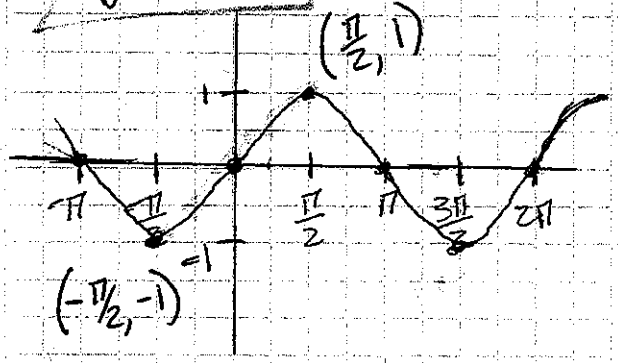
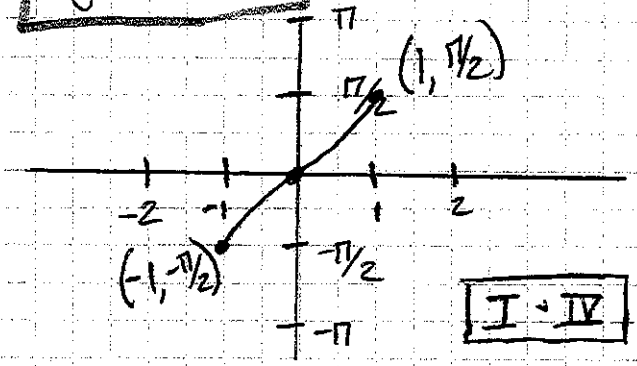
$y = \sin x$



$-\frac{\pi}{2} < x < \frac{\pi}{2}$

$-1 < y < 1$

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



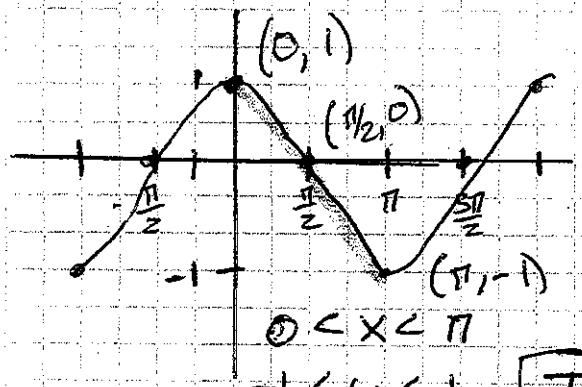
I + IV

$-1 < x < 1$

$-\pi/2 < y < \pi/2$

- For inverse function change x & y.
- Answer is always an angle!
- Trig functions FAIL horizontal line test so restrict the domain

$y = \cos x$

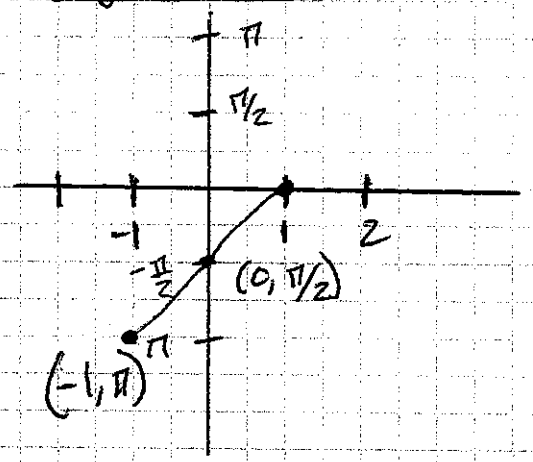


$0 < x < \pi$

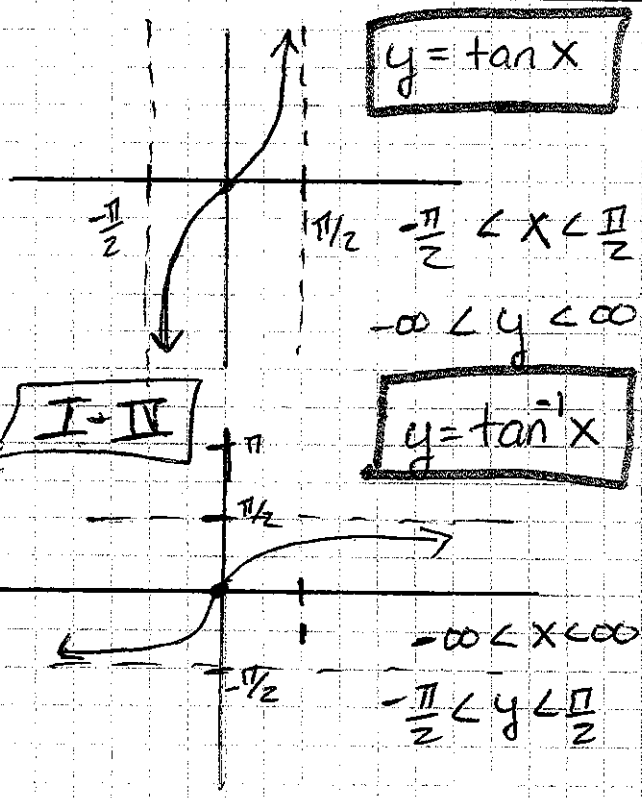
$-1 < y < 1$

I + II

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



$y = \tan x$



$-\frac{\pi}{2} < x < \frac{\pi}{2}$

$-\infty < y < \infty$

I + IV

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

$-\infty < x < \infty$

$-\frac{\pi}{2} < y < \frac{\pi}{2}$