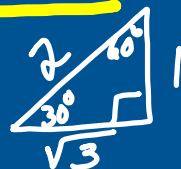


# SPECIAL ANGLE VALUES

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



$$\sin 30^\circ = \cos 60^\circ$$

$$\cos 45^\circ = \frac{\sqrt{2}}{2}$$

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

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

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

$$\sec 150^\circ = \frac{2\sqrt{3}}{\sqrt{3}\sqrt{3}} = \frac{2\sqrt{3}}{3}$$

$$\sin 240^\circ = -\frac{\sqrt{3}}{2}$$



$$\csc 270^\circ = -1$$



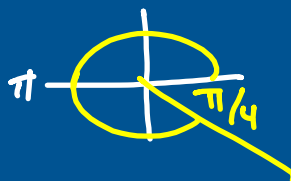
# SPECIAL ANGLE VALUES

	<i>csc</i> Sin	<i>sec</i> Cos	<i>cot</i> 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	$\frac{1}{0}=\text{undef.}$	$\frac{\pi}{2}$

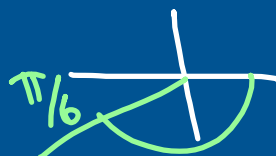
$$\frac{\sqrt{3}}{2} \quad \sqrt{3}$$

$$\frac{\sqrt{2}}{2} \quad \sqrt{2}$$

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



$$\cot\left(-\frac{5\pi}{6}\right) = \frac{3}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{3\sqrt{3}}{\sqrt{3}}$$





$$\sec \frac{5\pi}{2}$$

$$= \frac{1}{0} = \boxed{\text{undef.}}$$



# SPECIAL ANGLE VALUES

	$\csc$ Sin	$\sec$ Cos	$\cot$ tan	Rads
$0^\circ$	$\frac{\sqrt{0}}{2}=0$	1	$\frac{0}{1}=0$	0
$30^\circ$	$\frac{\sqrt{1}}{2}=\frac{1}{2}$	$\sqrt{3}/2$	$\frac{1}{\sqrt{3}}=\frac{\sqrt{3}}{3}$	$\frac{\pi}{6}$
$45^\circ$	$\frac{\sqrt{2}}{2}$	$\sqrt{2}/2$	$\frac{\sqrt{2}}{\sqrt{2}}=1$	$\frac{\pi}{4}$
$60^\circ$	$\frac{\sqrt{3}}{2}$	$1/2$	$\frac{\sqrt{3}}{1}=\sqrt{3}$	$\frac{\pi}{3}$
$90^\circ$	$\frac{\sqrt{4}}{2}=1$	0	$\frac{1}{0}=\text{undefined}$	$\frac{\pi}{2}$

$$\frac{\cos 240^\circ - \sec \pi}{\csc^2 315^\circ \tan \frac{17\pi}{6}} \quad 2^{5/6}$$

$$\frac{-\frac{1}{2} + 1}{(-\sqrt{2})^2 \cdot \frac{\sqrt{3}}{3}} = \frac{\frac{1}{2}}{2 - \frac{\sqrt{3}}{3}}$$

$$= \frac{\frac{1}{2}}{-\frac{2\sqrt{3}}{3}}$$

$$= \frac{1}{2} \cdot \frac{3}{-2\sqrt{3}}$$

$$= \frac{3}{-4\sqrt{3} \cdot \sqrt{3}}$$

$$= -\frac{3\sqrt{3}}{12}$$

$$= \boxed{-\frac{\sqrt{3}}{4}}$$



# SPECIAL ANGLE VALUES

	<sup>csc</sup> Sin	<sup>sec</sup> Cos	<sup>cot</sup> tan	Rads
0°	$\frac{\sqrt{0}}{2}=0$	1	$\frac{0}{1}=0$	$0 \frac{0}{1}$
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	$\frac{1}{0}=\text{undef}$	$\frac{\pi}{2}$

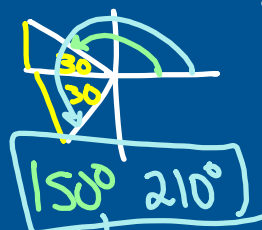
$$\cot \theta = 0$$

$$\tan \theta = \text{undef}$$



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

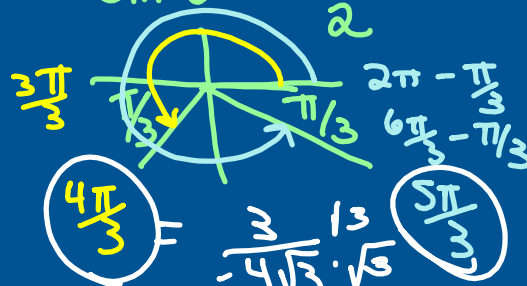
$$\cos \theta = -\frac{\sqrt{3}}{2}$$



- 1) Find quadr.
- 2) Find ref.  $\angle$ .
- 3) Name angles.

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

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



$$= -\frac{3\sqrt{3}}{12}$$

$$= -\frac{\sqrt{3}}{4}$$

