

Assignment: Linear and Quadratic trigonometric equation

Date _____

Solve each equation for $0 \leq \theta < 360$.

1) $\sin \theta = \frac{1}{2}$

2) $\sin \theta = \frac{\sqrt{3}}{2}$

3) $\cos \theta = \sqrt{3}$

4) $\sin \theta = -\frac{\sqrt{3}}{2}$

5) $\frac{\sqrt{3}}{2} = \cos \theta$

6) $\cos \theta = \frac{\sqrt{2}}{2}$

7) $0 = \sqrt{3}\tan^2 \theta + 3\tan \theta$

8) $-\sqrt{3}\sin \theta + \sin \theta \tan \theta = 0$

9) $2\cos^2 \theta + 4 = \cos \theta + 5$

10) $-2\tan^2 \theta = 2\tan \theta - 1 - 3\tan^2 \theta$

11) $3\cos \theta + 1 = -2\cos^2 \theta$

12) $-1 = 2\tan \theta + \tan^2 \theta$

Answers to Assignment: Linear and Quadratic trigonometric equation

- | | | | |
|----------------------|-------------------|---------------------------|--------------------------|
| 1) $\{30, 150\}$ | 2) $\{60, 120\}$ | 3) No solution. | 4) $\{240, 300\}$ |
| 5) $\{30, 330\}$ | 6) $\{45, 315\}$ | 7) $\{0, 120, 180, 300\}$ | 8) $\{0, 60, 180, 240\}$ |
| 9) $\{0, 120, 240\}$ | 10) $\{45, 225\}$ | 11) $\{120, 180, 240\}$ | 12) $\{135, 315\}$ |

