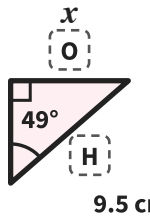
Trigonometry: Finding the Opposite with Sine

1

Find x to 2 decimal places.



$$\sin \boxed{49}^\circ = \frac{\boxed{x}}{\boxed{9.5}}$$

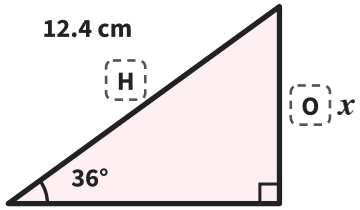
Multiply both sides by the hypotenuse.

$$x = 9.5 \times \sin 49^\circ$$

$x =$ _____

2

Find x to 2 decimal places.



$$\sin \boxed{36}^\circ = \frac{\boxed{x}}{\boxed{12.4}}$$

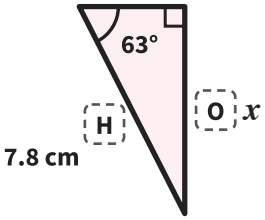
Multiply both sides by the hypotenuse.

_____

$x =$ _____

3

Find x to 2 decimal places.



$$\sin \boxed{}^\circ = \frac{\boxed{}}{\boxed{}}$$

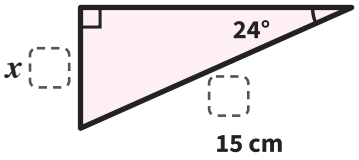
Multiply both sides by the hypotenuse.

_____

$x =$ _____

4

Label O and H, then find x to 2 decimal places.



$$\sin \boxed{}^\circ = \frac{\boxed{}}{\boxed{}}$$

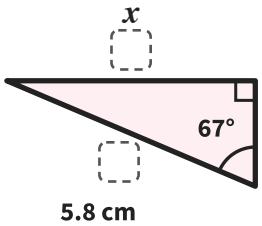
Multiply both sides by the hypotenuse.

_____

$x =$ _____

5

Label O and H, then find x to 2 decimal places.



$$\sin \boxed{}^\circ = \frac{\boxed{}}{\boxed{}}$$

Multiply both sides by the hypotenuse.

_____

$x =$ _____

6

The hypotenuse is 10 cm and the angle is 41°. Ali types 10 × sin 41 into a calculator to find the opposite and gets −1.59. Explain how you know Ali is wrong, then find the opposite to 2 decimal places.

_____

_____

Answer _____

7

A roof rafter is 4.2 m long and slopes at 38° to the horizontal. How high is the top of the rafter above its bottom end? Give your answer to 2 decimal places.

_____

_____

Answer _____

8

A straight zip wire is 85 m long. It slopes down at 9° to the horizontal. How far does a rider drop from the top to the bottom? Give your answer to 2 decimal places.

_____

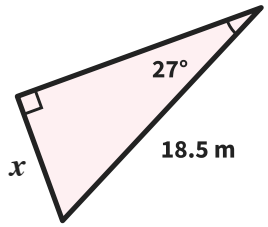
_____

Answer _____

Trigonometry: Finding the Opposite with Sine *further practice*

9

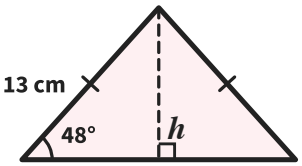
Find x to 2 decimal places.



x = _____

10

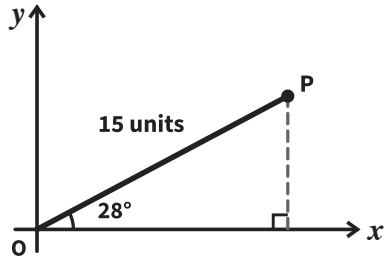
The triangle is isosceles. Find its height, h, to 2 decimal places.



h = _____

11

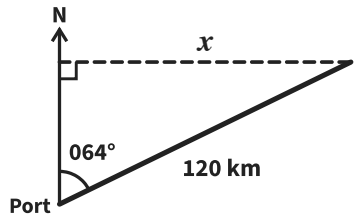
The line OP is 15 units long. It makes an angle of 28° with the x axis. Find the y coordinate of P, to 2 decimal places.



y = _____

12

A boat leaves port and sails 120 km in a straight line on a bearing of 064°.
How far east of the port is it?
Give your answer to 2 decimal places.



x = _____

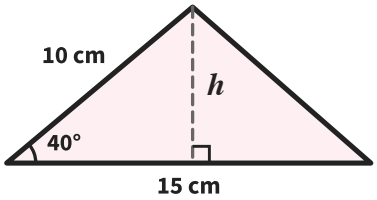
13

A crane's straight jib is 32 m long.
It pivots 4 m above the ground and is raised to 58° above the horizontal.
Can the end of the jib reach above a roof 30 m high? Show how you know.

Answer _____

14

Find the height h of the triangle.
Then find its area, to 2 decimal places.



Area = _____

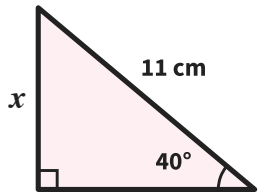
15

Slide A is 3.8 m long at 36° to the ground. Slide B is 4.3 m long at 30°.
Both are straight and start at ground level. Which slide has the higher top, and by how much?
Give your answer to 2 decimal places.

Answer _____

16

Sam writes $\sin 40° = \frac{11}{x}$, so **x = 17.11 cm**. Explain how you know Sam is wrong. Then find x to 2 decimal places.



x = _____