

$$9. \frac{420^\circ - 360^\circ}{60^\circ}$$

$$\cos 60^\circ = "x" = \frac{1}{2}$$

$$\sec 60^\circ = \frac{2}{1} = 2$$

$$\sin 60^\circ = "y" = \frac{\sqrt{3}}{2}$$

$$\csc 60^\circ = \frac{2}{\sqrt{3}} = \frac{2 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} = \frac{2\sqrt{3}}{3}$$

$$\begin{aligned} \tan 60^\circ = \frac{"y"}{"x"} &= \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} \\ &= \frac{\sqrt{3}}{1} \\ &= \sqrt{3} \end{aligned}$$

$$\begin{aligned} \cot 60^\circ &= \frac{1}{\sqrt{3}} \\ &= \frac{1 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} \\ &= \frac{\sqrt{3}}{3} \end{aligned}$$

$$10. \frac{-8\pi}{3}$$

$$\frac{2\pi}{1} \cdot \frac{3}{3} = \frac{6\pi}{3}$$

$$\frac{-8\pi}{3} + \frac{6\pi}{3}$$

$$\frac{-2\pi}{3}$$

$$\frac{-2\pi}{3} + \frac{6\pi}{3}$$

$$\frac{4\pi}{3}$$

$$\cos \frac{4\pi}{3} = "x" = -\frac{1}{2}$$

$$\sec \frac{4\pi}{3} = \frac{2}{-1} = -2$$

$$\sin \frac{4\pi}{3} = "y" = -\frac{\sqrt{3}}{2}$$

$$\csc \frac{4\pi}{3} = \frac{2}{-\sqrt{3}}$$

$$= \frac{2 \cdot \sqrt{3}}{-\sqrt{3} \cdot \sqrt{3}}$$

$$= \frac{-2\sqrt{3}}{3}$$

$$\tan \frac{4\pi}{3} = \frac{"y"}{"x"} = \frac{-\frac{\sqrt{3}}{2}}{-\frac{1}{2}}$$

$$\cot \frac{4\pi}{3} = \frac{1}{\sqrt{3}}$$

$$= \frac{\sqrt{3}}{1} = \sqrt{3}$$

$$= \frac{1 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}}$$

$$= \frac{\sqrt{3}}{3}$$

$$11. \cos 37^\circ = 0.8$$

$$\sec A = \frac{1}{\cos A}$$

$$\csc A = \frac{1}{\sin A}$$

$$\cot A = \frac{1}{\tan A}$$

$$12. \csc 53^\circ = \frac{1}{\sin 53^\circ}$$

$$= 1.25$$

$$13. \cot \frac{7\pi}{12}$$

$$\frac{1}{\tan \frac{7\pi}{12}}$$

$$= -0.27$$