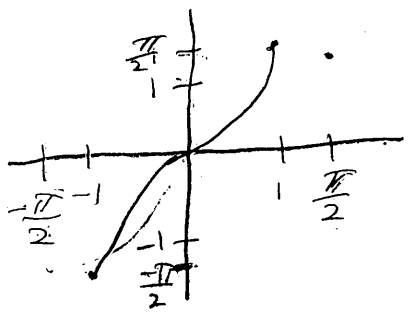
Inverse Trig Functions

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

Domain: $-1 \le x \le 1$

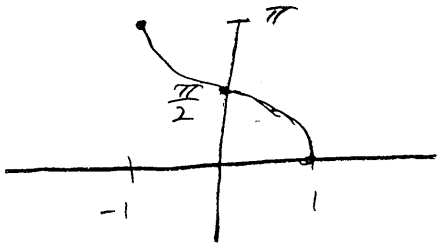
Range: $-\frac{\pi}{2} \le y \le \frac{\pi}{2}$



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

Domain: $-1 \le x \le 1$

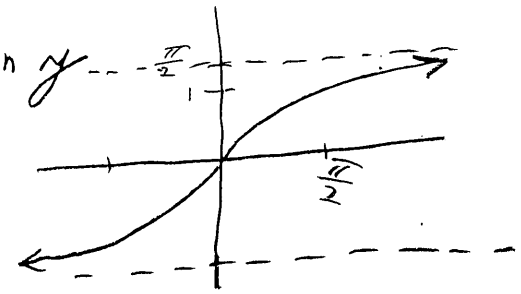
Range: $0 \le y \le \pi$



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

Domain: $-\infty < x < \infty$

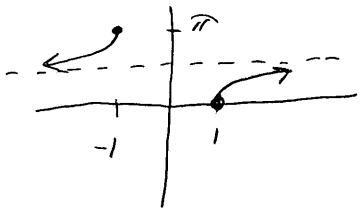
Range: $-\frac{\pi}{2} < y < \frac{\pi}{2}$



$y = \sec^{-1} x$ means $x = \sec y$

Domain: $|x| \ge 1$

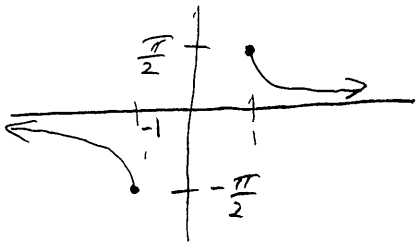
Range: $0 \le y \le \pi$ $y \ne \frac{\pi}{2}$



$y = \csc^{-1} x$ means $x = \csc y$

Domain: $|x| \ge 1$

Range: $-\frac{\pi}{2} \le y \le \frac{\pi}{2}$, $y \ne 0$



$y = \cot^{-1} x$ means $x = \cot y$

Domain: $-\infty < x < \infty$

Range: $0 < y < \pi$