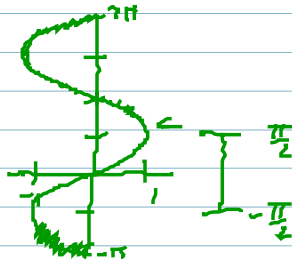
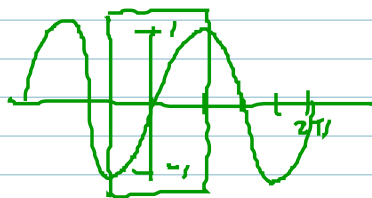


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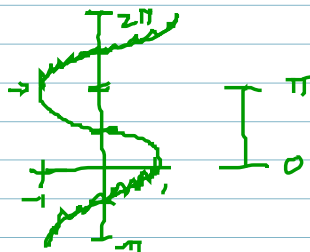
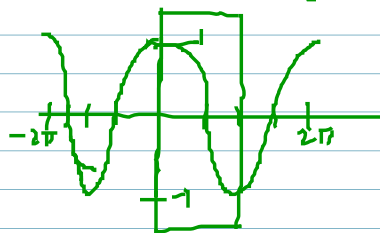
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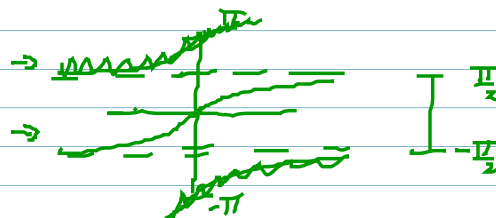
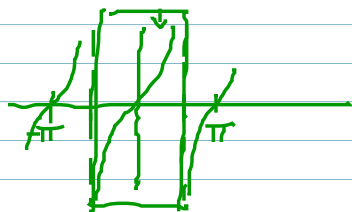
$$\arcsin(x) = \sin^{-1}(x) = \theta$$



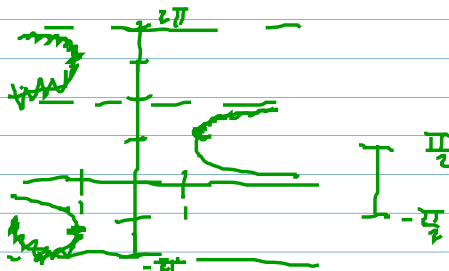
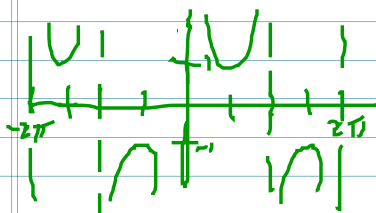
$$\arccos(x) = \cos^{-1}(x) = \theta$$



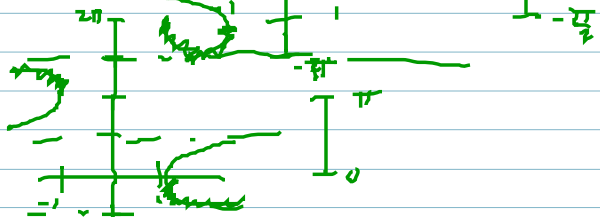
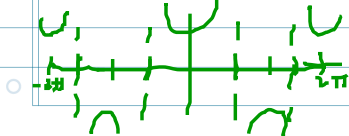
$$\arctan(x) = \tan^{-1}(x) = \theta$$



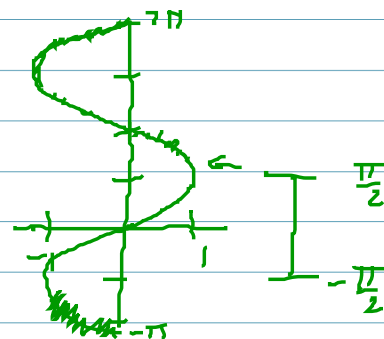
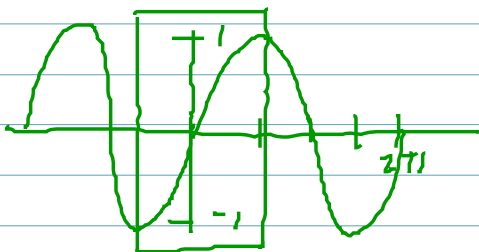
$$\operatorname{arccsc}(x) = \operatorname{csc}^{-1}(x) = \theta$$



