  $3\sqrt{3} \approx 5.20$  km

8) 2.86 mm

9) 16.24 cm

10) 14.85 cm

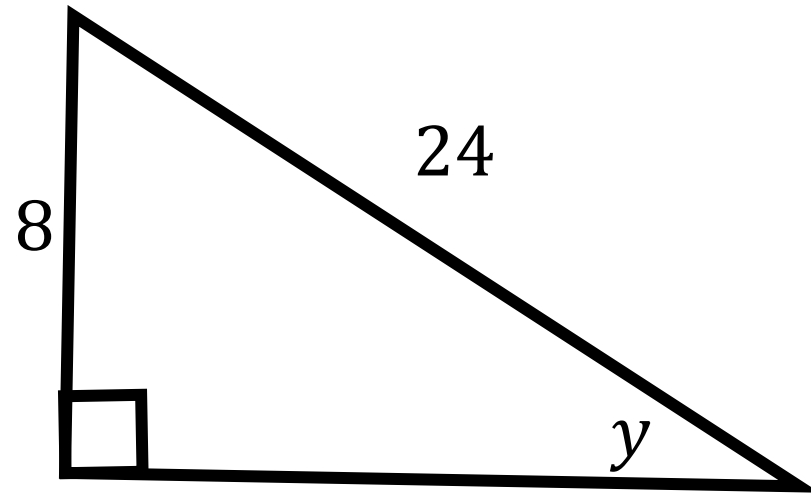
11) 14.94 km

12) 24.61 cm

## Notes

When solving for angles, use the inverse function. Looks like  $\sin^{-1}(x)$ .

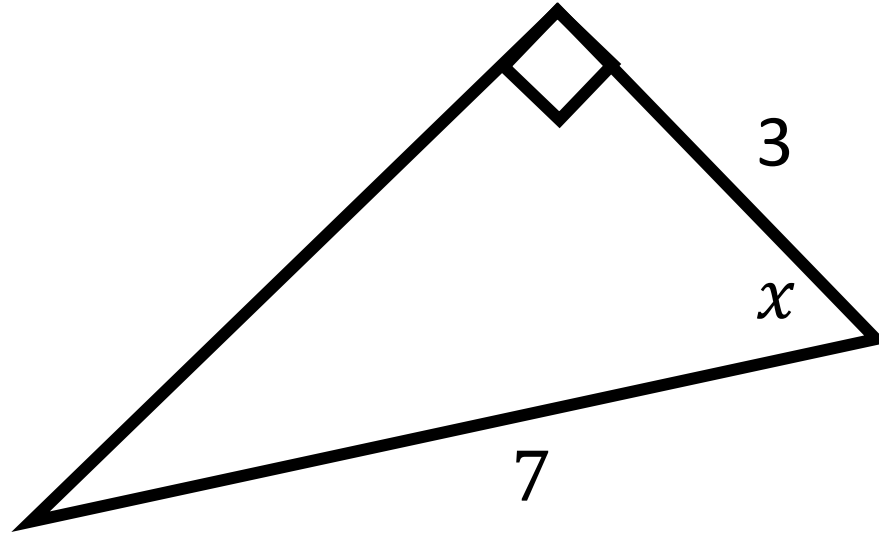
Labeling your sides first may help!



# Notes

When solving for angles, use the inverse function.

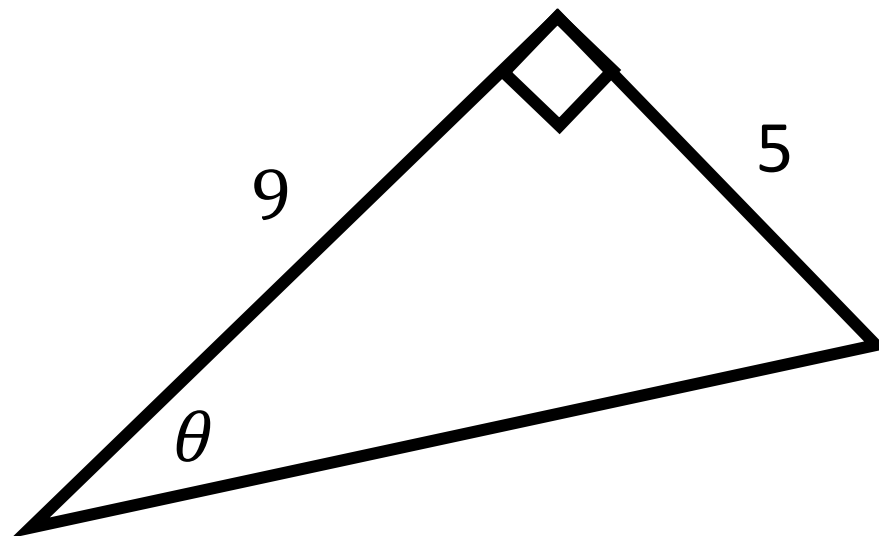
Labeling your sides first may help!



