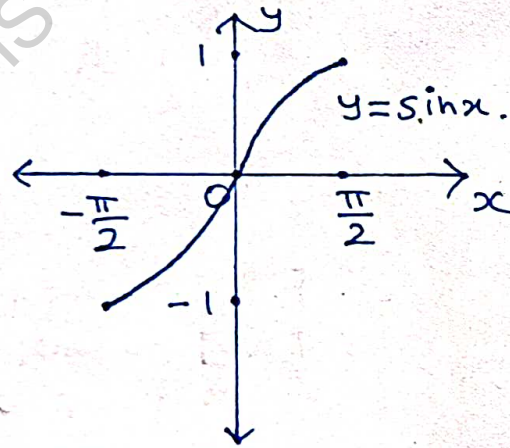


4. Inverse Trigonometric Function.

1. $y = \sin x$.

Domain: $[-\frac{\pi}{2}, \frac{\pi}{2}]$

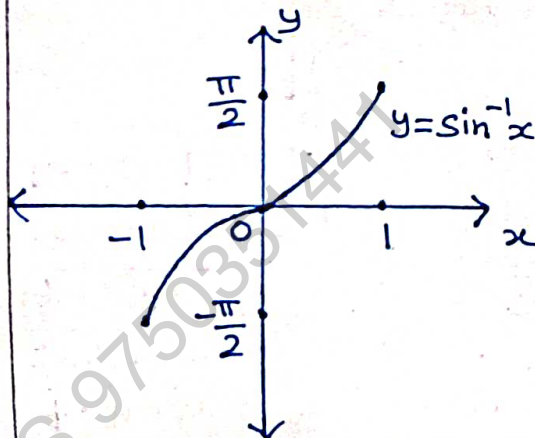
Range: $[-1, 1]$



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

Domain: $[-1, 1]$

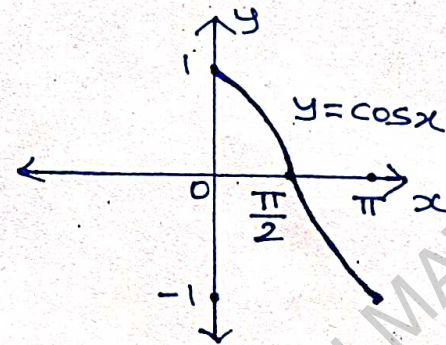
Range: $[-\frac{\pi}{2}, \frac{\pi}{2}]$



