WARMUP - in notes

Use your unit circle to find the exact values of.

$\sin 30^\circ = \frac{1}{2}$ $\quad \sin 45^\circ = \frac{\sqrt{2}}{2}$ $\quad \sin 60^\circ = \frac{\sqrt{3}}{2}$

$\cos 30^\circ = \frac{\sqrt{3}}{2}$ $\quad \cos 45^\circ = \frac{\sqrt{2}}{2}$ $\quad \cos 60^\circ = \frac{1}{2}$

$\tan 30^\circ = \frac{\sqrt{3}}{3}$ $\quad \tan 45^\circ = 1$ $\quad \tan 60^\circ = \sqrt{3}$

$\csc 30^\circ = 2$ $\quad \csc 45^\circ = \sqrt{2}$ $\quad \csc 60^\circ = \frac{2\sqrt{3}}{3}$

$\sec 30^\circ = \frac{2\sqrt{3}}{3}$ $\quad \sec 45^\circ = \sqrt{2}$ $\quad \sec 60^\circ = 2$

$\cot 30^\circ = \sqrt{3}$ $\quad \cot 45^\circ = 1$ $\quad \cot 60^\circ = \frac{\sqrt{3}}{3}$

Angle in degrees	0°	30°	45°	60°	90°	120°	135°	150°	180°	210°	225°	240°	270°	300°	315°	330°	360°
Angle in Radians	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	π	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	2π
$\sin\theta$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0
$\cos\theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\tan\theta$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	und	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	und	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0
$\csc\theta$	und	2	$\sqrt{2}$	$\frac{2\sqrt{3}}{3}$	1	$\frac{2\sqrt{3}}{3}$	$\sqrt{2}$	2	und	-2	$-\sqrt{2}$	$-\frac{2\sqrt{3}}{3}$	-1	$-\frac{2\sqrt{3}}{3}$	$-\sqrt{2}$	-2	und
$\sec\theta$	1	$\frac{2\sqrt{3}}{3}$	$\sqrt{2}$	2	und	-2	$-\sqrt{2}$	$-\frac{2\sqrt{3}}{3}$	-1	$-\frac{2\sqrt{3}}{3}$	$-\sqrt{2}$	-2	und	2	$\sqrt{2}$	$\frac{2\sqrt{3}}{3}$	1
$\cot\theta$	und	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	und	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	und
		Q I All +				Q II $\sin\theta, \csc\theta$ + $\cos\theta, \sec\theta$ $\tan\theta, \cot\theta$ −				Q III $\tan\theta, \cot\theta$ + $\sin\theta, \csc\theta$ $\cos\theta, \sec\theta$ −				Q IV $\cos\theta, \sec\theta$ + $\sin\theta, \csc\theta$ $\tan\theta, \cot\theta$ −			

Use chart to calculate exact values of

$\sin\frac{11\pi}{6} = -\frac{1}{2}$

$\tan 420^\circ = \sqrt{3}$

$\sin 765^\circ = \frac{\sqrt{2}}{2}$

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

$\sec\frac{23\pi}{4} = \sqrt{2}$

$\cos\left(-\frac{13\pi}{4}\right) = -\frac{\sqrt{2}}{2}$

$\csc(-1350^\circ) = 1$

$\cot(-1080^\circ) = \text{und}$