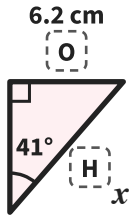
Trigonometry: Finding the Hypotenuse with Sine

1

Find x to 2 decimal places.



$$\sin \boxed{41}^\circ = \frac{\boxed{6.2}}{\boxed{x}}$$

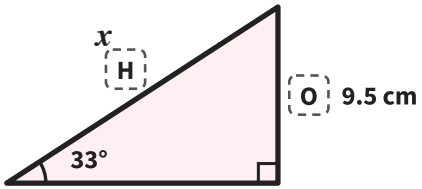
Multiply by x, then divide by sin.

$$x = 6.2 \div \sin 41^\circ$$

$x =$ _____

2

Find x to 2 decimal places.



$$\sin \boxed{33}^\circ = \frac{\boxed{9.5}}{\boxed{x}}$$

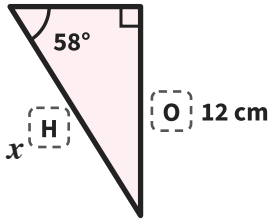
Multiply by x, then divide by sin.

_____

$x =$ _____

3

Find x to 2 decimal places.



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

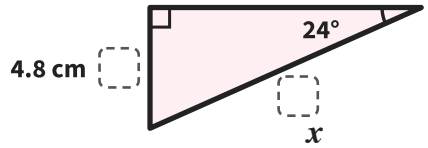
Multiply by x, then divide by sin.

_____

$x =$ _____

4

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



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

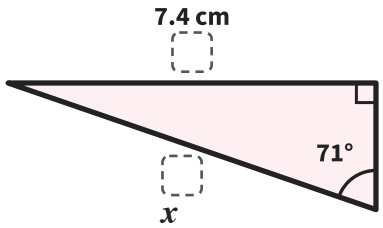
Multiply by x, then divide by sin.

_____

$x =$ _____

5

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



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

Multiply by x, then divide by sin.

_____

$x =$ _____

6

The opposite is 8 cm and the angle is 35°.
To find the hypotenuse, Mia works out $8 \times \sin 35^\circ$ and gets 4.59 cm.
Explain how you know Mia is wrong, then find the hypotenuse to 2 decimal places.

_____

_____

Answer _____

7

A straight path up a hill climbs 150 m in height. It slopes at 9° to the horizontal. How long is the path? Give your answer to 2 decimal places.

_____

_____

Answer _____

8

A submarine dives in a straight line at 12° below the horizontal until it is 90 m deeper. How far has it travelled? Give your answer to 2 decimal places.

_____

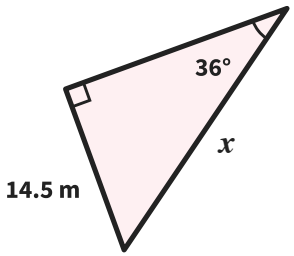
_____

Answer _____

Trigonometry: Finding the Hypotenuse with Sine *further practice*

9

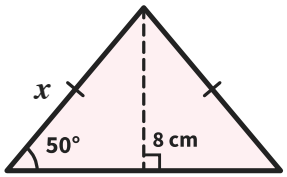
Find x to 2 decimal places.



x = _____

10

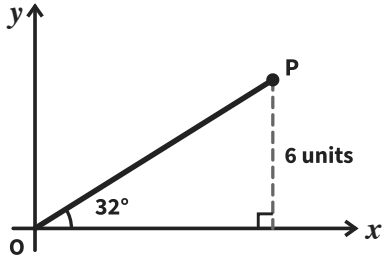
The triangle is isosceles and its height is 8 cm. Find the length of each of its equal sides, x, to 2 decimal places.



x = _____

11

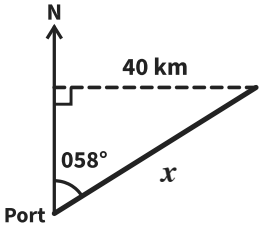
P is 6 units above the x axis, on a line from O at 32° to the x axis.
Find the length OP, to 2 decimal places.



OP = _____

12

A boat leaves port and sails in a straight line on a bearing of 058°. How far has it sailed when it is 40 km east of the port? Give your answer to 2 decimal places.



x = _____

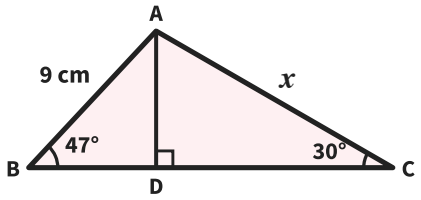
13

A cable car must rise 420 m.
Its straight cable can be at most 23° to the horizontal. Is a 1000 m cable long enough? Show how you know.

Answer _____

14

Find AD, then find the length x to 2 decimal places.



x = _____

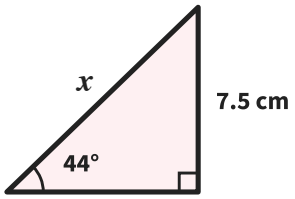
15

Two straight paths climb the same 60 m in height. Path A slopes at 8° to the horizontal and path B at 11°.
Which path is shorter, and by how much? Give your answer to 2 decimal places.

Answer _____

16

Sam writes $\sin 44° = \frac{x}{7.5}$, so **x = 5.21 cm.** Explain how you know Sam is wrong. Then find x to 2 decimal places.



x = _____