

SPECIAL ANGLE VALUES

Deg	^{csc} sin	^{sec} cos	^{cot} tan	Rads
0°	$\frac{\sqrt{0}}{2} = 0$	1	$\frac{0}{1} = 0$	0
30°	$\frac{\sqrt{1}}{2} = \frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	$\frac{\pi}{6}$
45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{\sqrt{2}} = 1$	$\frac{\pi}{4}$
60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{1} = \sqrt{3}$	$\frac{\pi}{3}$
90°	$\frac{\sqrt{4}}{2} = 1$	0	$\frac{1}{0} = \text{undef}$	$\frac{\pi}{2}$

$$\sin \theta = \frac{y}{r}$$

$$\cos \theta = \frac{x}{r}$$

$$\tan \theta = \frac{y}{x}$$

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

$$\csc 45^\circ = \frac{2}{\frac{2}{\sqrt{2}} \cdot \frac{\sqrt{2}}{2}} = \frac{2\sqrt{2}}{2}$$

$$\sin 225^\circ = \frac{-\sqrt{2}}{2}$$



$$45^\circ \cdot \frac{\pi}{180^\circ} = \frac{\pi}{4} \pi$$

$$\tan \frac{7\pi}{4} = -1$$



$$\cos 180^\circ = -1$$



$$\csc \frac{23\pi}{6}$$

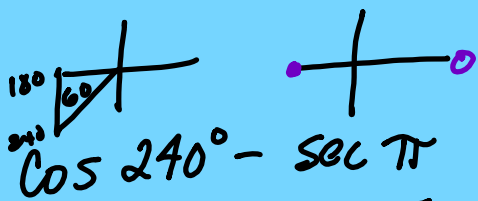
$$= -2$$



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

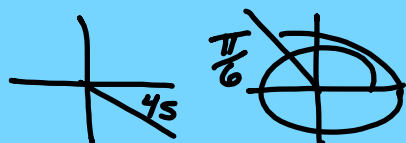
$$= 0$$





$$\cos 240^\circ - \sec \pi$$

$$\csc^2 315^\circ \tan \frac{17\pi}{6} 2^{5/6}$$

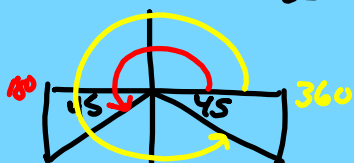


Deg	csc sin	sec cos	cot tan	Rads
0°	$\frac{\sqrt{0}}{2} = 0$	1	$\frac{0}{1} = 0$	♀
30°	$\frac{\sqrt{1}}{2} = \frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	$\frac{\pi}{6}$
45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{\sqrt{2}} = 1$	$\frac{\pi}{4}$
60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{1} = \sqrt{3}$	$\frac{\pi}{3}$
90°	$\frac{\sqrt{4}}{2} = 1$	0	$\frac{1}{0} = \text{undef}$	$\frac{\pi}{2}$

$$\frac{-\frac{1}{2} + 1}{(\sqrt{2})^2 \cdot \left(\frac{\sqrt{3}}{3}\right)} = \frac{\frac{1}{2}}{-2 \cdot \frac{\sqrt{3}}{3}} = \frac{\frac{1}{2}}{-\frac{2\sqrt{3}}{3}} = \frac{1}{2} \cdot \frac{3}{-2\sqrt{3}} = \frac{3\sqrt{3}}{-4\sqrt{3} \cdot \sqrt{3}} = \frac{3\sqrt{3}}{-12} = \boxed{-\frac{\sqrt{3}}{4}}$$

Find all possible values for θ with $0^\circ \leq \theta < 360^\circ$.

$$\sin \theta = -\frac{\sqrt{2}}{2}$$



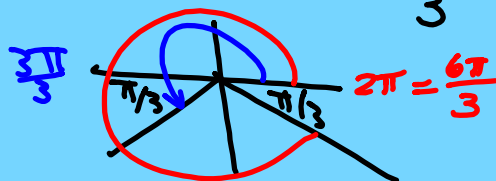
$225^\circ, 315^\circ$

- 1) Find the quadrant(s)
- 2) Find the ref \angle .
- 3) Name angles

Deg	$\overset{csc}{\sin}$	$\overset{sec}{\cos}$	$\overset{cot}{\tan}$	Rads
0°	$\frac{\sqrt{0}}{1} = 0$	1	$\frac{0}{1} = 0$	0
30°	$\frac{\sqrt{1}}{2} = \frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	$\frac{\pi}{6}$
45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{\sqrt{2}} = 1$	$\frac{\pi}{4}$
60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{1} = \sqrt{3}$	$\frac{\pi}{3}$
90°	$\frac{\sqrt{4}}{2} = 1$	0	$\frac{1}{0} = \text{undef}$	$\frac{\pi}{2}$

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

$$0 \leq \theta < 2\pi$$



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