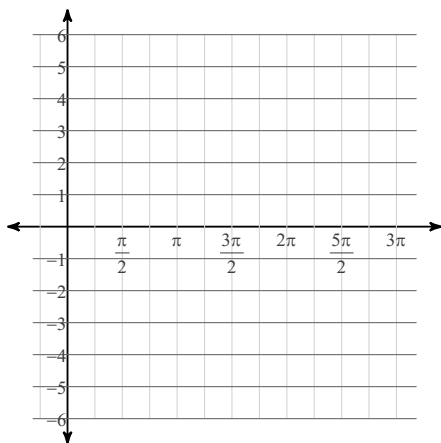


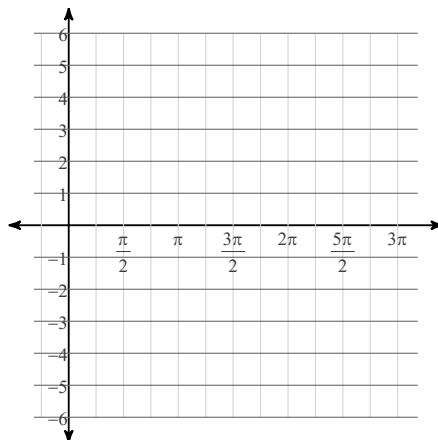
Unit 2 Practice Test

Graph each function using radians.

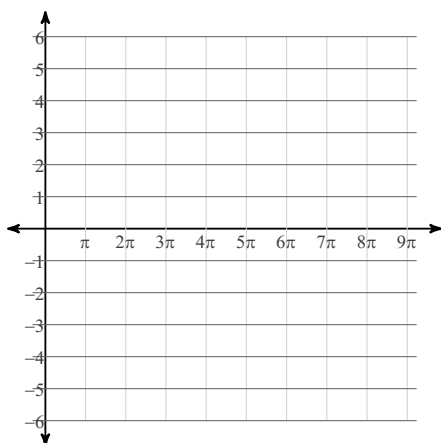
1) $y = -2 + 2\cos \theta$



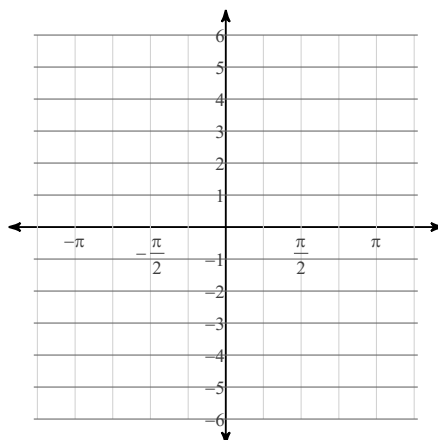
2) $y = 2\tan \frac{\theta}{2} - 1$



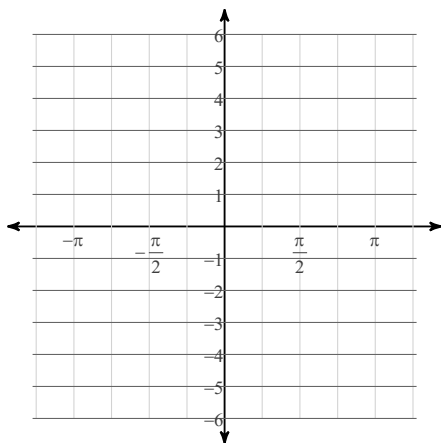
3) $y = 3\csc \frac{\theta}{3} + 2$



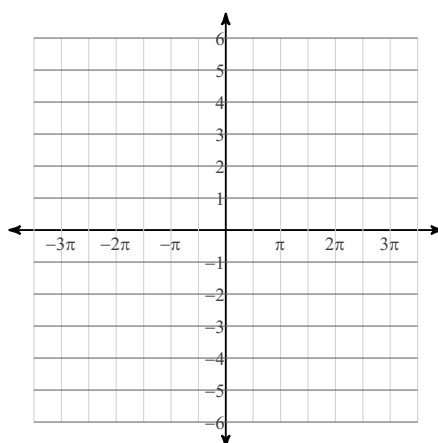
4) $y = 4\cot \theta + 1$



5) $y = 3\sin 4\theta + 1$



6) $y = 3\sec \frac{\theta}{2} + 2$



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

7) $-2 = -4 - \csc \theta$

8) $3\sec^2 \theta = 4$

9) $1 = -2\sin^2 \theta + 2$

10) $3\tan^2 \theta = 4\tan^2 \theta + \sqrt{3}\tan \theta$

11) $-1 + \cos \theta - 2\cos^2 \theta = -4\cos^2 \theta$

12) $-3\tan \theta \csc \theta - \csc \theta = -2\sqrt{3}\tan \theta - \csc \theta$

