

15

$$y = \frac{3x-3}{x^2-1} = \frac{3(x-1)}{(x+1)(x-1)} = \frac{3}{x+1}$$

$$\frac{3}{x+1} = 0 \cdot x + 1 \quad 3 = 0$$

POD's: $x=1$, Hole, removable x -int: none

$x=-1$, VA, non-removable y -int: $(0,3)$

Domain: $x \neq \pm 1$

First I wrote the original problem down. Then I factored a three out of the numerator, and I factored the denominator. Next I cancelled the factors that were the same on the numerator and the denominator. To find the POD's, I looked at the factors in the denominator. The factors that cancelled became the hole. Holes are removable because they can be removed in the graph. The second factor in the denominator became the VA. Vertical Asymptotes are not removable because they can't be removed in a graph. The domain can't equal one and negative one because the denominator cannot equal zero. To find the x -intercept, I put the final equation equal to zero. To find the y -intercept I graphed the equation on my calculator, and I hit Trace 0. That made $x=0$, and it gave me the y -intercept. I believe that I am correct because I used algebra and my calculator to check my answers.

Sara Oeltjenbruns

Sara Oeltjenbruns