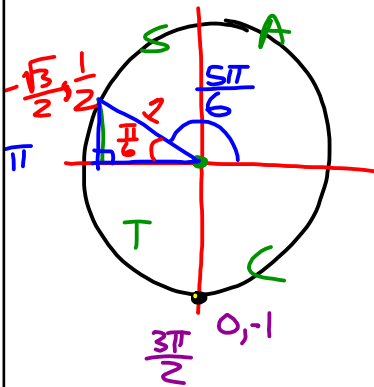


S.2 Ext : Trig of Real Numbers

↑
numbers that have a point on the number line.

Unit Circle Practice



$$\begin{aligned} \sin \frac{\pi}{6} &= +\frac{1}{2} & \csc \frac{\pi}{6} &= +2 \\ \cos \frac{\pi}{6} &= \frac{\sqrt{3}}{2} & \sec \frac{\pi}{6} &= \frac{2\sqrt{3}}{3} \\ \tan \frac{\pi}{6} &= \frac{1}{\sqrt{3}} & \cot \frac{\pi}{6} &= \sqrt{3} \\ \sin \frac{3\pi}{2} &= -1 & \csc \frac{3\pi}{2} &= -1 \\ \cos \frac{3\pi}{2} &= 0 & \sec \frac{3\pi}{2} &= \text{und} \\ \tan \frac{3\pi}{2} &= \text{und} & \cot \frac{3\pi}{2} &= 0 \end{aligned}$$

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

S
A
T
C

$$\cos \frac{3\pi}{4} = -\frac{\sqrt{2}}{2}$$

$$\cot \frac{-2\pi}{3} = +\frac{\sqrt{3}}{3}$$

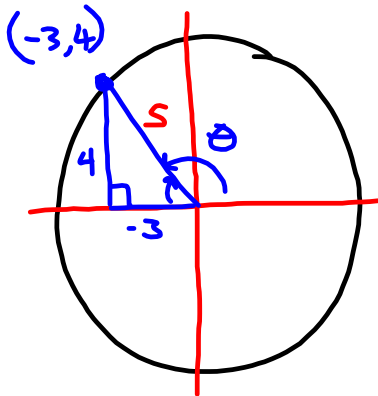
$$\tan \frac{5\pi}{3} = -\sqrt{3}$$

+

Unit Circle Extended (H≠1)

Hypotenuse (r?) > 0

find the 6 trig functions of the point
(-3, 4)



$$\sin \theta = +\frac{4}{5}$$

$$\csc \theta = +\frac{5}{4}$$

$$\cos \theta = -\frac{3}{5}$$

$$\sec \theta = -\frac{5}{3}$$

$$\tan \theta = -\frac{4}{3}$$

$$\cot \theta = -\frac{3}{4}$$

Find the 6 trig functions from the point

$$\sin \theta = -\frac{35}{37}$$

$$\csc \theta = -\frac{37}{35}$$

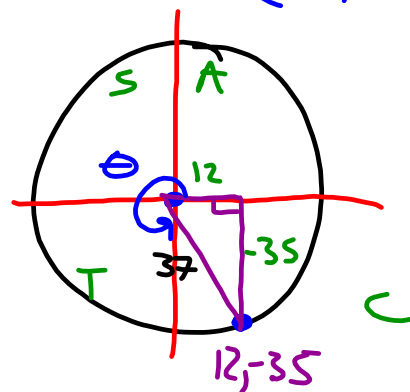
(12, -35)

$$\cos \theta = +\frac{12}{37}$$

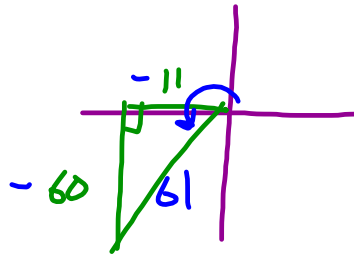
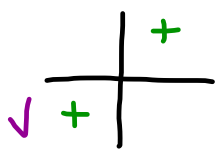
$$\sec \theta = +\frac{37}{12}$$

$$\tan \theta = -\frac{35}{12}$$

$$\cot \theta = -\frac{12}{35}$$



$$\tan \theta = \frac{60}{11} \quad ; \quad \sin \theta < 0$$



$$\sin \theta = -\frac{60}{61} \quad \csc \theta = -\frac{61}{60}$$

$$\cos \theta = -\frac{11}{61} \quad \sec \theta = -\frac{61}{11}$$

$$\tan \theta = +\frac{60}{11} \quad \cot \theta = +\frac{11}{60}$$

$$\csc \theta = -\frac{101}{99} \quad \sec \theta > 0$$

$$\sin \theta = -\frac{99}{101} \quad \csc \theta = -\frac{101}{99}$$

$$\cos \theta = +\frac{20}{101} \quad \sec \theta = +\frac{101}{20}$$

$$\tan \theta = -\frac{99}{20} \quad \cot \theta = -\frac{20}{99}$$