Class Discussion

Unit 4 Topic 6 Part 4 graph co Guide students to intuitively graph $f(x) = \csc x$ using the reciprocal relationship $g(x) = \frac{1}{\sin x}$

With

cosecant function

VA: $x = n\pi$

Domain $x \neq n\pi$

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

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

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

Step 2: Find Domain and Vas for $f(x)$: VA is $x = n\pi$

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

Ex1: Graph $f(x) = 2\csc\left(\frac{1}{2}x - \frac{\pi}{4}\right) - 4$