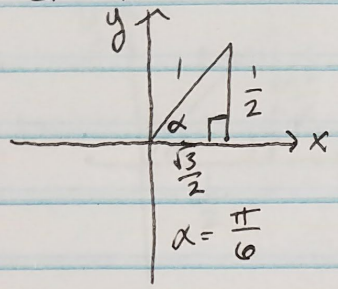
4.7 (con't)

Ex #1 Evaluate $\sin^{-1}\left(\frac{1}{2}\right)$ using reference triangles.



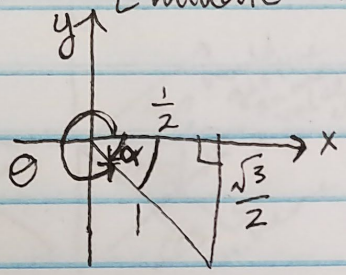
$f(x) = \sin^{-1} x$ only falls w/i QI & QIV

must be in QI b/c $\frac{1}{2}$ is positive

$\sin^{-1}\left(\frac{1}{2}\right) = \frac{\pi}{6}$

$\boxed{\theta = \frac{\pi}{6}}$

Ex #2 Evaluate $\sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ using reference triangles.

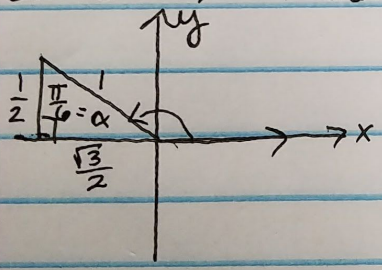


$\sin^{-1}\left(-\frac{\sqrt{3}}{2}\right) = \alpha$

$\alpha = \frac{\pi}{3}$

$\boxed{\theta = -\frac{\pi}{3} \text{ or } \theta = \frac{5\pi}{3}}$

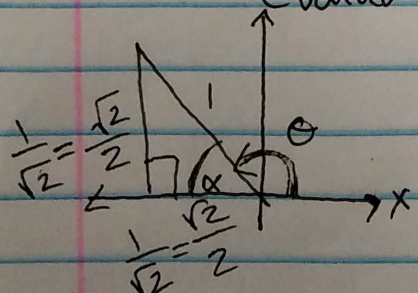
Ex #3 Evaluate $\sin^{-1}\left(\sin\left(\frac{5\pi}{6}\right)\right)$ using reference triangles.



$\sin^{-1}\left(\sin\left(\frac{5\pi}{6}\right)\right) = \sin^{-1}\left(\frac{1}{2}\right)$

$\sin^{-1}\left(\sin\left(\frac{5\pi}{6}\right)\right) = \boxed{\pi/6}$

Ex #4 Evaluate $\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$ using ref. tri.

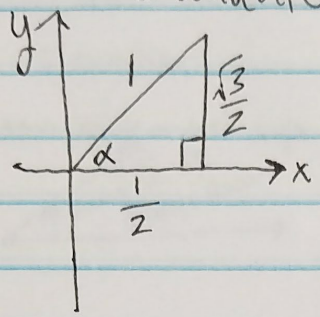


$\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right) = \alpha$

$\alpha = \frac{\pi}{4}$

$\boxed{\theta = \frac{3\pi}{4}}$

EX #5 Evaluate $\tan^{-1}(\sqrt{3})$ using ref-triangles.



$\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}}$ or $\frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}}$?

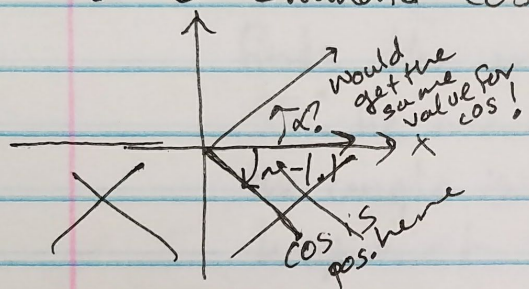
$\tan^{-1}(\sqrt{3}) = \alpha$

$\alpha = \frac{\pi}{3}$

$\boxed{\theta = \frac{\pi}{3}}$

EX #6 Evaluate $\cos^{-1}(\cos(-1.1))$.

↑ an angle



$\cos^{-1}(\cos(-1.1)) = 1.1$

$\alpha = \theta = 1.1$