3. $y = \cos x$

Domain: $[0, \pi]$

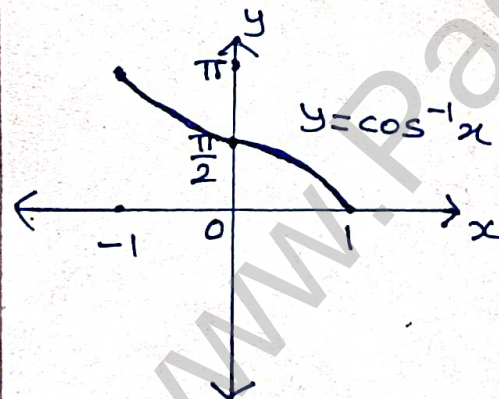
Range: $[-1, 1]$



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

Domain: $[-1, 1]$

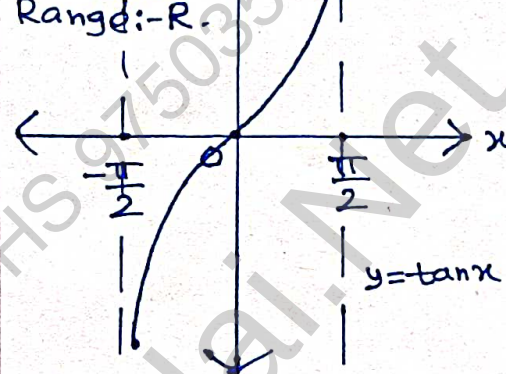
Range: $[0, \pi]$



5. $y = \tan x$

Domain: $(-\frac{\pi}{2}, \frac{\pi}{2})$

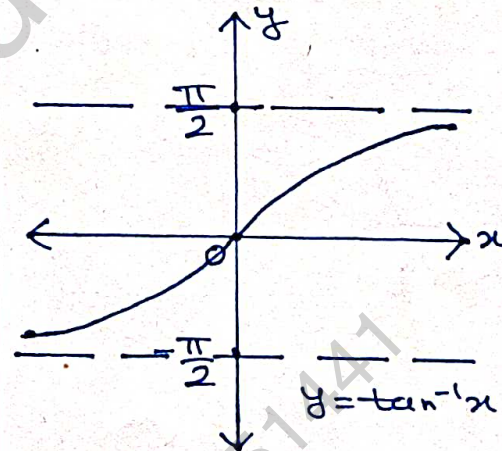
Range: $\mathbb{R}$



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

Domain: $\mathbb{R}$

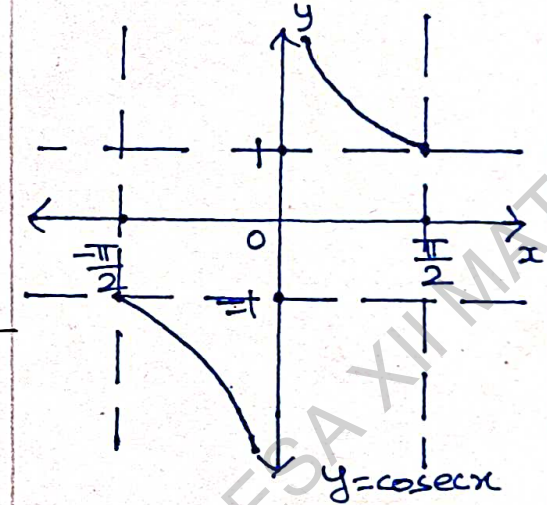
Range: $(-\frac{\pi}{2}, \frac{\pi}{2})$



7. $y = \operatorname{cosec} x$

Domain: $(-\frac{\pi}{2}, \frac{\pi}{2}) \setminus \{0\}$

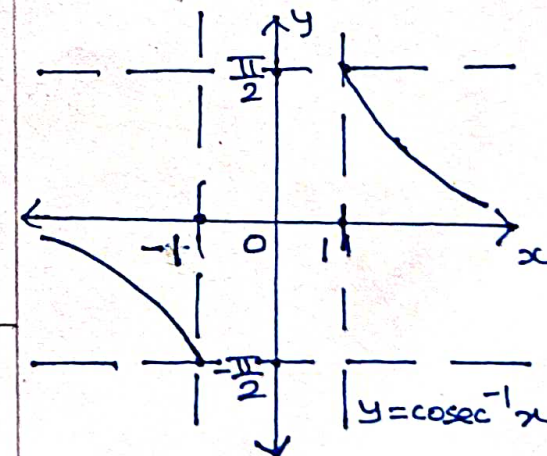
Range: $\mathbb{R} \setminus (-1, 1)$



8. $y = \operatorname{cosec}^{-1} x$

Domain: $\mathbb{R} \setminus (-1, 1)$

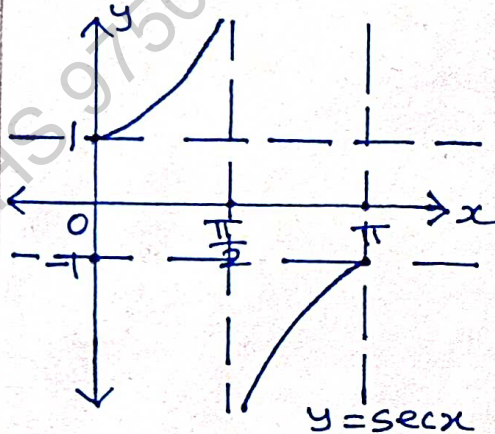
Range: $(-\frac{\pi}{2}, \frac{\pi}{2}) \setminus \{0\}$



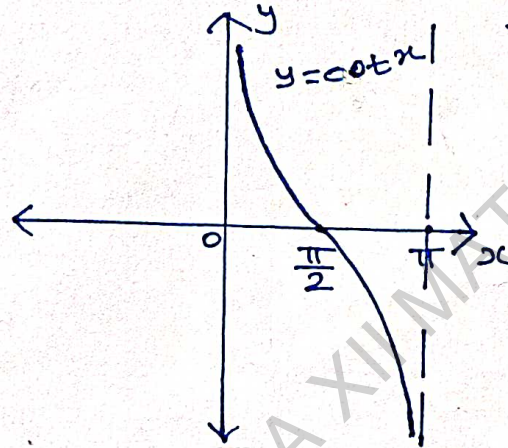
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MATRIC/JEE MATHS.