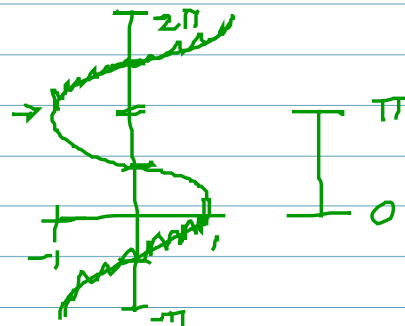
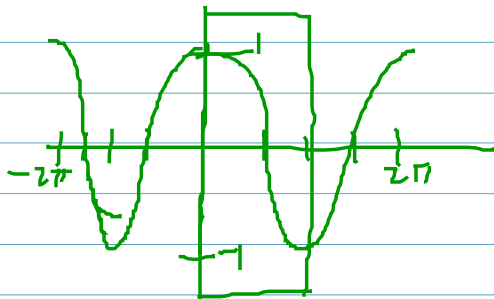
$$\operatorname{arcsec}(x) = \operatorname{sec}^{-1}(x) = \theta$$



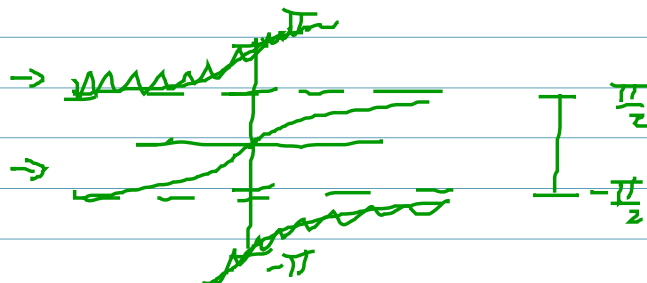
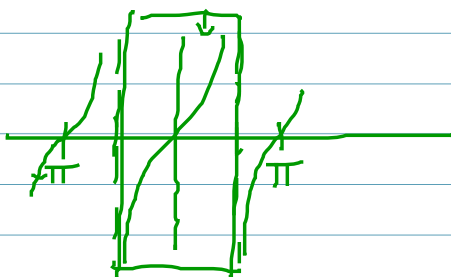
$$\arcsin(x) = \sin^{-1}(x) = \theta$$



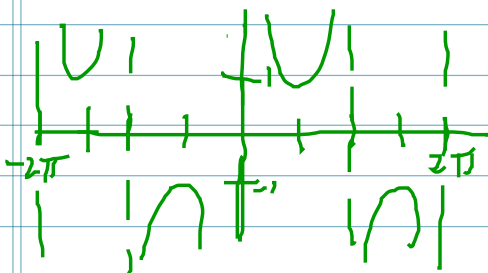
$$\arccos(x) = \cos^{-1}(x) = \theta$$



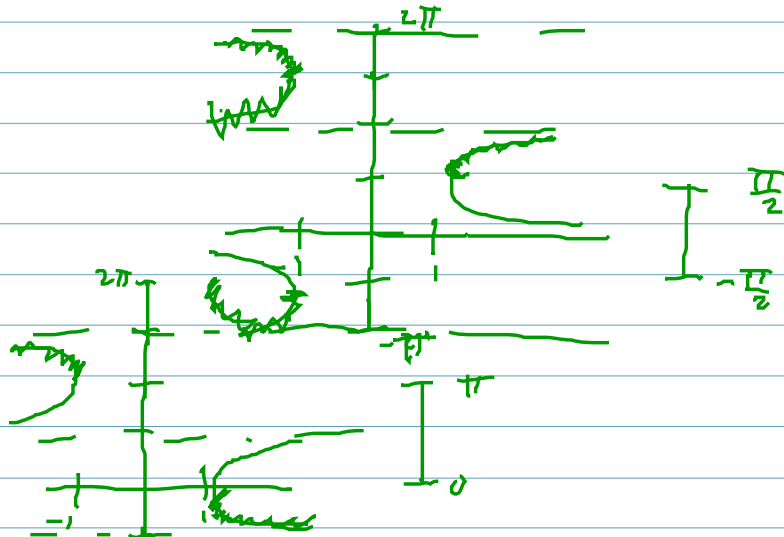
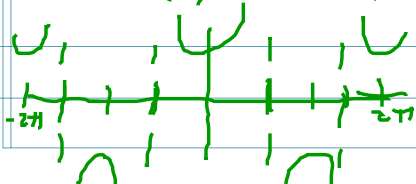
$$\arctan(x) = \tan^{-1}(x) = \theta$$



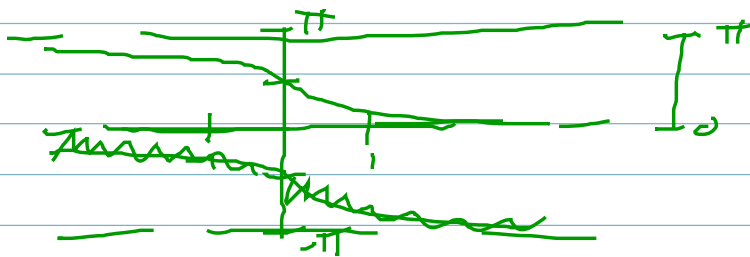
$$\operatorname{arccsc}(x) = \operatorname{csc}^{-1}(x) = \theta$$



