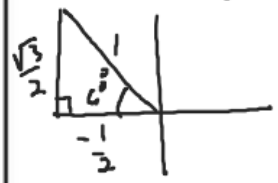
Evaluate without using a calculator by using ratios in a reference triangle.

A) $\sin 120^\circ = \frac{\sqrt{3}}{2}$



B) $\cos\frac{2\pi}{3} = -\frac{1}{2}$

$-\frac{13\pi}{6} + \frac{12\pi}{6} = -\frac{\pi}{6}$

$\frac{8\pi}{4}$

$\frac{13\pi}{4} - \frac{8\pi}{4}$

C) $\tan\frac{13\pi}{4} = \tan\frac{5\pi}{4} = \frac{\sin\frac{5\pi}{4}}{\cos\frac{5\pi}{4}}$

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

$= 1$

D) $\cot\frac{-13\pi}{6}$

$-\frac{\pi}{6} + \frac{12\pi}{6}$

$\frac{11\pi}{6}$

$\cot\frac{11\pi}{6} = \frac{\cos\frac{11\pi}{6}}{\sin\frac{11\pi}{6}} = \frac{x}{y}$

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

$= -\sqrt{3}$

E) $\csc\frac{7\pi}{4} = -\frac{2}{\sqrt{2}}$

F) $\sec\frac{23\pi}{6}$

$\frac{23\pi}{6} - \frac{12\pi}{6} = \frac{11\pi}{6}$

$\sec\frac{11\pi}{6} = \frac{2}{\sqrt{3}}$

Find sine, cosine, and tangent for the given angle.

A) 90°

$\sin 90^\circ = 1$ $\tan 90^\circ =$ undefined

$\cos 90^\circ = 0$

B) $-\frac{\pi}{2}$

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

$\cos -\frac{\pi}{2} = 0$

$\tan -\frac{\pi}{2} =$ unde

C) 6π

$\sin 6\pi = 0$

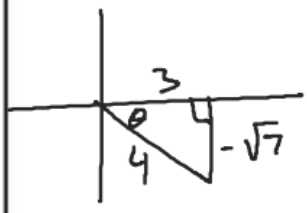
$\cos 6\pi = 1$

$\tan 6\pi = 0$

D) $\frac{-7\pi}{2}$

Evaluate without using a calculator

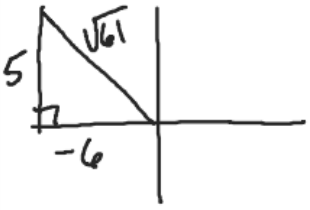
A) Find $\sin\theta$ and $\tan\theta$ if $\cos\theta = \frac{3}{4}$ and $\cot\theta < 0$ → cot is negative



$\sin\theta = \frac{-\sqrt{7}}{4}$

$\tan\theta = \frac{-\sqrt{7}}{3}$

B) Find $\sec\theta$ and $\csc\theta$ if $\cot\theta = \frac{-6}{5}$ and $\sin\theta > 0$



$\sec\theta = \frac{\sqrt{61}}{-6}$

$\csc\theta = \frac{\sqrt{61}}{5}$