

Daily Agenda

Learning Target:  
I can graph rational functions.

**Homework**  
5.3 Day 3 Worksheet

**Assessments**  
Unit 5 Test 12/1

I can't change the direction of the wind, but I can adjust my sails to always reach my destination.  
-Jimmy Dean

Nov 15-8:24 PM

④  $f(x) = \frac{4}{x^2}$

VASY  $x=0$   
HASY  $y=0$   
no x or y int

Nov 29-11:02 AM

②  $f(x) = \frac{3+x}{3-x}$

HASY  $y = -1$

Nov 29-11:04 AM

5.3 Multiplicity of Vertical Asymptotes

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

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

even multiplicity  $\rightarrow$  same behavior on either side VASY

odd multiplicity  $\rightarrow$  opposite behavior on either side of VASY

Nov 15-8:30 PM

Graph  $f(x)$  and include asymptotes, intercepts, and a table of values

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

VASY  $x=1, -2$   
HASY  $y=0$   
x-int  $(-1, 0)$   
y-int  $(0, 1/2)$

x	y
-3	-2/16
2	3/4

Nov 15-8:30 PM

Graph  $f(x)$  and include asymptotes, intercepts, and a table of values

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

VASY  $x=-2, -1$   
HASY  $y=0$   
x-int  $(1, 0)$   
y-int  $(0, -1/2)$

x	y
-3	1/2

Nov 15-8:30 PM

In Closing . . .

Summarize with your table  
the difference between a vertical  
asymptote and a removable  
discontinuity

Jan 5-7:32 AM