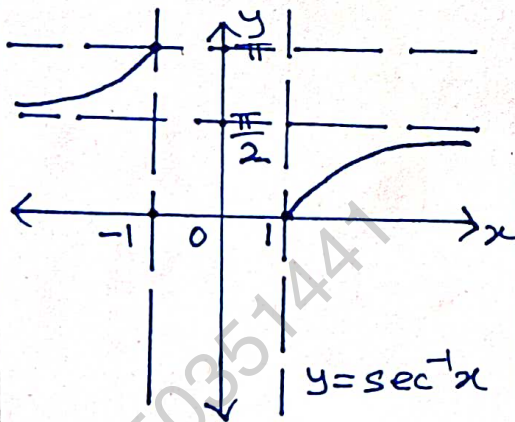
9. $y = \sec x$.

Domain:- $[0, \pi] \setminus \{\frac{\pi}{2}\}$.Range:- $\mathbb{R} \setminus (-1, 1)$.

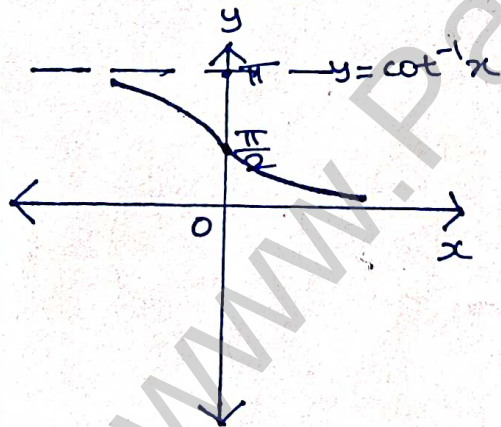
11. $y = \cot x$

Domain:- $(0, \pi)$.Range:- $\mathbb{R}$.

10. $y = \sec^{-1} x$.

Domain:- $\mathbb{R} \setminus (-1, 1)$.Range:- $[0, \pi] \setminus \{\frac{\pi}{2}\}$ 

12. $y = \cot^{-1} x$

Domain:- $\mathbb{R}$.Range:- $(0, \pi)$.P. NESAMANI., M.Sc., B.Ed.,
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JEE MATHS.

Function	Domain	Range
$y = \sin x$	$[-\frac{\pi}{2}, \frac{\pi}{2}]$	$[-1, 1]$
$y = \sin^{-1} x$	$[-1, 1]$	$[-\frac{\pi}{2}, \frac{\pi}{2}]$
$y = \cos x$	$[0, \pi]$	$[-1, 1]$
$y = \cos^{-1} x$	$[-1, 1]$	$[0, \pi]$
$y = \tan x$	$(-\frac{\pi}{2}, \frac{\pi}{2})$	$\mathbb{R}$
$y = \tan^{-1} x$	$\mathbb{R}$	$(-\frac{\pi}{2}, \frac{\pi}{2})$
$y = \operatorname{cosec} x$	$[-\frac{\pi}{2}, \frac{\pi}{2}] \setminus \{0\}$	$\mathbb{R} \setminus (-1, 1)$
$y = \operatorname{cosec}^{-1} x$	$\mathbb{R} \setminus (-1, 1)$	$[-\frac{\pi}{2}, \frac{\pi}{2}] \setminus \{0\}$
$y = \sec x$	$[0, \pi] \setminus \{\frac{\pi}{2}\}$	$\mathbb{R} \setminus (-1, 1)$
$y = \sec^{-1} x$	$\mathbb{R} \setminus (-1, 1)$	$[0, \pi] \setminus \{\frac{\pi}{2}\}$
$y = \cot x$	$(0, \pi)$	$\mathbb{R}$
$y = \cot^{-1} x$	$\mathbb{R}$	$(0, \pi)$
ALL	THE	BEST

LIFE IS $\tan 45^\circ$

BUT

VALUE IS $\tan 90^\circ$

- P. NESAMANI.