Class Discussion

Unit 4 Topic 6 Part 3 graph secant function

Guide students to intuitively graph $f(x) = \sec x$ using the reciprocal relationship $g(x) = \frac{1}{\cos x}$

With

Domain: $x \neq \frac{\pi}{2} + n\pi$

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

V. A.s : $x = \frac{\pi}{2} + n\pi$

x-intercepts: none

To graph $f(x) = a\sec(bx - c) + d$

Step 1: Let $g(x) = a\cos(bx - c) + d$

Step 2: Find Domain and Vas for $f(x)$

Step 3: Find Range for $f(x)$

Step 4: Find possible x-intercepts for f(x) (parent functions do not x-intercept, however, if f is translated, it is possible to find x intercept

Ex: $f(x) = -\sec\left(\frac{1}{2}x - \frac{\pi}{2}\right) + \sqrt{2}$