Notes

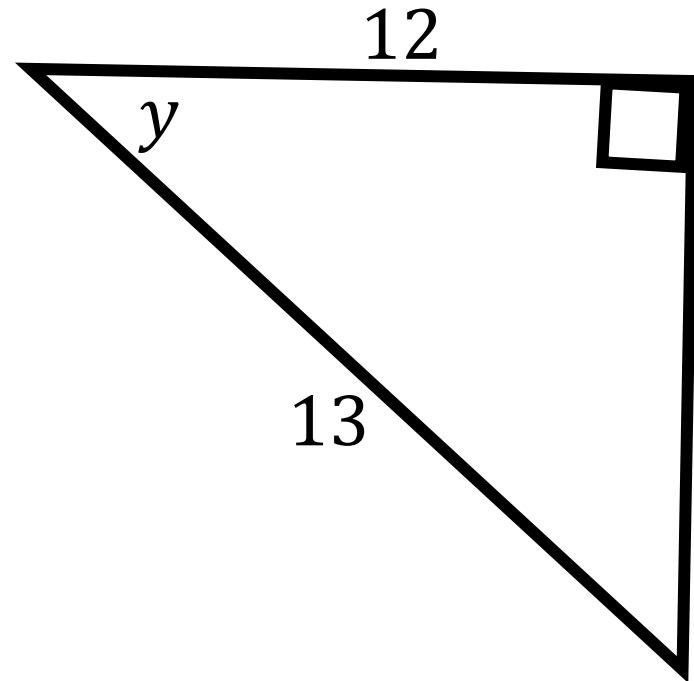
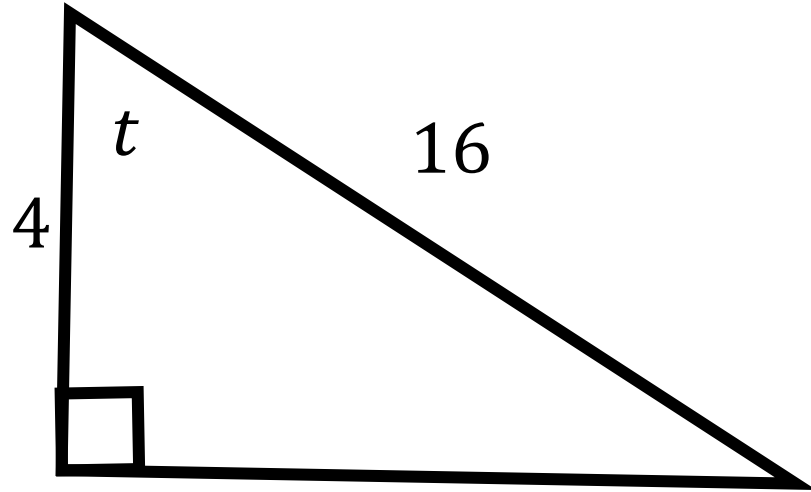
When solving for angles, use the inverse function.

Labeling your sides first may help!



