

Graphing Secant and Cosecant Functions

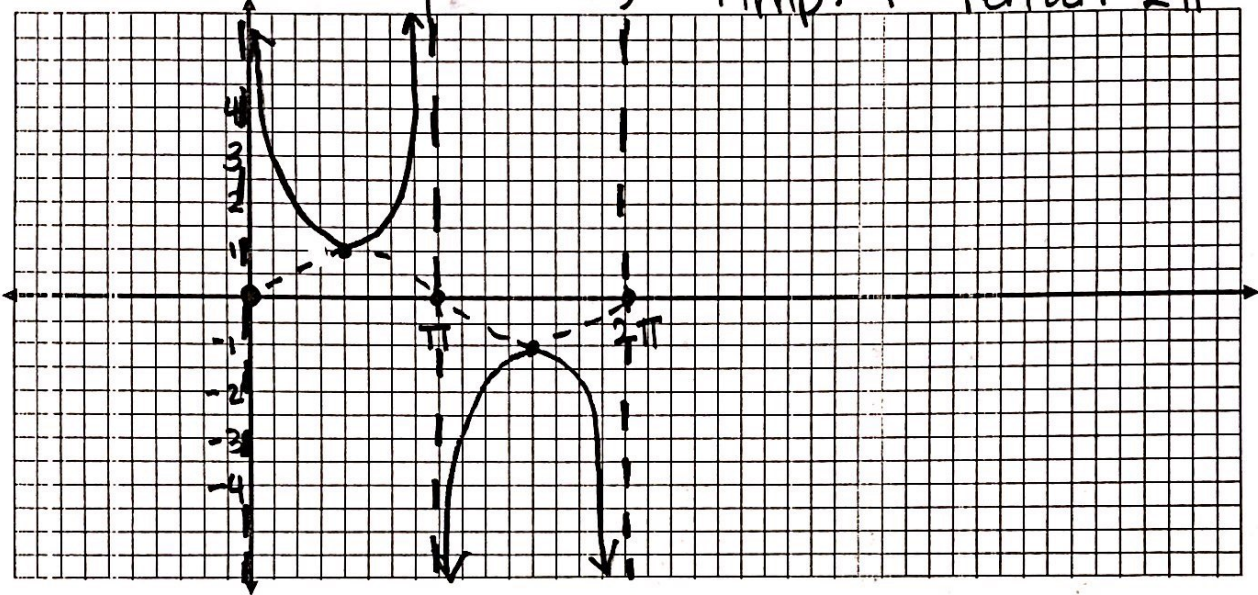
cos sin

For each graph, sketch an accurate and complete graph over the domain $0 \leq x \leq 2\pi$.

- Steps:
1. Identify the reciprocal function.
 2. Find all characteristics with sin or cos function & lightly graph.
 3. The points on "x-axis" are vertical asymptotes.
 4. The point inside asymptotes is where the graph will be.

