

4.3

120°

$2 \times 30^\circ = \frac{300}{5}$

(6) $\sin \frac{2\pi}{3} = \cos y$ find y .

$$\sin \left(\frac{\pi}{2} + \frac{\pi}{6} \right) = \cos y.$$

$$\because \sin \left(\frac{\pi}{2} + \theta \right) = \cos \theta$$

$$\therefore \sin \left(\frac{\pi}{2} + \frac{\pi}{6} \right) = \cos \left(\frac{\pi}{6} \right)$$

$$\therefore y = \frac{\pi}{6}$$

(10) $\sin \left(\frac{\pi}{12} \right) \doteq 0.2588$

a) find $\cos \left(\frac{5\pi}{12} \right)$.

$\frac{5\pi}{12} = 75^\circ$, use $\left(\frac{\pi}{2} - \theta \right)$ cofunction identity

$$\cos \left(\frac{5\pi}{12} \right) = \cos \left(\frac{\pi}{2} - \frac{\pi}{12} \right)$$

$$\because \cos \left(\frac{\pi}{2} - \theta \right) = \sin \theta$$

$$\therefore \cos \left(\frac{\pi}{2} - \frac{\pi}{12} \right) = \sin \left(\frac{\pi}{12} \right)$$

$$\cos \left(\frac{5\pi}{12} \right) = \sin \left(\frac{\pi}{12} \right)$$

$$\cos \left(\frac{5\pi}{12} \right) \doteq 0.2588$$