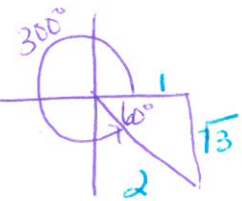


Section 2-4 Continued
Exact Values of 6 Trig Functions

Find the exact values (no decimals) of the given function.

1. $\sin 300^\circ$

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

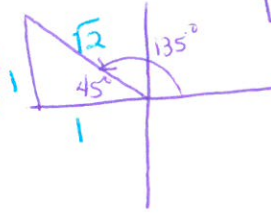


In 4th quad, so only $\cos \theta$ is pos.

- ① Draw \angle
- ② Find ref \angle
- ③ Label sp. rt Δ
- ④ Use $\frac{s}{A}$ to decide if it's pos. or neg.

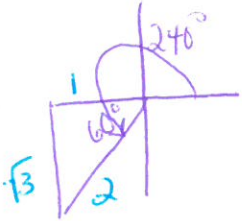
2. $\cos 135^\circ$

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



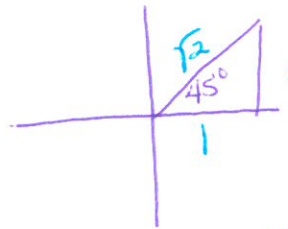
3. $\tan 240^\circ$

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



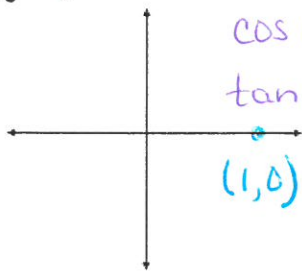
4. $\sec 45^\circ$

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



Quadrantal Angles (Angles that are on the x-axis or y-axis)

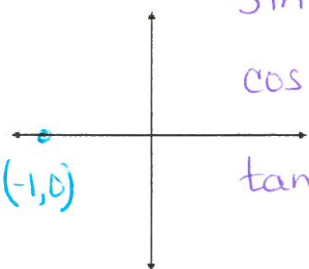
$\theta = 0^\circ$



$$\begin{aligned} \sin 0^\circ &= 0 \\ \cos 0^\circ &= 1 \\ \tan 0^\circ &= \frac{0}{1} = 0 \end{aligned}$$

$(1, 0)$

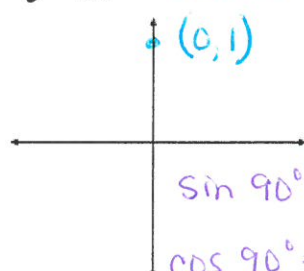
$\theta = 180^\circ$



$$\begin{aligned} \sin 180^\circ &= 0 \\ \cos 180^\circ &= -1 \\ \tan 180^\circ &= \frac{0}{-1} = 0 \end{aligned}$$

$(-1, 0)$

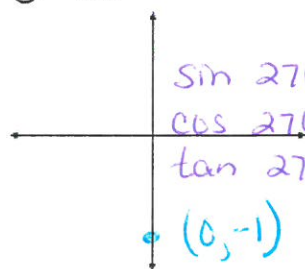
$\theta = 90^\circ$



$$\begin{aligned} \sin 90^\circ &= 1 \\ \cos 90^\circ &= 0 \\ \tan 90^\circ &= \frac{1}{0} = \text{Undefined} \end{aligned}$$

$(0, 1)$

$\theta = 270^\circ$



$$\begin{aligned} \sin 270^\circ &= -1 \\ \cos 270^\circ &= 0 \\ \tan 270^\circ &= \frac{-1}{0} = \text{undefined} \end{aligned}$$

$(0, -1)$

Use labels from unit circle
 $x = \cos \theta$ $y = \sin \theta$
 $\tan \theta = \frac{\sin \theta}{\cos \theta}$
so $\tan \theta = \frac{y}{x}$