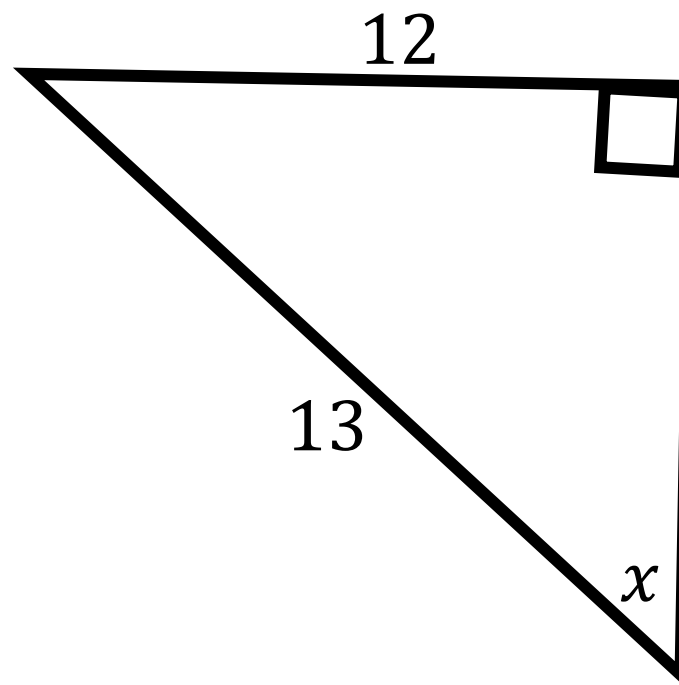
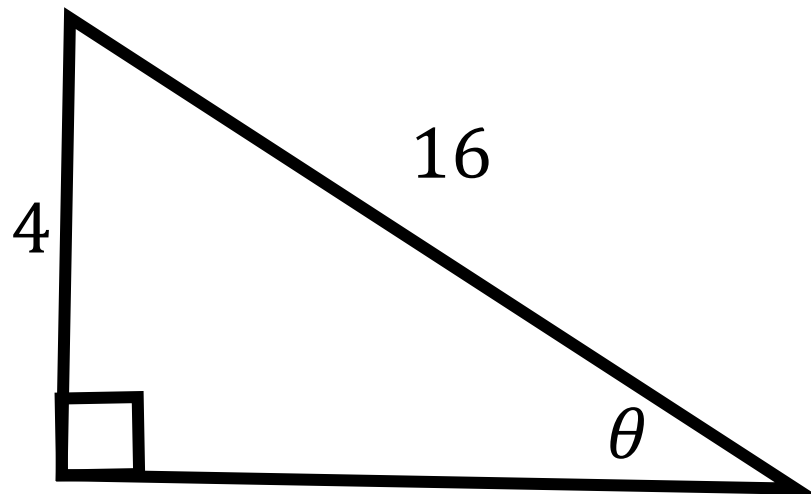
# Notes

When solving for angles, use the inverse function.



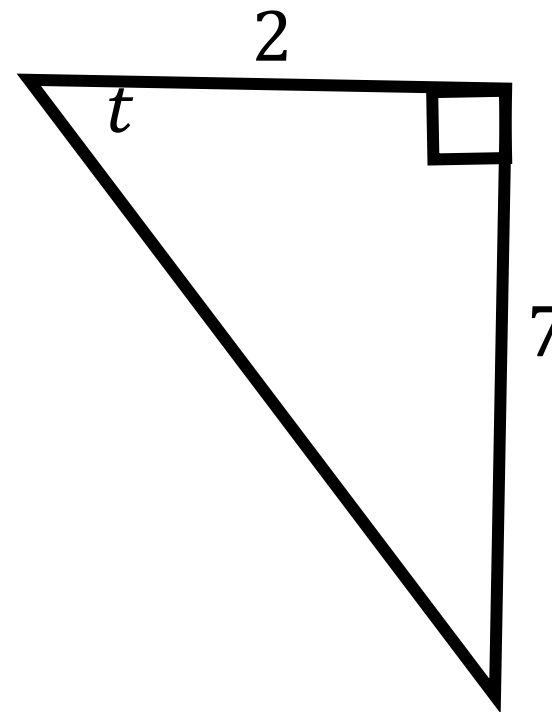
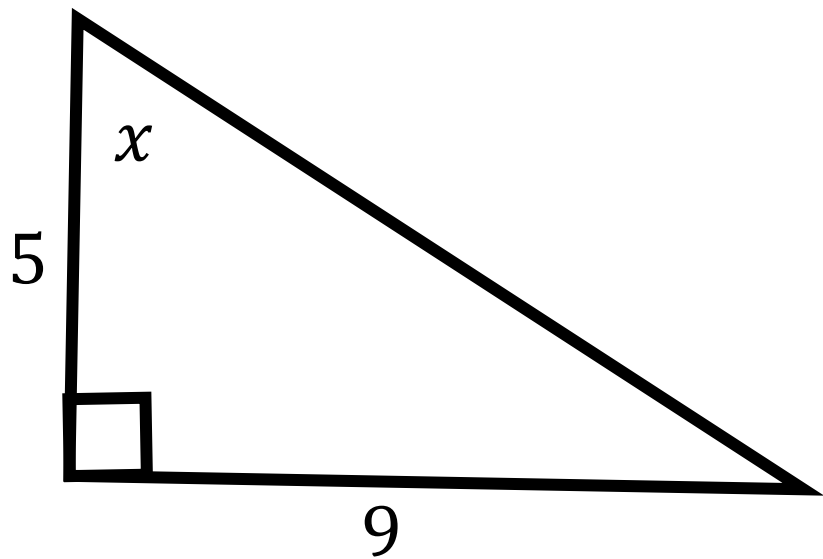
# Notes

