

Simple Trig Equations #1

© 2010 Kuta Software LLC. All rights reserved.

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

1) $\tan \theta = -1$

2) $6\tan \theta = -2\sqrt{3}$

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

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

5) $0 = -\frac{1}{5}\sin \theta$

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

7) $1 + \cos \theta = \frac{2 + \sqrt{3}}{2}$

8) $3 = -3\tan \theta$

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

10) $\frac{-6 + 2\sqrt{3}}{3} = -2 + \cos \theta$

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

11) $4\sqrt{3} = 6\cos \theta$

12) $-4\sin \theta = 2\sqrt{2}$

$$13) -2 + \cos \theta = \frac{-4 - \sqrt{2}}{2}$$

$$14) 3\tan \theta = 0$$

$$15) -4 = 4\cos \theta$$

$$16) -\frac{1}{4}\sin \theta = -\frac{\sqrt{2}}{4}$$

$$17) -2 = -4\sin \theta$$

$$18) 0 = -3\cos \theta$$

$$19) 4 = 4 + \tan \theta$$

$$20) -\frac{3}{2} = -2 + \sin \theta$$

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

$$21) -4 + 5\cos \theta = -7 + 2\cos \theta$$

$$22) -5 - 5\cos \theta = -5 - 2\cos \theta$$

$$23) -6 - 3\cos \theta = -4 - \cos \theta$$

$$24) 8 + 2\tan \theta = 2\sqrt{3} + 8$$

Simple Trig Equations #1

© 2010 Kuta Software LLC. All rights reserved.

Date_____ Period____

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

1) $\tan \theta = -1$

{135, 315}

2) $6\tan \theta = -2\sqrt{3}$

{150, 330}

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

{30, 210}

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

{45, 315}

5) $0 = -\frac{1}{5}\sin \theta$

{0, 180}

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

{240, 300}

7) $1 + \cos \theta = \frac{2 + \sqrt{3}}{2}$

{30, 330}

8) $3 = -3\tan \theta$

{135, 315}

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

{225, 315}

10) $\frac{-6 + 2\sqrt{3}}{3} = -2 + \cos \theta$

No solution.

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

11) $4\sqrt{3} = 6\cos \theta$

No solution.

12) $-4\sin \theta = 2\sqrt{2}$

{\frac{5\pi}{4}, \frac{7\pi}{4}}

$$13) -2 + \cos \theta = \frac{-4 - \sqrt{2}}{2}$$

$$\left\{\frac{3\pi}{4}, \frac{5\pi}{4}\right\}$$

$$15) -4 = 4\cos \theta$$
$$\{\pi\}$$

$$14) 3\tan \theta = 0$$
$$\{0, \pi\}$$

$$16) -\frac{1}{4}\sin \theta = -\frac{\sqrt{2}}{4}$$

No solution.

$$17) -2 = -4\sin \theta$$

$$\left\{\frac{\pi}{6}, \frac{5\pi}{6}\right\}$$

$$18) 0 = -3\cos \theta$$

$$\left\{\frac{\pi}{2}, \frac{3\pi}{2}\right\}$$

$$19) 4 = 4 + \tan \theta$$
$$\{0, \pi\}$$

$$20) -\frac{3}{2} = -2 + \sin \theta$$

$$\left\{\frac{\pi}{6}, \frac{5\pi}{6}\right\}$$

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

$$21) -4 + 5\cos \theta = -7 + 2\cos \theta$$
$$\{180\}$$

$$22) -5 - 5\cos \theta = -5 - 2\cos \theta$$
$$\{90, 270\}$$

$$23) -6 - 3\cos \theta = -4 - \cos \theta$$
$$\{180\}$$

$$24) 8 + 2\tan \theta = 2\sqrt{3} + 8$$
$$\{60, 240\}$$