48 points possible on homework/quiz #1

Mastery: For $\frac{1}{2}$ the points you missed,

Fix your homework #1:

Separate paper (1 side per page)

Explain what you missed, why you missed it, and provide the correct answer.

Show work

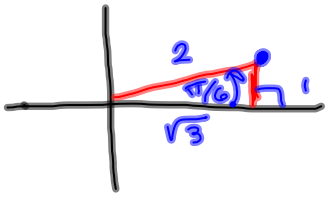
Use "=" and "≈" appropriately

Don't do things like $\frac{2.73\pi}{11}$

If you're gonna touch a calculator, give me a decimal answer, rounded to 4 places to the right of the decimal.

Feb 6-8:12 AM

① $\frac{\pi}{6}, -\frac{7\pi}{6}$

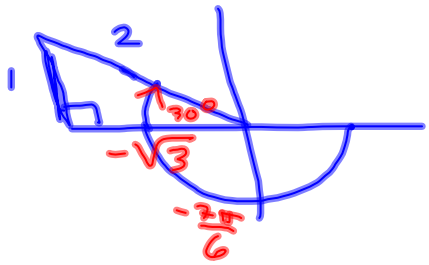


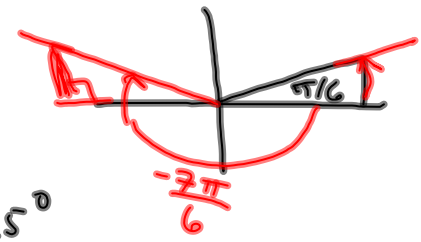

Drop perpendicular to the x-axis.

① $\left(-\frac{7\pi}{6}\text{ rad}\right)\left(\frac{180^\circ}{\pi\text{ rad}}\right)$

$= (-7)(30)^\circ$

$= -210^\circ = -180^\circ - 30^\circ$




$\left(\frac{\pi}{4}\text{ rad}\right)\left(\frac{180^\circ}{\pi\text{ rad}}\right) = 45^\circ$

② $0 \to 0,\ \frac{\pi}{6} \to 30^\circ,\ \frac{\pi}{4} \to 45^\circ,\ \frac{\pi}{3} \to 60^\circ,\ \frac{\pi}{2} \to 90^\circ$

③ $\frac{2\pi}{3}$ is coterminal with

$\frac{2\pi}{3} + 2\pi = \frac{2\pi}{3} + \frac{6\pi}{3} = \frac{8\pi}{3}$

$\frac{2\pi}{3} - 2\pi = \frac{2\pi - 6\pi}{3} = -\frac{4\pi}{3}$

$\left(\frac{2\pi}{3}\right)\left(\frac{180}{\pi}\right) = 120^\circ$

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

$120^\circ - 360^\circ = -240^\circ$

④ $37^\circ 40' 23''$

$37^\circ + \left(40\text{ min}\right)\left(\frac{1^\circ}{60\text{ min}}\right) + \left(23\text{ sec}\right)\left(\frac{1^\circ}{3600\text{ sec}}\right)$

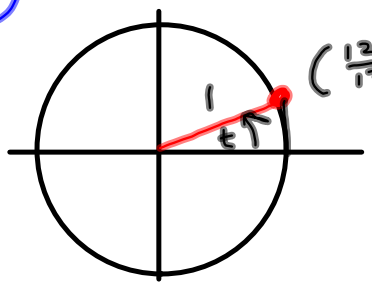
$\approx 37.6731^\circ$

$23.521$

$= 2\times10^1 + 3\times10^0 + 5\times10^{-1} + 2\times10^{-2} + 1\times10^{-3}$

(5)

Not necessarily a unit circle.
But if it is, then
$x = \cos t$
$y = \sin t$

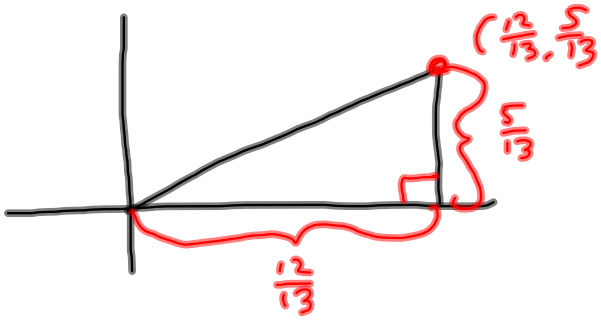



$\sin t = \frac{5}{13}$

$\cos t = \frac{12}{13}$

$\tan t = \frac{\frac{5}{13}}{\frac{12}{13}} = \frac{5}{13} \cdot \frac{13}{12} = \frac{5}{12}$

$\left(\frac{12}{13}\right)^2 + \left(\frac{5}{13}\right)^2 = \frac{144 + 25}{169} = \frac{169}{169} = 1$




$\sin t = \frac{5}{13}$

$\cos t = \frac{12}{13}$

$\tan t = \frac{\frac{5}{13}}{\frac{12}{13}} = \frac{5}{12}$

$\csc t = \frac{13}{5}$

$\sec t = \frac{13}{12}$

$\cot t = \frac{12}{5}$

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$t = \frac{\pi}{2}$


Enclose the argument in parentheses.

$\sin(t) = 1$

$\cos(t) = 0$

$\tan(t) = \frac{1}{0}$

Does not exist.

$\csc(t) = 1$

$\sec(t)$ ~~DNE~~

$\cot(t) = 0$

$\cos(t) = \frac{\sqrt{7}}{11}$

$\sqrt{44}$

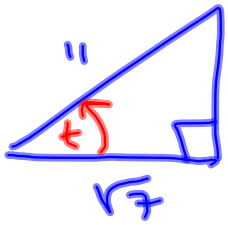
$\sqrt{2 \cdot 2 \cdot 11}$

$= 2\sqrt{11}$

$2 \mid 44$

$2 \mid 22$

$11$




$y = \sqrt{114}$

sin =

$\cos(-t) = \frac{\sqrt{7}}{11}$ cosine is even

$\sin(t) = \frac{\sqrt{114}}{11}$ $\sin(-t) = -\frac{\sqrt{114}}{11}$ sine is odd

$\sqrt{7}^2 + y^2 = 11^2$

$y^2 = 121 - 7$

$y = \pm\sqrt{114}$

For the quiz, I was OK with just taking $\sqrt{114}$

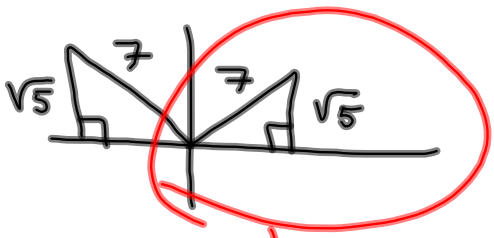
But the question was poorly posed

when $\sin(t) = \frac{\sqrt{5}}{7}$, we have 2 triangles possible

$2 \mid 114$

$3 \mid 57$

$19$




↳ This was what I wanted, but I was not specific.