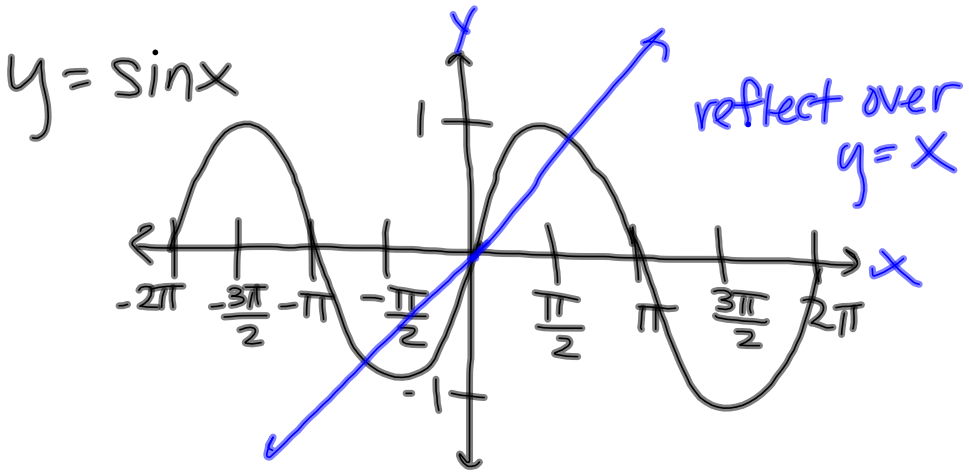
4.7 Inverse Trig Functions.

Obj: 1. Relate inverse fncs. to trig.



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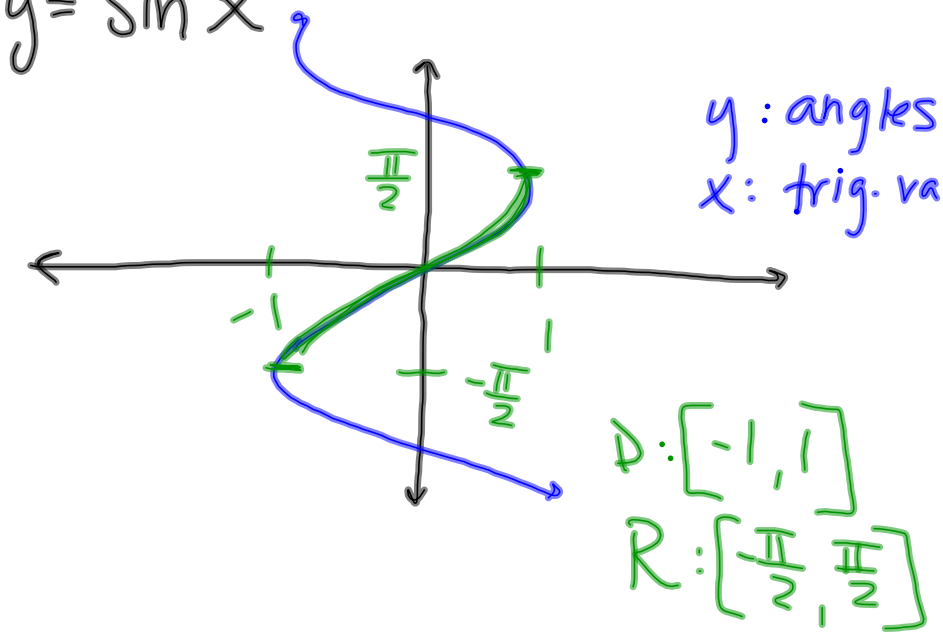

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Find the exact value:

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

"what angle has a sine of $\frac{1}{2}$?"

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

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

$\frac{\pi}{2} > 1$ DNE

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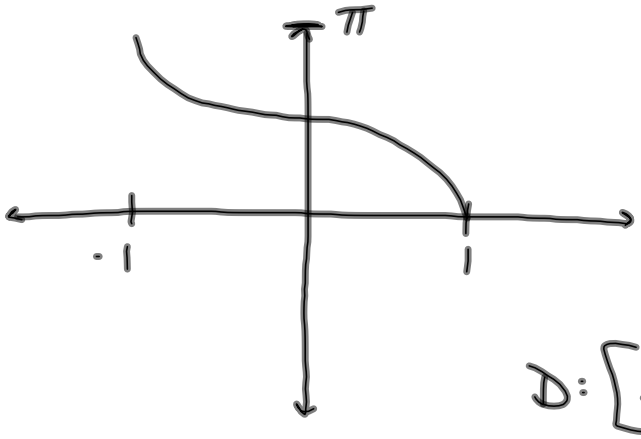
$y = \cos^{-1}x = \arccos x$



$\cos^{-1}\left(-\frac{1}{2}\right) = \frac{2\pi}{3}$

D: $[-1, 1]$

R: $[0, \pi]$

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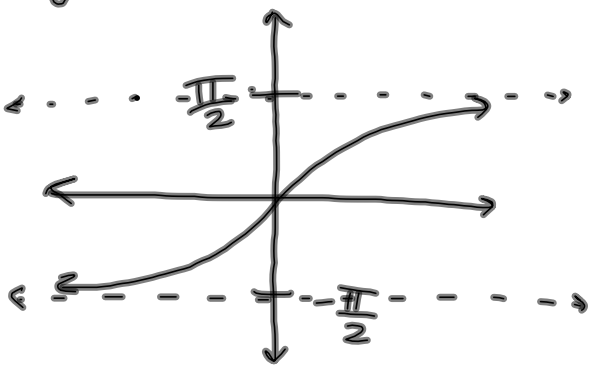
$y = \tan^{-1} x$



$D: (-\infty, \infty)$

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

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

$\frac{\pi}{3}$

$\tan^{-1}(-1)$

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

$\cos^{-1} 0$

$\frac{\pi}{2}$

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

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

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$\tan^{-1}(2.37) = 1.172$ radians

$\cos^{-1}\left(\cos\frac{7\pi}{4}\right)$

$\cos^{-1}\left(\frac{\sqrt{2}}{2}\right) = \frac{\pi}{4}$

Jan 25-10:01 AM