

Advanced Math

4-6

(Day 2)

Graphs of Cotangent and Cosecant Functions

Graph $y = \cot x$

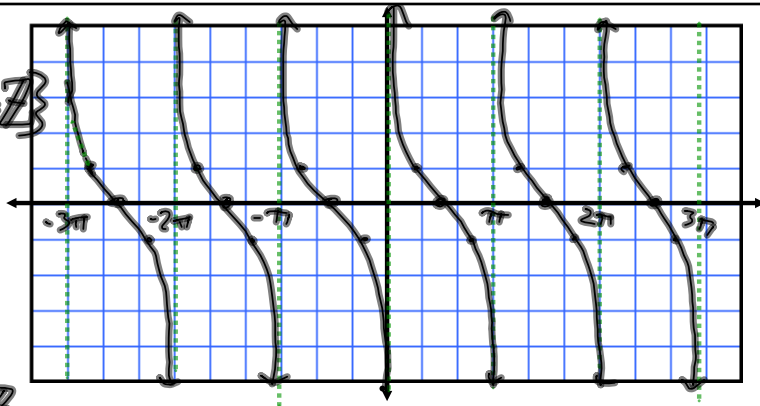
$\rightarrow \mathbb{R} \text{ except } \{0 + \pi n, n \in \mathbb{Z}\}$

Domain:

Range: \mathbb{R}

Period: π

Asymptote: $x = \pi n, n \in \mathbb{Z}$



Graph $y = \csc x$

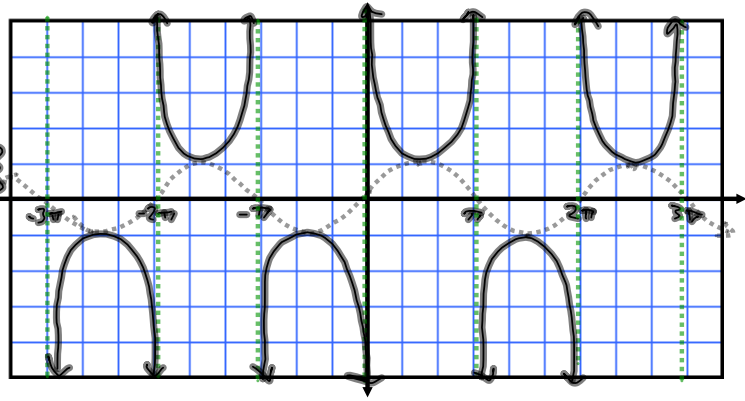
Domain: $\mathbb{R} \text{ except } \{\pi n, n \in \mathbb{Z}\}$

Range: $(-\infty, -1] \cup [1, \infty)$

Period: 2π

Asymptotes:

$$x = \pi n, n \in \mathbb{Z}$$



Assignment:

Graph each of the following:

1) $f(x) = -2 \sec x$

2) $g(x) = \cot(x + \frac{\pi}{4})$

3) $h(x) = \csc(2x)$

4) $j(x) = -\frac{\pi}{2} \cot(\frac{1}{2}x - \frac{\pi}{8})$

5) $k(x) = \frac{2}{3} \sec(\frac{2}{3}x + \frac{2\pi}{3})$