

Measuring Distances with Trigonometric Ratios ... Set 3

Answers

Using Trigonometry to Find Angle Measures

Find each angle measure to the nearest degree.

1) $\tan A = 2.0503$

$$A = \tan^{-1}(2.0503) \quad \boxed{A = 64^\circ}$$

63.9999577

2) $\cos Z = 0.1219$

$$Z = \cos^{-1}(0.1219) \quad \boxed{Z = 83^\circ}$$

82.9982303

3) $\tan Y = 0.6494$

$$Y = \tan^{-1}(0.6494) \quad \boxed{Y = 33^\circ}$$

32.9996939921

4) $\sin U = 0.8746$

$$U = \sin^{-1}(0.8746) \quad \boxed{U = 61^\circ}$$

60.9976710559

5) $\cos V = 0.6820$

$$V = \cos^{-1}(0.6820) \quad \boxed{V = 47^\circ}$$

46.9998715237

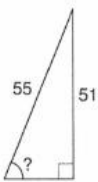
6) $\sin C = 0.2756$

$$C = \sin^{-1}(0.2756) \quad \boxed{C = 16^\circ}$$

15.9977739276

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

7)

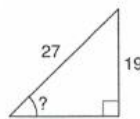


$$\sin x = \frac{51}{55}$$

$$x = \sin^{-1}\left(\frac{51}{55}\right)$$

$$\boxed{x = 68^\circ}$$

8)

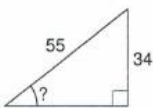


$$\sin x = \frac{19}{27}$$

$$x = \sin^{-1}\left(\frac{19}{27}\right)$$

$$\boxed{x = 45^\circ}$$

9)

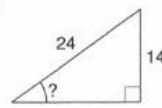


$$\sin x = \frac{34}{55}$$

$$x = \sin^{-1}\left(\frac{34}{55}\right)$$

$$\boxed{x = 38^\circ}$$

10)

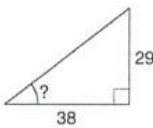


$$\sin x = \frac{14}{24}$$

$$x = \sin^{-1}\left(\frac{14}{24}\right)$$

$$\boxed{x = 36^\circ}$$

11)

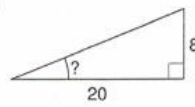


$$\tan x = \frac{29}{38}$$

$$x = \tan^{-1}\left(\frac{29}{38}\right)$$

$$\boxed{x = 37^\circ}$$

12)

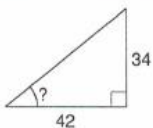


$$\tan x = \frac{8}{20}$$

$$x = \tan^{-1}\left(\frac{8}{20}\right)$$

$$\boxed{x = 22^\circ}$$

13)

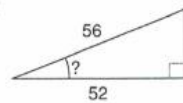


$$\tan x = \frac{34}{42}$$

$$x = \tan^{-1}\left(\frac{34}{42}\right)$$

$$\boxed{x = 39^\circ}$$

14)



$$\cos x = \frac{52}{56}$$

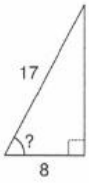
$$x = \cos^{-1}\left(\frac{52}{56}\right)$$

$$\boxed{x = 22^\circ}$$

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15)

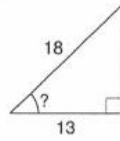


$$\cos x = \frac{8}{17}$$

$$x = \cos^{-1}\left(\frac{8}{17}\right)$$

$$x = 62^\circ$$

16)

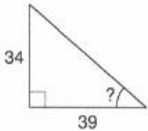


$$\cos x = \frac{13}{18}$$

$$x = \cos^{-1}\left(\frac{13}{18}\right)$$

$$x = 44^\circ$$

17)

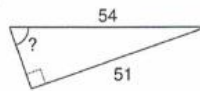


$$\tan x = \frac{34}{39}$$

$$x = \tan^{-1}\left(\frac{34}{39}\right)$$

$$x = 41^\circ$$

18)



$$\sin x = \frac{51}{54}$$

$$x = \sin^{-1}\left(\frac{51}{54}\right)$$

$$x = 71^\circ$$

19)

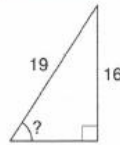


$$\cos x = \frac{26}{45}$$

$$x = \cos^{-1}\left(\frac{26}{45}\right)$$

$$x = 55^\circ$$

20)

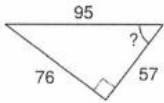


$$\sin x = \frac{16}{19}$$

$$x = \sin^{-1}\left(\frac{16}{19}\right)$$

$$x = 57^\circ$$

21)



$$\sin x = \frac{76}{95}$$

$$x = \sin^{-1}\left(\frac{76}{95}\right)$$

$$x = 53^\circ$$

22)

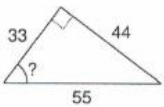


$$\sin x = \frac{72}{75}$$

$$x = \sin^{-1}\left(\frac{72}{75}\right)$$

$$x = 74^\circ$$

23)

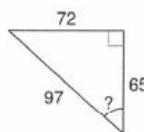


$$\cos x = \frac{33}{55}$$

$$x = \cos^{-1}\left(\frac{33}{55}\right)$$

$$x = 53^\circ$$

24)

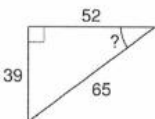


$$\cos x = \frac{65}{97}$$

$$x = \cos^{-1}\left(\frac{65}{97}\right)$$

$$x = 48^\circ$$

25)

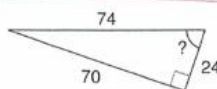


$$\tan x = \frac{39}{52}$$

$$x = \tan^{-1}\left(\frac{39}{52}\right)$$

$$x = 37^\circ$$

26)



$$\tan x = \frac{24}{70}$$

$$x = \tan^{-1}\left(\frac{24}{70}\right)$$

$$x = 71^\circ$$