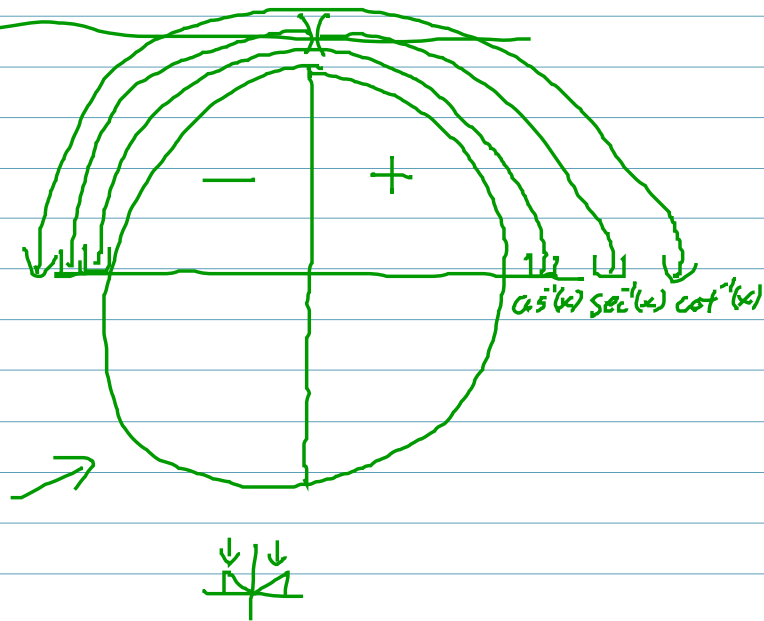
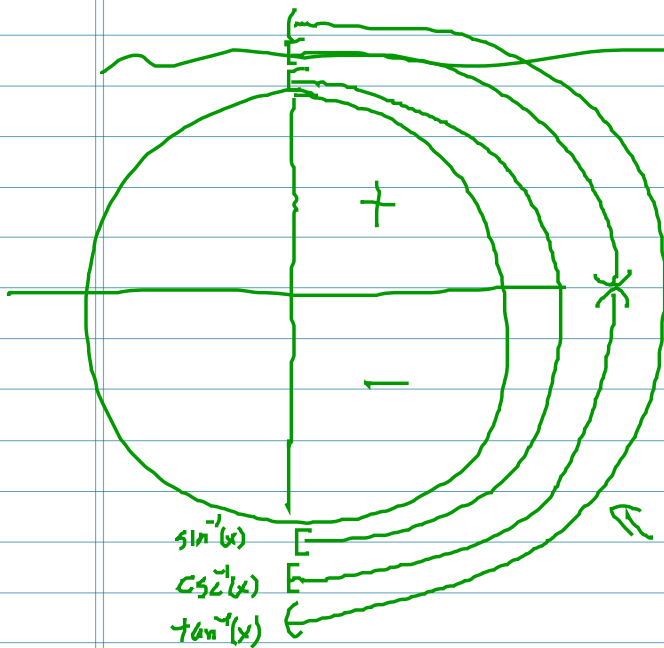
$$\operatorname{arcsec}(x) = \operatorname{sec}^{-1}(x) = \theta$$



$$\operatorname{arccot}(x) = \cot^{-1}(x) = \theta$$



	Domain	Range
$\rightarrow \sin^{-1}(x)$	$[-1, 1]$	$[-\frac{\pi}{2}, \frac{\pi}{2}]$
$\rightarrow \cos^{-1}(x)$	$[-1, 1]$	$[0, \pi]$ ←
$\rightarrow \tan^{-1}(x)$	$(-\infty, \infty)$	$(-\frac{\pi}{2}, \frac{\pi}{2})$
$\rightarrow \csc^{-1}(x)$	$(-\infty, -1] \cup [1, \infty)$	$[-\frac{\pi}{2}, 0) \cup (0, \frac{\pi}{2}]$
$\rightarrow \sec^{-1}(x)$	$(-\infty, -1] \cup [1, \infty)$	$[0, \frac{\pi}{2}] \cup (\frac{\pi}{2}, \pi]$ ←
$\rightarrow \cot^{-1}(x)$	$(-\infty, \infty)$	$(0, \pi)$ ←



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

$$\sin(\theta) = \frac{1}{2}$$

$$\theta = \frac{\pi}{6} + 2\pi n, n \in \mathbb{Z}$$

$$\frac{5\pi}{6} + 2\pi n$$

$$\downarrow$$

$$\csc^{-1}(x) = \theta$$

$$x = \csc(\theta) = \frac{1}{\sin(\theta)}$$

$$\sin(\theta) = \frac{1}{x}$$

$$\theta = \sin^{-1}\left(\frac{1}{x}\right)$$

$$\csc^{-1}(z)$$

$$\downarrow$$

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