



$$y = \csc(k\theta - c) + h$$

$$y = \sec(k\theta - c) + h$$

$$y = \tan(k\theta - c) + h$$

$$y = \cot(k\theta - c) + h$$

$$\text{Period} = \frac{2\pi}{k}$$

$$\text{Period} = \frac{\pi}{k}$$

$$\text{P.S.} = \frac{c}{k}$$

$$\text{P.S.} = \frac{c}{k}$$

$$\text{V.S.} = h$$

$$\text{V.S.} = h$$

$$y = \csc\left(\frac{\theta}{2} - \frac{\pi}{4}\right) + 2.$$

Find Per, P.S., V.S.

$$\text{Period} = \frac{2\pi}{\frac{1}{2}} = 4\pi$$

$$\text{P.S.} = \frac{\pi/4}{\frac{1}{2}} = \frac{\pi}{4} \cdot \frac{2}{1} = \frac{\pi}{2}$$

$$\text{V.S.} = 2$$

$$y = \tan\left(4\theta + \frac{\pi}{2}\right) - 1$$

$$\text{Per} = \frac{\pi}{4}$$

$$\text{P.S.} = \frac{-\pi/2}{4} = -\frac{\pi}{2} \cdot \frac{1}{4} = -\frac{\pi}{8}$$

$$\text{V.S.} = -1$$

5 Write an equation for a secant function with period  $\pi$ , phase shift  $\frac{\pi}{3}$ , and vertical shift  $-3$ .

$$y = \sec(k\theta - c) + h$$

$$\text{Per} = \pi = \frac{2\pi}{k}$$

$$\text{P.S.} = \frac{\pi}{3} = \frac{c}{2} \cdot 2 \quad \text{V.S.} = -3 = h$$

$$k = \frac{2\pi}{\pi}$$

$$\frac{2\pi}{3} = c$$

$$k = 2$$

$$y = \sec\left(2\theta - \frac{2\pi}{3}\right) - 3$$

p. 401 - 403

29-34,  $\rightarrow$  no graph  $\rightarrow$  Find the  
 ① Period  
 ② V.S.  
 ③ P.S.

36-43, 47, 49, 59