Find the exact value of each expression.

$$13) \tan^{-1} \frac{\sqrt{3}}{3}$$

$$14) \tan^{-1} 0$$

$$15) \tan^{-1} \frac{\sqrt{3}}{3}$$

$$16) \sin^{-1} 0$$

$$17) \sin^{-1} -1$$

$$18) \cos^{-1} 0$$

$$19) \cos^{-1} \frac{\sqrt{2}}{2}$$

$$20) \tan^{-1} \sqrt{3}$$

$$21) \cos^{-1} \left(\tan \frac{\pi}{4} \right)$$

$$22) \tan^{-1} \left(\cot \frac{\pi}{6} \right)$$

$$23) \cos^{-1} \left(\sin -\frac{\pi}{6} \right)$$

$$24) \cot \sin^{-1} \frac{\sqrt{3}}{2}$$

$$25) \cos \tan^{-1} \sqrt{3}$$

$$26) \cos^{-1} \left(\cos \frac{\pi}{4} \right)$$

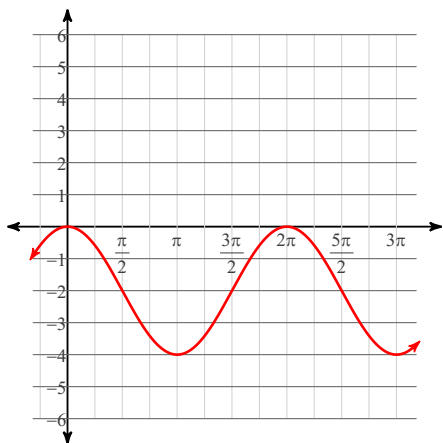
$$27) \sin^{-1} (\sec 0)$$

$$28) \cos^{-1} \left(\tan -\frac{\pi}{4} \right)$$

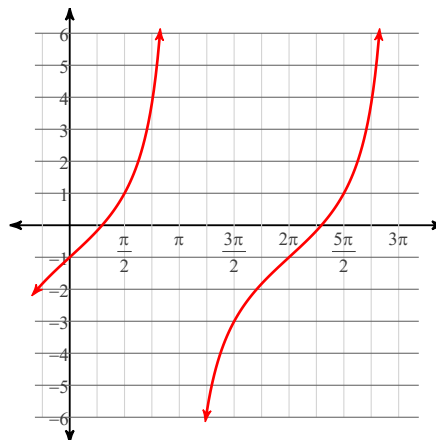
Unit 2 Practice Test

Graph each function using radians.

