

Trig – Inverse Values

Find θ (degrees) to 2 decimal places or x (radians) to 4 decimal places, getting:

- a) the general solution
- b) the first 3 positive values.

1. $\theta = \sin^{-1} 0.195$
2. $\theta = \cos^{-1} 0.605$
3. $\cos \theta = -0.2843$
4. $\sin \theta = -0.9541$
5. $\cos x = 0.845$
6. $\sin x = 0.227$
7. $x = \sin^{-1}(-0.97)$
8. $x = \cos^{-1}(-0.007)$
9. $\theta = \cos^{-1} 0.91$
10. $\theta = \cos^{-1} 0.36$
11. $\sin \theta = 0.53$
12. $\sin \theta = 0.28$
13. $\cos \theta = -0.15$
14. $\cos \theta = -0.84$
15. $\theta = \sin^{-1}(-0.76)$
16. $\theta = \sin^{-1}(-0.62)$
17. $x = \cos^{-1} 0.26$
18. $x = \cos^{-1} 0.73$
19. $x = \sin^{-1} 0.98$
20. $\sin x = 0.52$
21. $\cos x = -0.1$
22. $\cos x = -0.2$
23. $x = \sin^{-1}(-0.63)$
24. $x = \sin^{-1}(-0.04)$

Answers

1. a. $11.24^\circ + 360n^\circ$ and $168.76^\circ + 360n^\circ$
b. 11.24° , 168.76° , 371.24°
2. a. $52.77^\circ + 360n^\circ$ and $-52.77^\circ + 360n^\circ$
b. 52.77° , 307.23° , 412.77°
3. a. $106.52^\circ + 360n^\circ$ and $-106.52^\circ + 360n^\circ$
b. 106.52° , 253.48° , 466.52°
4. a. $-72.57^\circ + 360n^\circ$ and $252.57^\circ + 360n^\circ$
b. 252.57° , 287.43° , 612.57°
5. a. $0.5642 + 2\pi n$ and $-0.5642 + 2\pi n$
b. 0.5642 , 5.7190 , 6.8473
6. a. $0.2290 + 2\pi n$ and $2.9126 + 2\pi n$
b. 0.2290 , 2.9126 , 6.5122
7. a. $-1.3252 + 2\pi n$ and $4.4668 + 2\pi n$
b. 4.4668 , 4.9580 , 10.7500
8. a. $1.5778 + 2\pi n$ and $-1.5778 + 2\pi n$
b. 1.5778 , 4.7053 , 7.8610
9. a. $\pm 24.49^\circ + 360n^\circ$
b. 24.49° , 335.51° , 384.49°
10. a. $\pm 68.90^\circ + 360n^\circ$
b. 68.90° , 291.10° , 428.90°
11. a. $32.01^\circ + 360n^\circ$ and $147.99^\circ + 360n^\circ$
b. 32.01° , 147.99° , 392.01°
12. a. $16.26^\circ + 360n^\circ$ and $163.74^\circ + 360n^\circ$
b. 16.26° , 163.74° , 376.26°
13. a. $\pm 98.63^\circ + 360n^\circ$
b. 98.63° , 261.37° , 458.63°
14. a. $\pm 147.14^\circ + 360n^\circ$
b. 147.14° , 212.86° , 507.14°
15. a. $-49.46^\circ + 360n^\circ$ and $229.46^\circ + 360n^\circ$
b. 229.46° , 310.54° , 589.46°
16. a. $-38.32^\circ + 360n^\circ$ and $218.32^\circ + 360n^\circ$
b. 218.32° , 321.68° , 578.32°
17. a. $\pm 1.3078 + 2\pi n$
b. 1.3078 , 4.9754 , 7.5910
18. a. $\pm 0.7525 + 2\pi n$
b. 0.7525 , 5.5307 , 7.0357
19. a. $1.3705 + 2\pi n$ and $1.7711 + 2\pi n$
b. 1.3705 , 1.7711 , 7.6536
20. a. $0.5469 + 2\pi n$ and $2.5947 + 2\pi n$
b. 0.5469 , 2.5947 , 6.8300
21. a. $\pm 1.6710 + 2\pi n$
b. 1.6710 , 4.6122 , 7.9541
22. a. $\pm 1.7722 + 2\pi n$
b. 1.7722 , 4.5110 , 8.0553
23. a. $-0.6816 + 2\pi n$ and $3.8231 + 2\pi n$
b. 3.8231 , 5.6013 , 10.1063
24. a. $-0.040 + 2\pi n$ and $3.1816 + 2\pi n$
b. 3.1816 , 6.2432 , 9.4648