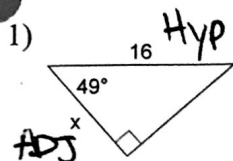


G4: Trigonometry Review C - Level

Find the missing side. Round to the nearest thousandth.

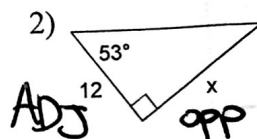


$$\frac{\cos 49^\circ}{1} = \frac{x}{16}$$

Cross multiply

$$x = 16(\cos 49^\circ)$$

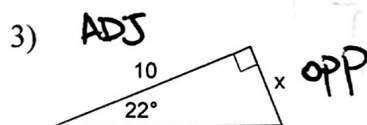
$$\approx 10.50$$



$$\frac{\tan 53^\circ}{1} = \frac{x}{12}$$

$$x = 12(\tan 53^\circ)$$

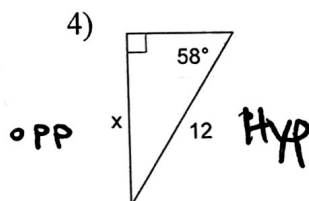
$$x \approx 15.92$$



$$\frac{\tan 22^\circ}{1} = \frac{x}{10}$$

$$x = 10(\tan 22^\circ)$$

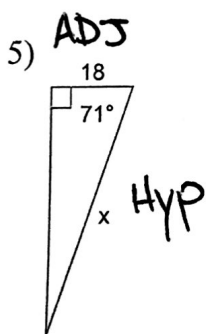
$$\approx 4.04$$



$$\frac{\sin 58^\circ}{1} = \frac{x}{12}$$

$$x = 12(\sin 58^\circ)$$

$$\approx 10.18$$

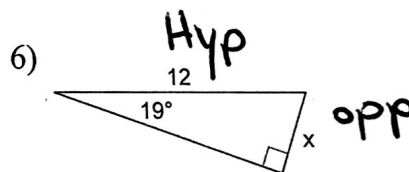


$$\frac{\cos 71^\circ}{1} = \frac{18}{x}$$

$$x(\cos 71^\circ) = 18$$

$$\frac{x(\cos 71^\circ)}{\cos 71^\circ} = \frac{18}{\cos 71^\circ}$$

$$x \approx 55.29$$



$$\frac{\sin 19^\circ}{1} = \frac{x}{12}$$

$$x = 12(\sin 19^\circ)$$

$$x \approx 3.91$$

Find the measure of the indicated angle to the nearest degree.

7) $\text{ADJ} = 2$, $\text{Hyp} = 7$

$$\theta = \cos^{-1}\left(\frac{2}{7}\right)$$

$$\theta \approx 73.40^\circ$$

8) $\text{opp} = 25$, $\text{Hyp} = 42$

$$\theta = \sin^{-1}\left(\frac{25}{42}\right)$$

$$\theta \approx 36.53^\circ$$

9) $\text{ADJ} = 28$, $\text{Hyp} = 46$

$$\theta = \cos^{-1}\left(\frac{28}{46}\right)$$

$$\theta \approx 52.50^\circ$$

10) $\text{opp} = 40$, $\text{ADJ} = 49$

$$\theta = \tan^{-1}\left(\frac{40}{49}\right)$$

$$\theta \approx 39.23^\circ$$

11) $\text{Hyp} = 30$, $\text{ADJ} = 19$

$$\theta = \cos^{-1}\left(\frac{19}{30}\right)$$

$$\theta \approx 50.7^\circ$$

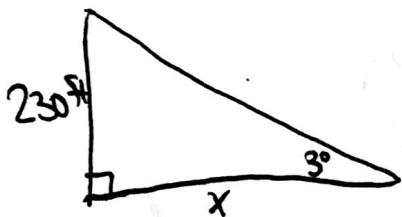
12) $\text{ADJ} = 7$, $\text{opp} = 6$

$$\theta = \tan^{-1}\left(\frac{6}{7}\right)$$

$$\theta \approx 40.6^\circ$$

Draw a diagram to help solve this problem. Your diagram should be of a right triangle. Round your answer to the nearest thousandth.

- 13) The angle of elevation from a ship, at sea level, to the top of a 230-foot lighthouse is 3° . What is the horizontal distance from the ship to the lighthouse?

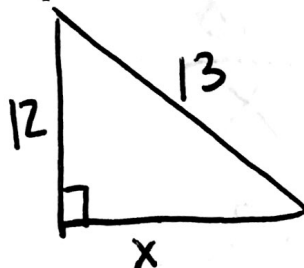


$$\tan 3^\circ = \frac{230}{x}$$

$$x(\tan 3^\circ) = \frac{230}{\tan 3^\circ}$$

$$x \approx 4388.66 \text{ ft}$$

- 14) Damon is locked out of his house. The only open window is on the second floor, which is 12 feet above the ground. He needs to borrow a ladder from his neighbor. Mrs. Thompson has a 13 foot ladder. How far from the house (horizontal distance) should he place the ladder?



$$x^2 + 12^2 = 13^2$$

$$x^2 + 144 = 169$$

$$x^2 = 25$$

$$x = 5 \text{ ft}$$