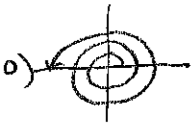
1.) Find the exact value of: * locate the terminal pt

a.) $\sin \frac{17\pi}{4} = y = \boxed{\frac{\sqrt{2}}{2}}$ b.) $\cos(5\pi) = x = \boxed{-1}$ c.) $\tan \frac{5\pi}{4} = \frac{y}{x} = \boxed{1}$

$\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

$(-1,0)$



$\left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$

2.) If $\sin\theta < 0$ and $\cos\theta < 0$, name the quadrant in which θ lies.
$\sin\theta = y$, $\cos\theta = x$. $\sin\theta$ + $\cos\theta$ are both negative in Quadrant 3.

3.) Given $\sin\theta = \frac{\sqrt{5}}{5}$ and $\cos\theta = \frac{2\sqrt{5}}{5}$, find the exact values of the four remaining trig functions of θ using identities.

$\tan\theta = \frac{\sin\theta}{\cos\theta} = \frac{\frac{\sqrt{5}}{\cancel{5}}}{\frac{2\sqrt{5}}{\cancel{5}}} = \frac{\cancel{\sqrt{5}}}{2\cancel{\sqrt{5}}} = \boxed{\frac{1}{2}}$

$\csc\theta = \frac{1}{\sin\theta} = \frac{1}{\frac{\sqrt{5}}{5}} = \frac{5}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\cancel{5}\sqrt{5}}{\cancel{5}} \to \boxed{\sqrt{5}}$

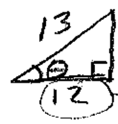
$\cot\theta = \frac{\cos\theta}{\sin\theta} = \frac{\frac{2\sqrt{5}}{\cancel{5}}}{\frac{\sqrt{5}}{\cancel{5}}} = \boxed{2}$

$\sec\theta = \frac{1}{\cos\theta} = \frac{5}{2\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}}$

$\frac{\cancel{5}\sqrt{5}}{\cancel{10}\,2} = \boxed{\frac{\sqrt{5}}{2}}$

4.) Find the exact value of each of the remaining trig functions of θ.

a.) $\sin\theta = \frac{-5}{13}$, θ in Quadrant III



→ use Pythagorean Theorem

only tan + cot are pos.

$\cos\theta = \frac{-12}{13}$ $\csc\theta = \frac{-13}{5}$

$\tan = \frac{5}{12}$ $\sec\theta = \frac{-13}{12}$ $\cot\theta = \frac{12}{5}$

5.) Use the even-odd properties to find the exact value of each expression. Do not use a calculator

a.) $\cos(-30) = \cos 30 \to tp\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right) \to \cos 30° = \boxed{\frac{\sqrt{3}}{2}}$

b.) $\csc\left(-\frac{\pi}{3}\right) = -\csc\frac{\pi}{3} \to tp\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right) \to -\csc\frac{\pi}{3} = -\frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \boxed{\frac{-2\sqrt{3}}{3}}$