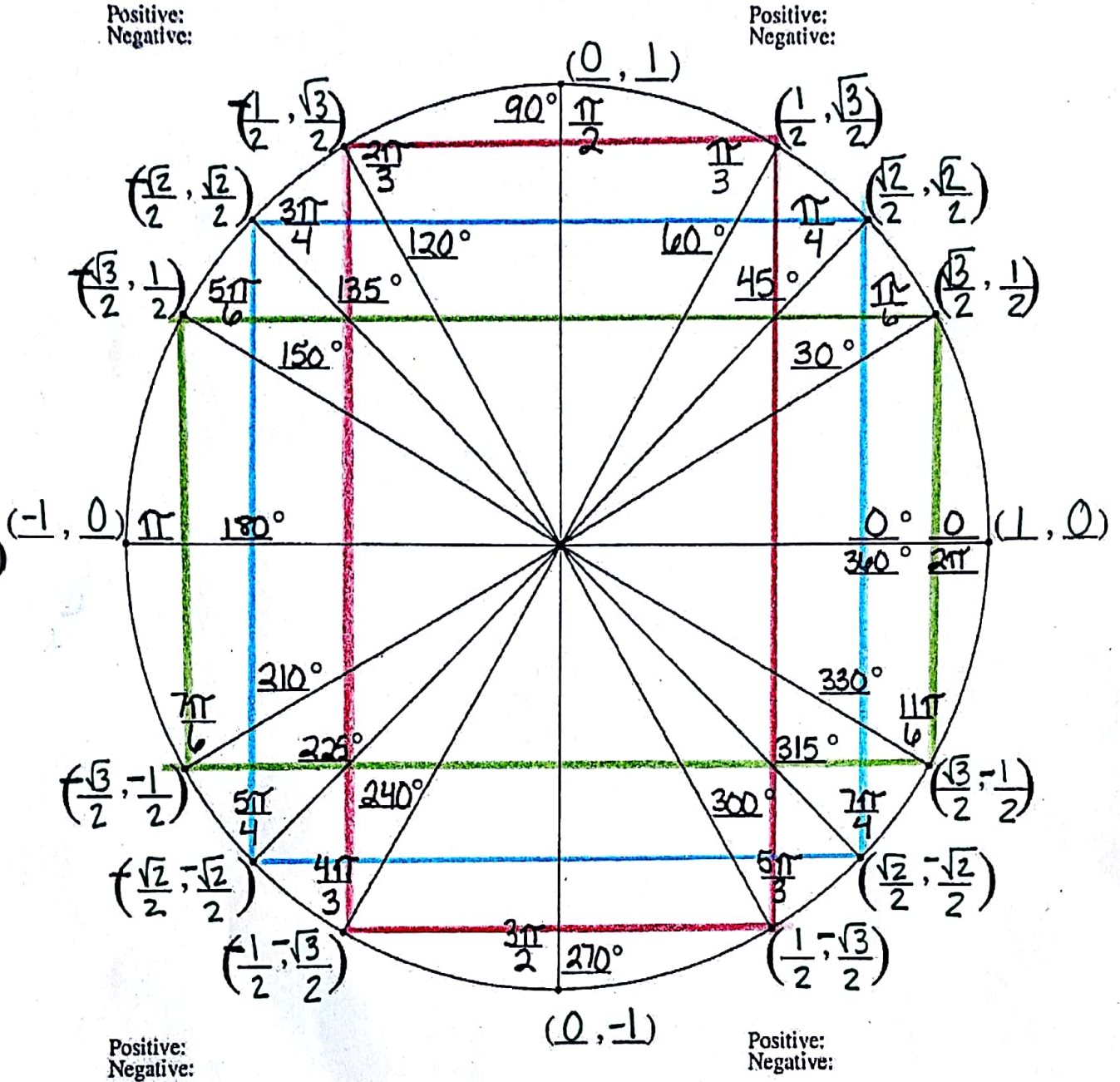


November 29

radius = 1 unit

Fill in The Unit Circle



EmbeddedMath.com

Exact Values of Trig Functions

● On the unit circle:

x-coordinates are cosine values

y-coordinates are sine values

Determine:

$$\text{(Ex1)} \cos 60^\circ = \boxed{\frac{1}{2}}$$

$$\text{(Ex2)} \sin \frac{7\pi}{4} = \sin 315^\circ = \boxed{-\frac{\sqrt{2}}{2}}$$

$$\frac{7\pi}{4} \cdot \left(\frac{180}{\pi}\right) = \frac{1260}{4} = 315^\circ$$

$$\text{(Ex3)} \sin 480^\circ = \sin 120^\circ = \boxed{\frac{\sqrt{3}}{2}}$$

* If angle is not on unit circle, find its coterminal angle.

$$480^\circ - 360 = 120^\circ$$

$$\text{(Ex4)} \cos -3\pi = \cos 180^\circ = \boxed{-1}$$

$$\frac{-3\pi}{1} \cdot \left(\frac{180}{\pi}\right) = -\frac{540}{1} = -540^\circ$$

$$-540^\circ + 360 = -180^\circ + 360 = 180^\circ$$

On the unit circle:

$y \div x$ are tangent values

Ex 5 $\tan 315^\circ = -\frac{\sqrt{2}}{2} \div \frac{\sqrt{2}}{2} \hookrightarrow$ *Keep, Change, Flip!!
 $= -\frac{\sqrt{2}}{\cancel{2}} \cdot \frac{\cancel{2}}{\sqrt{2}}$
 $= \boxed{-1}$

Ex 6 $\tan \frac{7\pi}{6} = \tan 210^\circ$

$$\frac{7\cancel{\pi}}{6} \left(\frac{180}{\cancel{\pi}} \right) = \frac{1260}{6} = 210^\circ$$

$$\begin{aligned} \tan 210^\circ &= -\frac{1}{2} \div -\frac{\sqrt{3}}{2} \hookrightarrow \\ &= \cancel{-}\frac{1}{2} \cdot \cancel{-}\frac{2}{\sqrt{3}} \\ &= \boxed{\frac{1}{\sqrt{3}}} \end{aligned}$$

Ex 7 $\tan -270^\circ = \tan 90^\circ = 1 \div 0$

$$-270^\circ + 360^\circ = 90^\circ = \boxed{\text{undefined}}$$