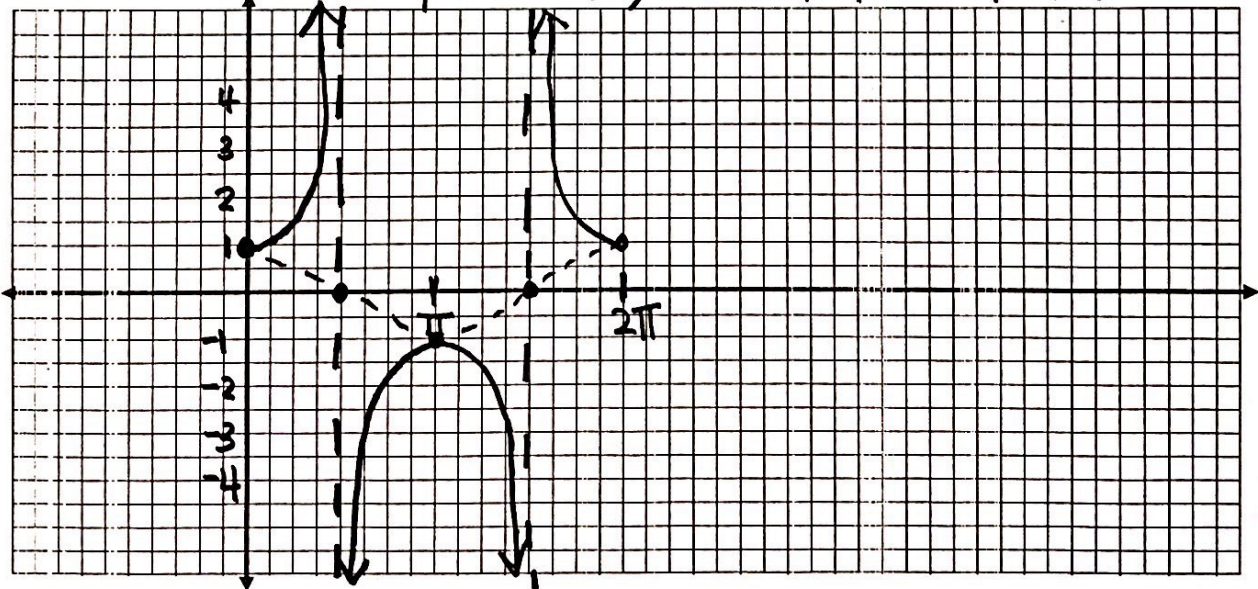
1. Graph: $y = \csc(x)$

$y = \sin(x)$ Amp: 1 Period: 2π



2. Graph $y = \sec(x)$

$y = \cos(x)$ Amp: 1 Period: 2π

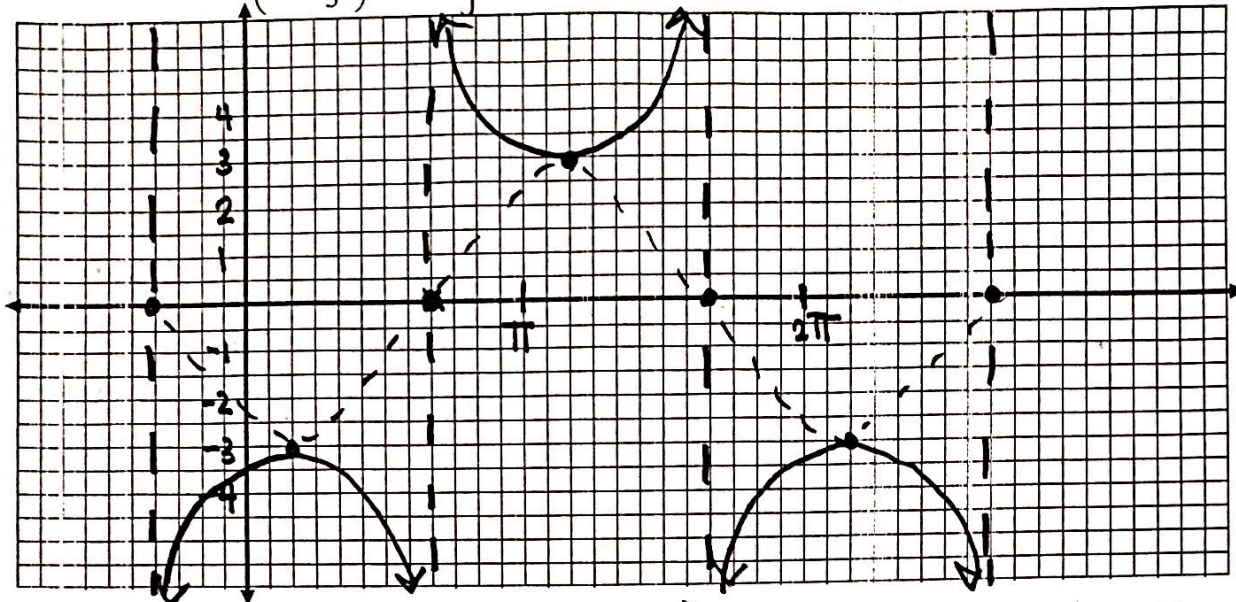


3. Graph: $y = 3\csc\left(x - \frac{2\pi}{3}\right)$

$y = 3\sin\left(x - \frac{2\pi}{3}\right)$ Amp: 3 Period: 2π

Right

$\frac{2\pi \cdot 4}{3 \cdot 4} = \frac{8\pi}{12}$

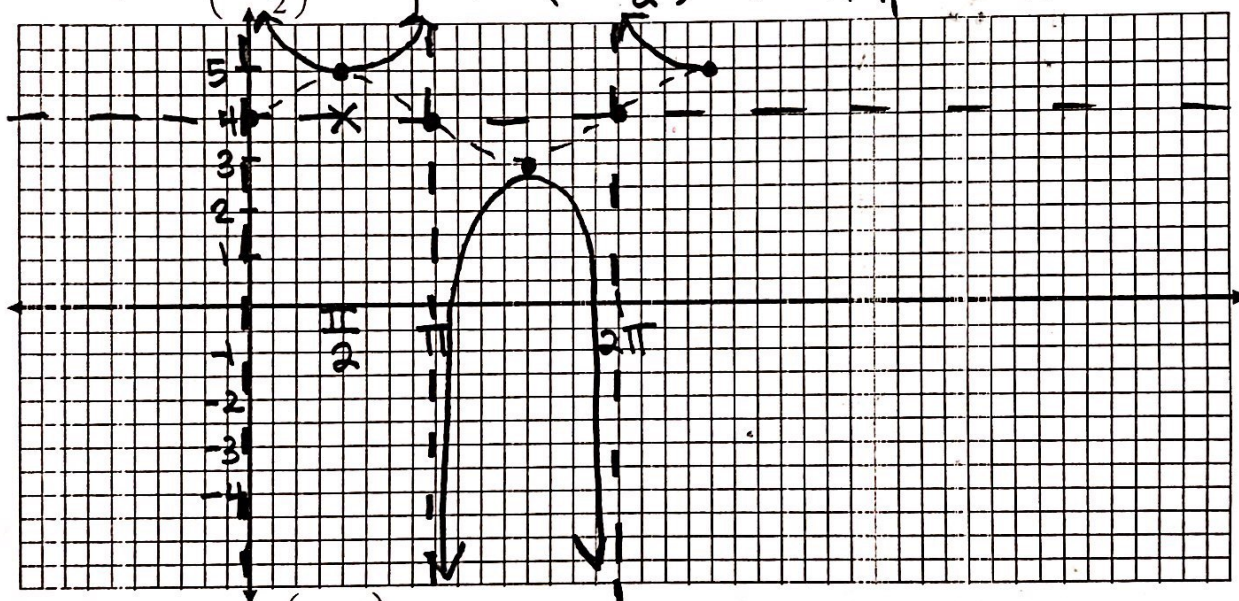


4. Graph $y = \sec\left(x - \frac{\pi}{2}\right) + 4$

$y = \cos\left(x - \frac{\pi}{2}\right) + 4$ Amp: 1 Per: 2π

Right $\frac{\pi}{2}$

Up 4



5. Graph: $y = -5\csc 2\left(x + \frac{\pi}{6}\right) + 3$

