

Lesson 6.7 Solving Trigonometric Equations II

I. Multiple Angle Trigonometric Equations

Find all solutions of x in $[0, 2\pi)$. You may express your answers in degrees or radians.

1. $\cos(2x) = -\frac{1}{2}$

2. $2 \sin(2x) = -\sqrt{2}$

3. $2 \cos(3x) - 1 = 0$

II. Approximate Solutions for Trigonometric Equations

Find all solutions of x in $[0, 2\pi)$. You may express your answers in degrees or radians.

4. $3 \sin x - 2 = 0$

5. $4 \cos x + 1 = 0$

6. $5 \sin^2 x - 13 \sin x - 6 = 0$

7. $6 \cos^2 x + \cos x - 2 = 0$

III. Practice – Use properties of trig functions to help you solve these.

Find all solutions of x in $[0, 2\pi)$. You may express your answers in degrees or radians.

8. $2 \sin^2 x + 3 \cos x - 3 = 0$

9. $2 \sin x + \cos x = 0$

10. $2 \cos^2 x - 3 \cos x + 1 = 0$

11. $\cos x + 1 = \sin x$