

## TRIG. EQUATIONS WORKSHEET

Solve the following open sentences for  $0^\circ \leq \theta < 360^\circ$  to the nearest degree.

1. $\cos \theta + 1 = 0$	2. $\sin^2 \theta = 0$
3. $2 \cos \theta - \sqrt{3} = 0$	4. $2 \sin \theta + \sqrt{3} = 0$
5. $2 + \sec \theta = 0$	6. $\tan \theta (\csc \theta + 2) = 0$
7. $\cos \theta (\tan \theta - \sqrt{3}) = 0$	8. $\cot^2 \theta + \cot \theta = 0$
9. $\csc^2 \theta + 2 \csc \theta = 0$	10. $\tan^2 \theta - 3 = 0$
11. $1 - \cot^2 \theta = 0$	12. $2 \cos \theta \csc \theta = \sqrt{3} \csc \theta$
13. $2 \sin \theta \sec \theta = \sec \theta$	14. $2 \cos^2 \theta - \cos \theta = 1$
15. $1 + \cos \theta - 2 \sin^2 \theta = 0$	16. $\cot^2 \theta - \csc \theta = 1$
17. $\tan^2 \theta + 3 \sec \theta + 3 = 0$	18. $\sin \theta + 4 \csc \theta + 5 = 0$
19. $3 \sec \theta - \cos \theta - 2 = 0$	20. $\sin 2\theta + 2 \cos \theta = 0$
21. $2 \cos^4 \theta - 3 \cos^2 \theta + 1 = 0$	22. $4 \sin^4 \theta + 3 \sin^2 \theta - 1 = 0$
23. $\cos 3x = \frac{\sqrt{3}}{2}$	24. $2 \cos^2 x - 2 \sin^2 x = 1$
25. $2 \sin x \cos x = 1$	

### Answers:

1. $180^\circ$	2. $0^\circ, 180^\circ$	3. $30^\circ, 330^\circ$
4. $240^\circ, 300^\circ$	5. $120^\circ, 240^\circ$	6. $0^\circ, 180^\circ, 210^\circ, 330^\circ$
7. $60^\circ, 90^\circ, 240^\circ, 270^\circ$	8. $90^\circ, 135^\circ, 270^\circ, 315^\circ$	9. $210^\circ, 330^\circ$
10. $60^\circ, 120^\circ, 240^\circ, 300^\circ$	11. $45^\circ, 135^\circ, 225^\circ, 315^\circ$	12. $30^\circ, 330^\circ$
13. $30^\circ, 150^\circ$	14. $0^\circ, 120^\circ, 240^\circ$	15. $60^\circ, 180^\circ, 300^\circ$
16. $30^\circ, 150^\circ, 270^\circ$	17. $120^\circ, 180^\circ, 240^\circ$	18. $270^\circ$
19. $0^\circ$	20. $90^\circ, 270^\circ$	21. $0^\circ, 45^\circ, 135^\circ, 180^\circ, 225^\circ, 315^\circ$
22. $30^\circ, 150^\circ, 210^\circ, 330^\circ$	23. $10^\circ, 130^\circ, 250^\circ, 110^\circ, 230^\circ, 350^\circ$	24. $30^\circ, 150^\circ, 210^\circ, 330^\circ$
25. $45^\circ, 225^\circ$		