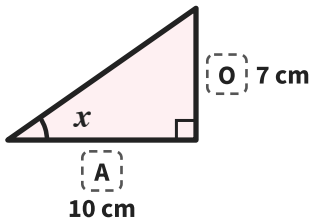
Trigonometry: Finding an Angle with SOH CAH TOA

1

Find the angle x to 2 decimal places.



$$\tan x = \frac{7}{10}$$

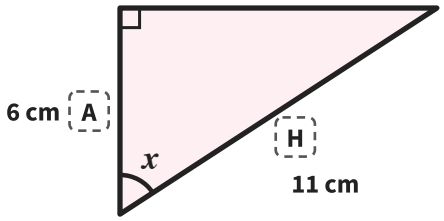
Use the inverse to find the angle.

$$x = \tan^{-1}(7 \div 10)$$

$x =$ _____

2

Find the angle x to 2 decimal places.



$$\cos x = \frac{6}{11}$$

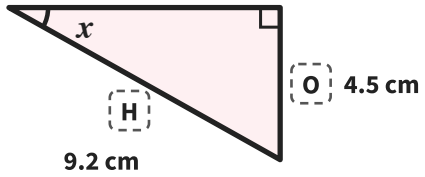
Use the inverse to find the angle.

_____

$x =$ _____

3

Find the angle x to 2 decimal places.



$$\square\, x = \frac{\square}{\square}$$

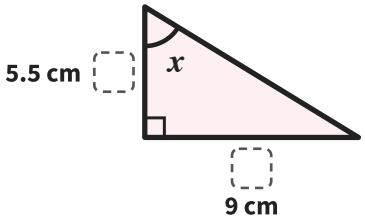
Use the inverse to find the angle.

_____

$x =$ _____

4

Label O and A, then find the angle x to 2 decimal places.



$$\square\, x = \frac{\square}{\square}$$

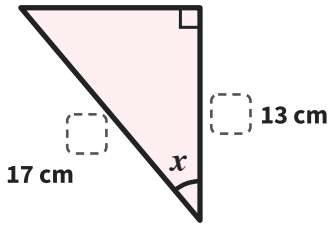
Use the inverse to find the angle.

_____

$x =$ _____

5

Label A and H, then find the angle x to 2 decimal places.



$$\square\, x = \frac{\square}{\square}$$

Use the inverse to find the angle.

_____

$x =$ _____

6

The opposite is 7 cm and the hypotenuse is 10 cm. To find the angle, Raj types $\sin^{-1}(10 \div 7)$ and his calculator says Math ERROR. Explain Raj's mistake, then find the angle to 2 decimal places.

_____

_____

Answer _____

7

A football is on the penalty spot, 11 m from the goal line. The crossbar is 2.44 m above the ground. Find the angle between the ground and the line from the ball up to the crossbar.
Give your answer to 2 decimal places.

_____

_____

Answer _____

8

A funicular railway climbs 120 m in height along 320 m of straight track. Find the angle between the track and the horizontal. Give your answer to 2 decimal places.

_____

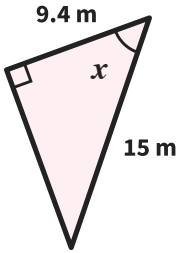
_____

Answer _____

Trigonometry: Finding an Angle with SOH CAH TOA *further practice*

9

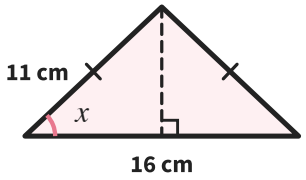
Find the angle x to 2 decimal places.



$x =$ _____

10

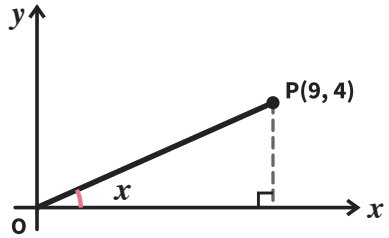
The triangle is isosceles. Find the angle x to 2 decimal places.



$x =$ _____

11

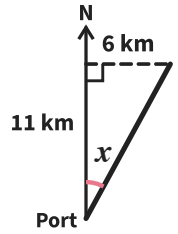
P is the point (9, 4). Find the angle x between OP and the x axis, to 2 decimal places.



$x =$ _____

12

A boat sails in a straight line from a port. It ends up 6 km east and 11 km north of the port. Find the bearing it sailed on, to 2 decimal places.



Bearing _____

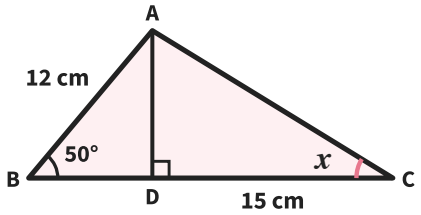
13

The first drop of a roller coaster falls 45 m over a horizontal distance of 22 m. The designer wants it steeper than 60°. Is it steep enough? Show how you know.

Answer _____

14

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



$x =$ _____

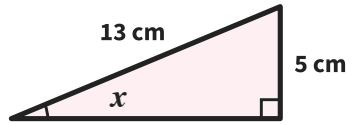
15

Ski run A drops 3 m over a horizontal distance of 20 m. Ski run B drops 5 m along 30 m of straight slope. Which run is steeper, and by how many degrees? Give your answer to 2 decimal places.

Answer _____

16

Sam says $x = \cos^{-1}(5 \div 13) = \mathbf{67.38°}$. Explain Sam's mistake. Then find x to 2 decimal places.



$x =$ _____