Class Dicussion

Unit 2 Topic 7 Part 1 Graph of a Rational Function

Steps to graph a rational function $f(x)=\frac{N(x)}{D(x)}$

1. Simplify $f(x)$, to find holes

2. Find y-intercept: how? $x=0$, $(0,f(0))$

When y-intercept cannot be found? If V.A. @ $x=0$, or if a hole exists at $x=0$

3. Find x-intercepts: how? Solve $N(x)=0$

4. Find domain: Solve $D(x)=0$. Domain are x that makes $D(x)\neq 0$.

5. Find H.A. and V.A.

V.A. : solutions of $D(x)=0$

H.A. : if ,

$y=0$ if

$y=\frac{a_n}{b_n}$ if $\deg(N(x))=\deg(D(x))$

6. Make a T-table, from $x\to -\infty$ to

7. Graph $f(x)$, smooth curve

Ex1 Graph $f(x)=\frac{3x-1}{x^2+x-2}$

Ex2 Graph $f(x)=\frac{2x^2-3x-11}{2x^3-x^2-7x+6}$