

Assignment: Trigonometry identity

Date _____

Solve each equation for $0 \leq \theta < 2\pi$.

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

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

3) $-3\cos \theta = -\sqrt{3}\cos \theta + 3\cos \theta \tan \theta - 3\cos \theta$



4) $2\tan \theta \sin \theta + 2\tan \theta = 3\tan \theta$

5) $\sin \theta - 2\cos \theta = 1 - \cos \theta$

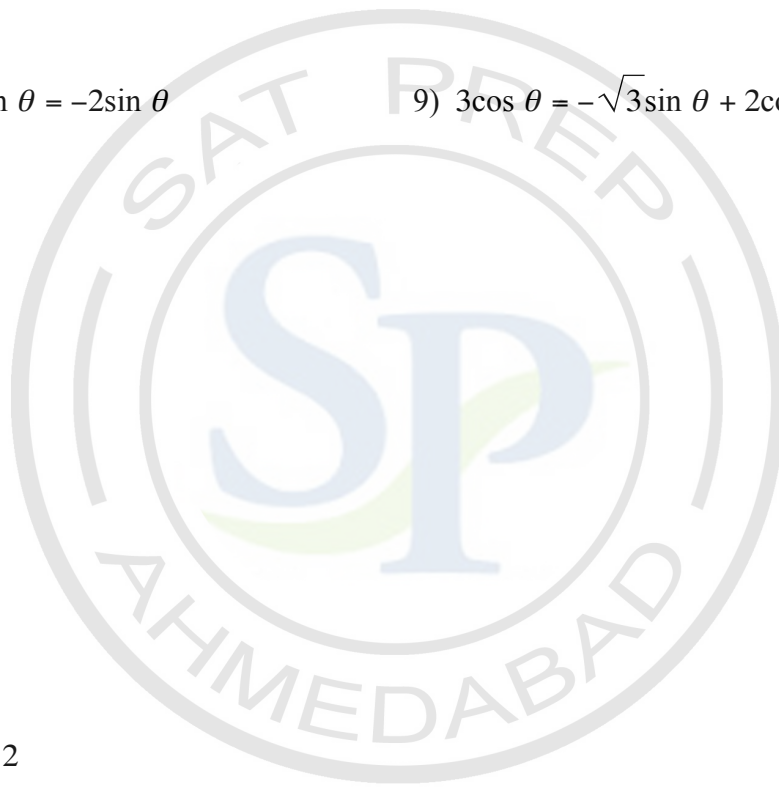
$$6) 1 + \cos \theta - 2\cos^2 \theta = 0$$

$$7) -\sqrt{3}\sin \theta - 2\cos \theta = -3\cos \theta$$

$$8) \sqrt{3}\sin \theta \tan \theta + \sin \theta = -2\sin \theta$$

$$9) 3\cos \theta = -\sqrt{3}\sin \theta + 2\cos \theta$$

$$10) \sin^2 \theta - 2\cos \theta = 2$$



Answers to Assignment: Trigonometry identity

$$1) \left\{ \frac{3\pi}{4}, \frac{7\pi}{4} \right\}$$

$$5) \left\{ \frac{\pi}{2}, \pi \right\}$$

$$9) \left\{ \frac{5\pi}{6}, \frac{11\pi}{6} \right\}$$

$$2) \left\{ 0, \frac{5\pi}{6}, \pi, \frac{11\pi}{6} \right\}$$

$$6) \left\{ 0, \frac{2\pi}{3}, \frac{4\pi}{3} \right\}$$

$$10) \{ \pi \}$$

$$3) \left\{ \frac{\pi}{6}, \frac{7\pi}{6} \right\}$$

$$7) \left\{ \frac{\pi}{6}, \frac{7\pi}{6} \right\}$$

$$4) \left\{ 0, \frac{\pi}{6}, \frac{5\pi}{6}, \pi \right\}$$

$$8) \left\{ 0, \frac{2\pi}{3}, \pi, \frac{5\pi}{3} \right\}$$

