

## Solving with Factoring &amp; Identities

Factor to solve each equation for  $0 \leq \theta < 2\pi$ .

1)  $-2\sqrt{3}\tan \theta \sin \theta + 3\tan \theta + 2\sin \theta = 2\sin \theta$

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

3)  $\cos \theta - 2\cos^2 \theta = \sqrt{2}\cos^2 \theta - 2\cos^2 \theta$

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

Use a Pythagorean Identity to solve each equation for  $0 \leq \theta < 2\pi$ .

5)  $\cos^2 \theta + \cos \theta = \sin^2 \theta$

6)  $-\sin^2 \theta + 3\sin \theta = -\cos^2 \theta + 2$

7)  $-\sin \theta = \cos^2 \theta - \sin^2 \theta$

8)  $2 - \cos^2 \theta + 2\sin \theta = 0$