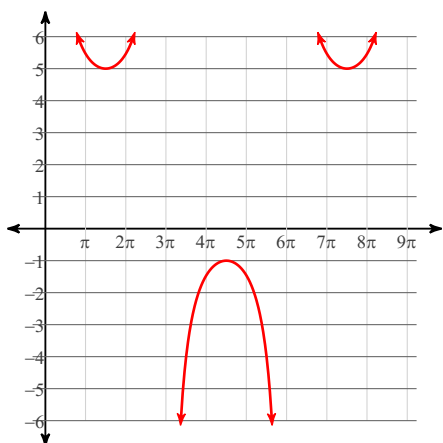
1) $y = -2 + 2\cos \theta$



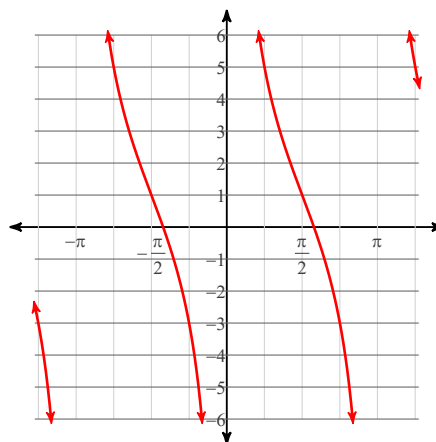
2) $y = 2\tan \frac{\theta}{2} - 1$



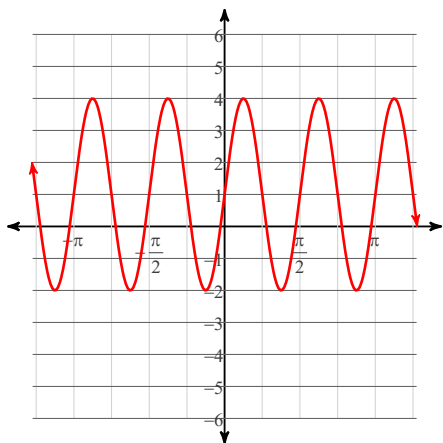
3) $y = 3\csc \frac{\theta}{3} + 2$



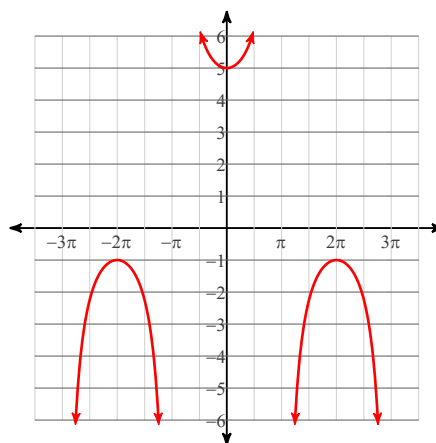
4) $y = 4\cot \theta + 1$



5) $y = 3\sin 4\theta + 1$



6) $y = 3\sec \frac{\theta}{2} + 2$



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

7) $-2 = -4 - \csc \theta$

$$\left\{ \frac{7\pi}{6}, \frac{11\pi}{6} \right\}$$

8) $3\sec^2 \theta = 4$

$$\left\{ \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6} \right\}$$

9) $1 = -2\sin^2 \theta + 2$

$$\left\{ \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4} \right\}$$

10) $3\tan^2 \theta = 4\tan^2 \theta + \sqrt{3}\tan \theta$

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

11) $-1 + \cos \theta - 2\cos^2 \theta = -4\cos^2 \theta$

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

12) $-3\tan \theta \csc \theta - \csc \theta = -2\sqrt{3}\tan \theta - \csc \theta$

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

Find the exact value of each expression.

$$13) \tan^{-1} \frac{\sqrt{3}}{3}$$
$$-\frac{\pi}{6}$$

$$15) \tan^{-1} \frac{\sqrt{3}}{3}$$
$$\frac{\pi}{6}$$

$$17) \sin^{-1} -1$$
$$-\frac{\pi}{2}$$

$$19) \cos^{-1} \frac{\sqrt{2}}{2}$$
$$\frac{3\pi}{4}$$

$$21) \cos^{-1} \left(\tan \frac{\pi}{4} \right)$$
$$0$$

$$23) \cos^{-1} \left(\sin -\frac{\pi}{6} \right)$$
$$\frac{2\pi}{3}$$

$$25) \cos \tan^{-1} \sqrt{3}$$
$$\frac{1}{2}$$

$$27) \sin^{-1} (\sec 0)$$
$$\frac{\pi}{2}$$

$$14) \tan^{-1} 0$$
$$0$$

$$16) \sin^{-1} 0$$
$$0$$

$$18) \cos^{-1} 0$$
$$\frac{\pi}{2}$$

$$20) \tan^{-1} \sqrt{3}$$
$$\frac{\pi}{3}$$

$$22) \tan^{-1} \left(\cot \frac{\pi}{6} \right)$$
$$\frac{\pi}{3}$$

$$24) \cot \sin^{-1} \frac{\sqrt{3}}{2}$$
$$\frac{\sqrt{3}}{3}$$

$$26) \cos^{-1} \left(\cos \frac{\pi}{4} \right)$$
$$\frac{\pi}{4}$$

$$28) \cos^{-1} \left(\tan -\frac{\pi}{4} \right)$$
$$\pi$$