

## Worksheet – Trigonometric Equations

**Be sure to show the work that leads to the answer. NO LATE PAPERS WILL BE ACCEPTED.**

1. Find all solutions to  $2\sin(x) + 1 = 0$  in  $[0, 2\pi]$ .

2. Find all solutions to  $3\cos x = 3$  in  $[0, 2\pi]$ .

3. Find all solutions to  $3\sin x - 4 = \sin x - 2$  in  $[0, 2\pi]$ .

4. Find all solutions to  $4\cos^2 x - 1 = 0$  in  $[0, 2\pi]$ .

5. Find all solutions to  $\cos(2x) = \frac{1}{2}$  in  $[0, 2\pi]$ .

6. Find all solutions to  $\tan^2(x) = 3$  in  $[0, 2\pi]$ .

7. Find all solutions to  $\sin x + \sqrt{2} = -\sin x$  in  $[-\pi, \pi]$ .

8. Find all solutions to  $2\cos(3x - 1) = 0$  in  $[0, \pi]$ .

9. Find all solutions to  $\sec x = 2\cos x$  in  $[0, 2\pi]$ .

10. Find all solutions to  $2\sin^2 x - \sin x - 1 = 0$  in  $[0, 2\pi]$ .

11. Find all solutions to  $\sin x \cos x + \cos x = 0$  in  $[0, 2\pi]$ .

12. Find all solutions to  $\sin(2x) = -\cos(2x)$  in  $[0, 2\pi]$ .

