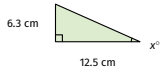


Build Tasks — Answers



Use SOH CAH TOA to find the missing angle, labelled x . Give each answer to 2 decimal places.

1.



Solution

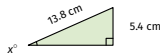
adj = 12.5, opp = 6.3
(TOA)

$$\tan x = 6.3/12.5$$

$$x = \tan^{-1}(0.504) \approx$$

$$26.75^\circ$$

2.



Solution

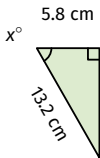
opp = 5.4, hyp = 13.8
(SOH)

$$\sin x = 5.4/13.8$$

$$x = \sin^{-1}(0.391) \approx$$

$$23.04^\circ$$

3.



Solution

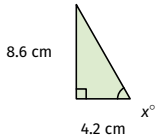
adj = 5.8, hyp = 13.2
(CAH)

$$\cos x = 5.8/13.2$$

$$x = \cos^{-1}(0.439) \approx$$

$$63.93^\circ$$

4.



Solution

opp = 8.6, adj = 4.2
(TOA)

$$\tan x = 8.6/4.2$$

$$x = \tan^{-1}(2.048) \approx$$

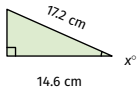
$$63.97^\circ$$

Build Tasks — Answers



Use SOH CAH TOA to find the missing angle, labelled x . Give each answer to 2 decimal places.

5.



Solution

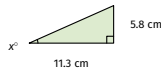
adj = 14.6, hyp = 17.2
(CAH)

$$\cos x = 14.6/17.2$$

$$x = \cos^{-1}(0.849) \approx$$

$$31.91^\circ$$

6.



Solution

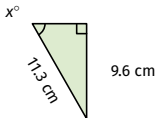
opp = 5.8, adj = 11.3
(TOA)

$$\tan x = 5.8/11.3$$

$$x = \tan^{-1}(0.513) \approx$$

$$27.17^\circ$$

7.



Solution

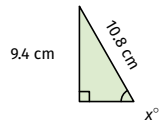
opp = 9.6, hyp = 11.3
(SOH)

$$\sin x = 9.6/11.3$$

$$x = \sin^{-1}(0.850) \approx$$

$$58.16^\circ$$

8.



Solution

opp = 9.4, hyp = 10.8
(SOH)

$$\sin x = 9.4/10.8$$

$$x = \sin^{-1}(0.870) \approx$$

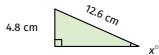
$$60.50^\circ$$

Build Tasks — Answers



Use SOH CAH TOA to find the missing angle, labelled x . Give each answer to 2 decimal places.

9.



Solution

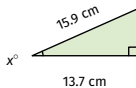
opp = 4.8, hyp = 12.6
(SOH)

$$\sin x = 4.8/12.6$$

$$x = \sin^{-1}(0.381) \approx$$

$$22.36^\circ$$

10.



Solution

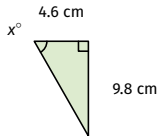
adj = 13.7, hyp = 15.9
(CAH)

$$\cos x = 13.7/15.9$$

$$x = \cos^{-1}(0.862) \approx$$

$$30.50^\circ$$

11.



Solution

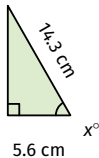
opp = 4.6, adj = 9.8
(TOA)

$$\tan x = 4.6/9.8$$

$$x = \tan^{-1}(0.469) \approx$$

$$24.86^\circ$$

12.



Solution

adj = 5.6, hyp = 14.3
(CAH)

$$\cos x = 5.6/14.3$$

$$x = \cos^{-1}(0.392) \approx$$

$$66.95^\circ$$

Build Tasks — Answers



Use SOH CAH TOA to answer each question. Give each answer to 2 decimal places.

13. A ladder 8.1 m long leans against a wall. The foot of the ladder is 3.2 m from the wall. Find the angle the ladder makes with the ground.

Solution

ladder = hyp = 8.1, foot = adj = 3.2 (CAH)

$$\cos x = 3.2/8.1$$

$$x = \cos^{-1}(0.395) \approx 66.73^\circ$$

15. A guy-wire is attached to the top of a 6.5 m mast and meets the ground at a point 4.1 m from the base of the mast. Find the angle the wire makes with the ground.

Solution

mast = opp = 6.5, base dist = adj = 4.1 (TOA)

$$\tan x = 6.5/4.1$$

$$x = \tan^{-1}(1.585) \approx 57.76^\circ$$

14. A ramp rises 2.4 m over a horizontal distance of 9.6 m. Find the angle the ramp makes with the ground.

Solution

rise = opp = 2.4, run = adj = 9.6 (TOA)

$$\tan x = 2.4/9.6$$

$$x = \tan^{-1}(0.25) \approx 14.04^\circ$$

16. From a point 32.5 m from the base of a cliff, the cliff's height is 19.8 m. Find the angle of elevation to the top of the cliff.

Solution

height = opp = 19.8, distance = adj = 32.5 (TOA)

$$\tan x = 19.8/32.5$$

$$x = \tan^{-1}(0.609) \approx 31.35^\circ$$