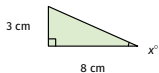


Start Tasks — Answers



Use SOH CAH TOA to find the missing angle, labelled x . Give each answer to 1 decimal place.

1.



Solution

opp = 3, adj = 8 (TOA)

$$\tan x = 3/8$$

$$x = \tan^{-1}(0.375) \approx 20.6^\circ$$

2.



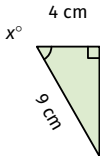
Solution

opp = 3, hyp = 7 (SOH)

$$\sin x = 3/7$$

$$x = \sin^{-1}(3/7) \approx 25.4^\circ$$

3.



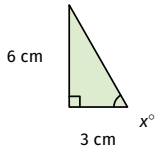
Solution

adj = 4, hyp = 9 (CAH)

$$\cos x = 4/9$$

$$x = \cos^{-1}(4/9) \approx 63.6^\circ$$

4.



Solution

opp = 6, adj = 3 (TOA)

$$\tan x = 6/3$$

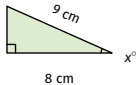
$$x = \tan^{-1}(2) \approx 63.4^\circ$$

Start Tasks — Answers



Use SOH CAH TOA to find the missing angle, labelled x . Give each answer to 1 decimal place.

5.



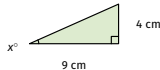
Solution

adj = 8, hyp = 9 (CAH)

$$\cos x = 8/9$$

$$x = \cos^{-1}(8/9) \approx 27.3^\circ$$

6.



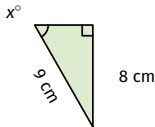
Solution

opp = 4, adj = 9 (TOA)

$$\tan x = 4/9$$

$$x = \tan^{-1}(4/9) \approx 24.0^\circ$$

7.



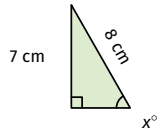
Solution

opp = 8, hyp = 9 (SOH)

$$\sin x = 8/9$$

$$x = \sin^{-1}(8/9) \approx 62.7^\circ$$

8.



Solution

opp = 7, hyp = 8 (SOH)

$$\sin x = 7/8$$

$$x = \sin^{-1}(7/8) \approx 61.0^\circ$$

Start Tasks — Answers



Use SOH CAH TOA to find the missing angle, labelled x . Give each answer to 1 decimal place.

9.



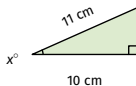
Solution

opp = 3, hyp = 8 (SOH)

$$\sin x = 3/8$$

$$x = \sin^{-1}(3/8) \approx 22.0^\circ$$

10.



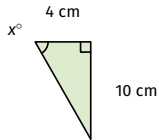
Solution

adj = 10, hyp = 11 (CAH)

$$\cos x = 10/11$$

$$x = \cos^{-1}(10/11) \approx 24.6^\circ$$

11.



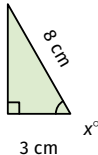
Solution

opp = 4, hyp = 10 (TOA)

$$\tan x = 4/10$$

$$x = \tan^{-1}(0.4) \approx 21.9^\circ$$

12.



Solution

adj = 3, hyp = 8 (CAH)

$$\cos x = 3/8$$

$$x = \cos^{-1}(3/8) \approx 68.0^\circ$$

Start Tasks — Answers



Use SOH CAH TOA to answer each question. Give each answer to 1 decimal place.

13. A ladder 7 m long leans against a wall. The foot of the ladder is 4 m from the wall. Find the angle the ladder makes with the ground.

Solution

Ladder = hyp = 7, foot = adj = 4 (CAH)

$$\cos x = 4/7$$

$$x = \cos^{-1}(4/7) \approx 55.2^\circ$$

15. A kite is flying at a height of 4 m. The flyer stands directly below a point 7 m, measured horizontally, from the kite. Find the angle the kite string makes with the ground.

Solution

height = opp = 4, horizontal = adj = 7 (TOA)

$$\tan x = 4/7$$

$$x = \tan^{-1}(4/7) \approx 29.7^\circ$$

14. A ramp rises 3 m over a horizontal distance of 10 m. Find the angle the ramp makes with the ground.

Solution

rise = opp = 3, run = adj = 10 (TOA)

$$\tan x = 3/10$$

$$x = \tan^{-1}(0.3) \approx 16.7^\circ$$

16. From a point 25 m from the base of a tower, the tower's height is 14 m. Find the angle of elevation to the top of the tower.

Solution

height = opp = 14, distance = adj = 25 (TOA)

$$\tan x = 14/25$$

$$x = \tan^{-1}(0.56) \approx 29.2^\circ$$