When solving for angles, use the inverse function. You try!



# Notes

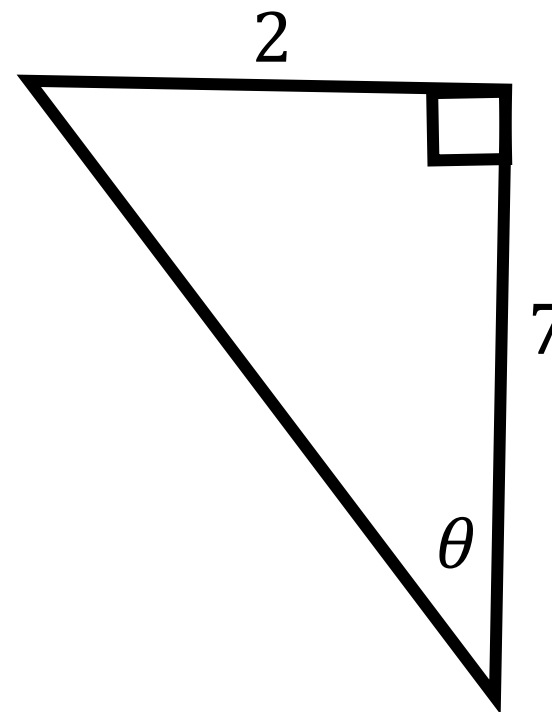
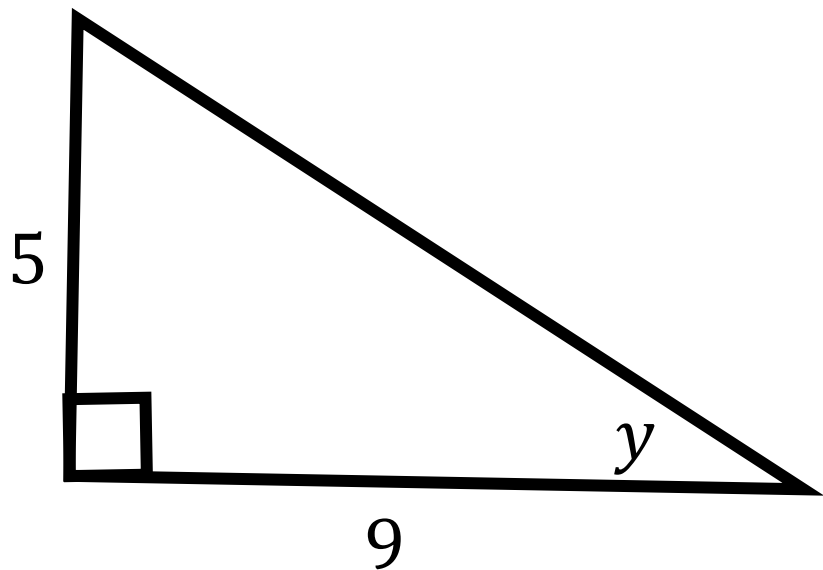
When solving for angles, use the inverse function.





# Notes

When solving for angles, use the inverse function. You try!



## Notes

The Tsing Ma bridge in Hong Kong, China spans 4518' (feet) and is 203' above the water.

The suspension cables reach up to the top of a 676' tower, and each tower is located 8.63% of the way across the bridge.

What is the angle the suspension cables make with the ground?



# Notes

Use trig functions to determine the length of the suspension cables.

(Yes, this could be done with Pythagorean theorem. You can check your answer that way.)

