SLANT Asymptote.

IF $DN > DD$

$DR \equiv DN - DD$

$LR = \frac{LN}{LD}$

THEN SLANT ASYMPTOTE

Has END Behavior

DR \ LR	Pos	Neg
ODD	Disco Right	Disco Left
EVEN	Happy	Sad

Day 7 - Question #6;
Graphing a rational function: Quadratic over linear

Graph the rational function $f(x) = \frac{4x^2 - 12x - 15}{6x + 9}$.

To graph the function, draw the asymptotes (if any) and plot at least two points on each piece of the graph.

$\frac{2}{3}x - 3 + \frac{12}{6x+9}$

$6x+9 \overline{)\,4x^2 - 12x - 15}$

$-(4x^3 + 6x)$

$-18x - 15$

$(-18x - 27)$

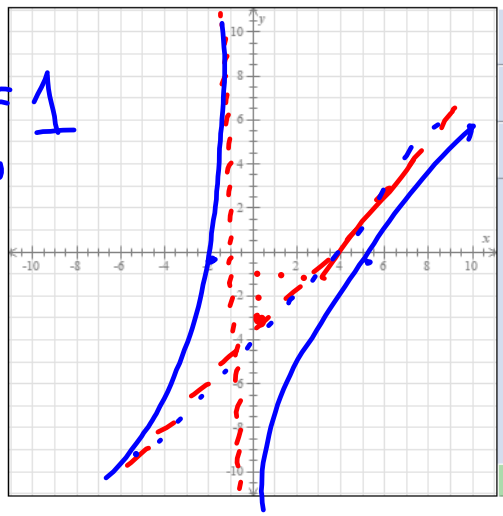
12

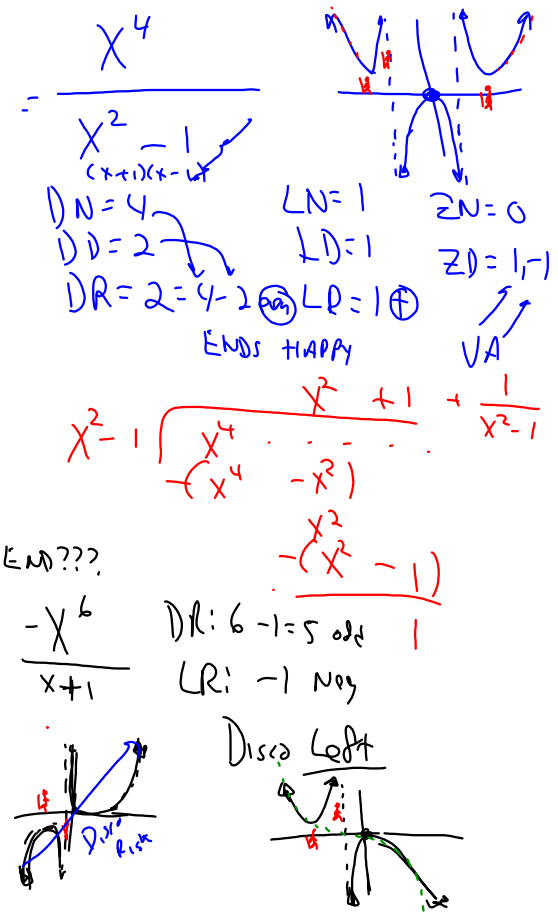
$DR = 2 - 1 = 1$

Disco!

$LR = \frac{4}{6}$

Right



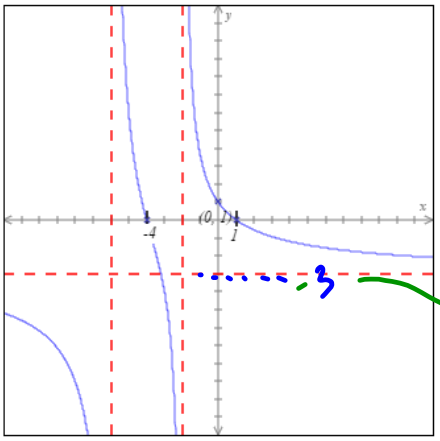


CLOSE WINDOW

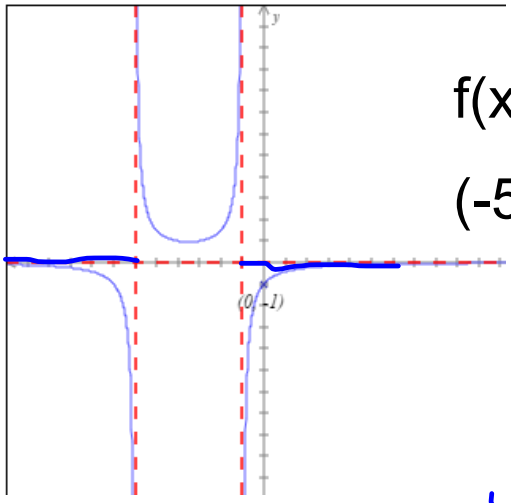
Day 7 - Question #5;
Writing the equation of a rational function given its graph

The figure below shows the graph of a rational function f with vertical asymptotes $x=-2$, $x=-6$, and horizontal asymptote $y=-3$. The graph also has x-intercepts of -4 and 1, and it passes through the point $(0,1)$.

The equation for $f(x)$ has one of the five forms shown below. Choose the appropriate form for $f(x)$, and then write the equation. You can assume that $f(x)$ is in simplest form.

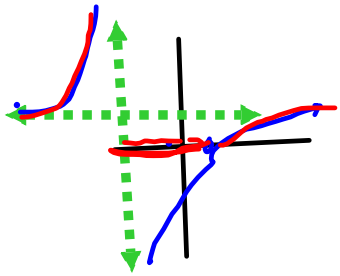


- $f(x)=\frac{a}{x-b}$ 1 VA
- $f(x)=\frac{a(x-b)}{x-c}$ 1 VA
- $f(x)=\frac{a}{(x-b)(x-c)}$ 2 VA / 0 Z
- $f(x)=\frac{a(x-b)}{(x-c)(x-d)}$ 2 VA / 1 Z
- $f(x)=\frac{-3(x+4)(x-1)}{(x+6)(x+2)}$ 2 VA / 2 Z



$f(x) \geq 0$

(-5,-1)



ex $y = \frac{x-1}{x+2} \geq 0$

(-oo,-2)U[1,oo)