

FINDING RANGE OR EXPRESSIONS USING TRIGONOMETRIC SUBSTITUTION**Domain and Range of Trigonometric Functions**

Function	Domain	Range
$\sin \theta$	$\mathbb{R}$	$[-1, 1]$
$\cos \theta$	$\mathbb{R}$	$[-1, 1]$
$\tan \theta$	$\mathbb{R} \sim \{(2n + 1)\frac{\pi}{2} : n \in \mathbb{Z}\}$	$\mathbb{R}$
$\cot \theta$	$\mathbb{R} \sim \{n\pi : n \in \mathbb{Z}\}$	$\mathbb{R}$
$\sec \theta$	$\mathbb{R} \sim \{(2n + 1)\frac{\pi}{2} : n \in \mathbb{Z}\}$	$(-\infty, -1] \cup [1, \infty)$
$\operatorname{cosec} \theta$	$\mathbb{R} \sim \{n\pi : n \in \mathbb{Z}\}$	$(-\infty, -1] \cup [1, \infty)$