

Trigonometry: Missing Sides and Angles, Mixed



Red



Amber

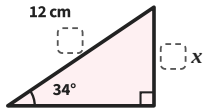


Green



1

x is a side. Use **sin**. Find x to 1 decimal place.



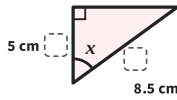
$$\sin \square^\circ = \frac{\square}{\square}$$

$$x = \square \times \div \sin \square^\circ$$

$$x = \underline{\hspace{2cm}}$$

2

x is an angle. Use **cos**. Find x to 1 decimal place.



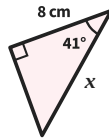
$$\cos x = \frac{\square}{\square}$$

$$x = \cos^{-1} \left(\frac{\square}{\square} \right)$$

$$x = \underline{\hspace{2cm}}$$

5

Ring the ratio. Find x to 1 decimal place.

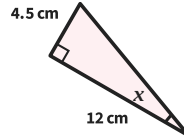


SOH CAH TOA

$$x = \underline{\hspace{2cm}}$$

6

Ring the ratio. Find x to 1 decimal place.



SOH CAH TOA

$$x = \underline{\hspace{2cm}}$$

9

A boat sails from a harbour on a bearing of 040° for 23 km. How far north of the harbour is it now, to 1 decimal place?

Sketch

$$\text{Answer } \underline{\hspace{2cm}}$$

10

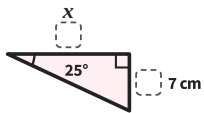
A straight road rises 45 m over a level distance of 600 m. Find the angle between the road and the level ground, to 1 decimal place.

Sketch

$$\text{Answer } \underline{\hspace{2cm}}$$

3

x is a side. Use **tan**. Find x to 1 decimal place.



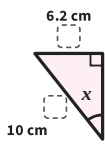
$$\tan \square^\circ = \frac{\square}{\square}$$

$$x = \square \times \div \tan \square^\circ$$

$$x = \underline{\hspace{2cm}}$$

4

x is an angle. Use **sin**. Find x to 1 decimal place.



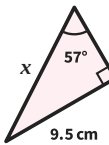
$$\sin x = \frac{\square}{\square}$$

$$x = \sin^{-1} \left(\frac{\square}{\square} \right)$$

$$x = \underline{\hspace{2cm}}$$

7

Ring the ratio. Find x to 1 decimal place.

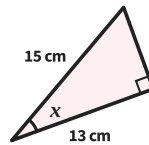


SOH CAH TOA

$$x = \underline{\hspace{2cm}}$$

8

Ring the ratio. Find x to 1 decimal place.



SOH CAH TOA

$$x = \underline{\hspace{2cm}}$$

11

A straight zip wire drops 18 m from start to finish. It slopes at 11° to the horizontal. How long is the wire, to 1 decimal place?

Sketch

$$\text{Answer } \underline{\hspace{2cm}}$$

12

A drone flies 65 m in a straight line, climbing at 52° to the level ground. Ama is 80 m from the point directly below it. Find the angle between the ground and her line of sight to the drone, to 1 decimal place.

Sketch

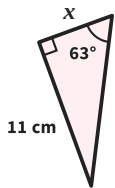
$$\text{Answer } \underline{\hspace{2cm}}$$

Trigonometry: Missing Sides and Angles, Mixed *further practice*



13

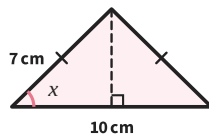
Find x to 1 decimal place.



$$x = \underline{\hspace{2cm}}$$

14

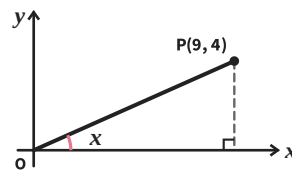
The triangle is isosceles. Find the angle x to 1 decimal place.



$$x = \underline{\hspace{2cm}}$$

15

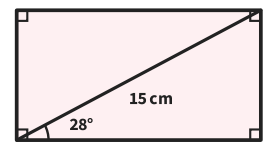
O is the origin and P is the point (9, 4). Find the angle x between OP and the x axis, to 1 decimal place.



$$x = \underline{\hspace{2cm}}$$

16

The diagonal of a rectangle is 15 cm long. It makes an angle of 28° with the longer side. Find the area of the rectangle, to 1 decimal place.



$$\text{Area} = \underline{\hspace{2cm}}$$

17

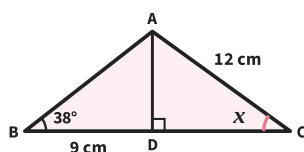
Kai walks 6 km due north, then 4 km due east. Find the bearing of where he finishes from where he started, to the nearest degree.



$$\text{Bearing } \underline{\hspace{2cm}}$$

18

Find the angle x to 1 decimal place.



$$x = \underline{\hspace{2cm}}$$

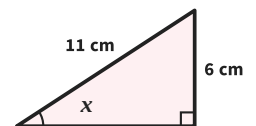
19

Ramp A is 6 m long along its slope and rises 0.5 m. Ramp B rises 0.4 m over a level distance of 4.5 m. Which ramp is steeper, and by how many degrees? Give your answer to 1 decimal place.

$$\text{Answer } \underline{\hspace{2cm}}$$

20

Sam writes $\tan x = \frac{6}{11}$, so $x = 28.6^\circ$. Explain Sam's mistake. Then find x to 1 decimal place.



$$x = \underline{\hspace{2cm}}$$