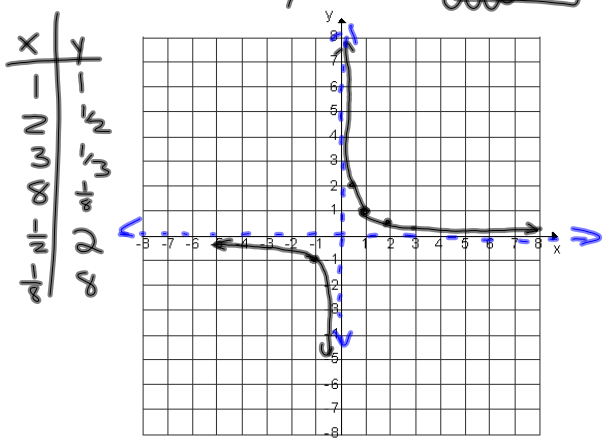
1-16-14

3rd Trig

Asymptotes

$y = \frac{1}{x}$

x	y
1	1
2	1/2
3	1/3
8	1/8
1/2	2
1/8	8



Horizontal Asymptotes

Bobo → Bigger on Bottom → $y = 0$

Botn → Bigger on Top → NONE

Eats DC → Exponents are The same Divide Coefficients

$$y = \frac{x^{3} + 2x - 10}{x^{1} - 1}$$

Bigger on Top (NONE)

$$y = \frac{3x^{2} + 6x - 1}{5x^{3} + 7}$$

BOBO

$y = 0$

$$y = \frac{5x^{3} + 1}{10x^{3} + 7x - 1}$$

EATS DC

$y = \frac{5}{10} = \frac{1}{2}$

Give Horizontal Asymptote

① $y = \frac{6x^2-1}{x}$ Bot None

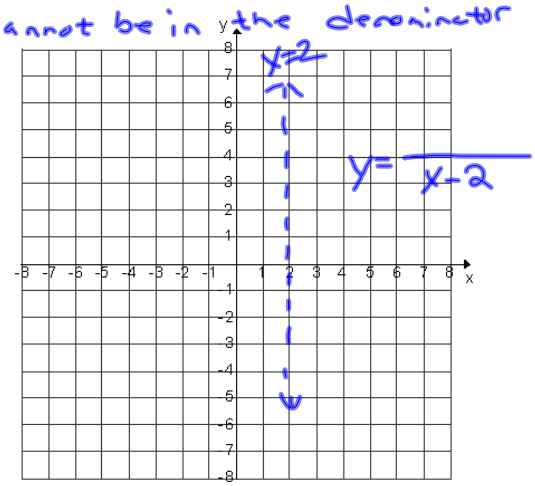
② $y = \frac{8x+1}{5x^2-2}$ Bob $y=0$

③ $y = \frac{2x^{10}+6x-1}{x^{10}+5x+2}$ EqtsDC $y=2$

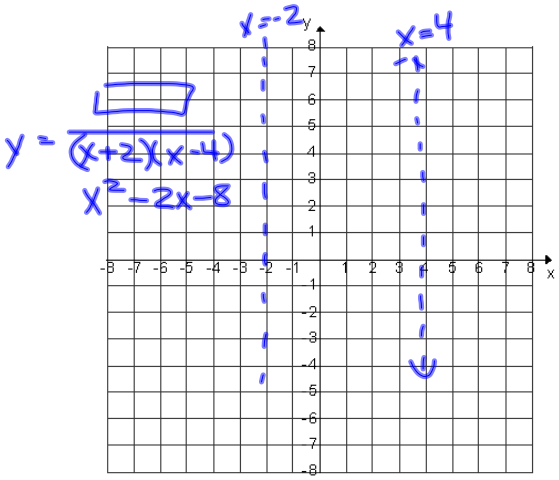
④ $y = \frac{x^4+6x-1}{x^5+5}$ BOB $y=0$

Vertical Asymptote

→ determined by what X cannot be in the denominator



How can I get this



Give vertical asymptote for

① $y = \frac{5x^3+7}{x-4}$ $x=4$

② $y = \frac{6x^{10}-5x+1}{x}$ $x=0$

③ $y = \frac{2x^3+6x^2-1}{x^2+5x+4}$ $x=-4$ and $x=-1$

$(x+4)(x+1)$

Give horizontal and vertical asymptotes.

① $y = \frac{3x^4+5}{x-2}$

H: Bot NONE

V: $x=2$

② $y = \frac{x^2-8}{x^2+3x+2}$

H: Eats DC $y=1$

V: $x^2+3x+2 \neq 0$

$(x+2)(x+1) \neq 0$

$x=-2$ and $x=-1$

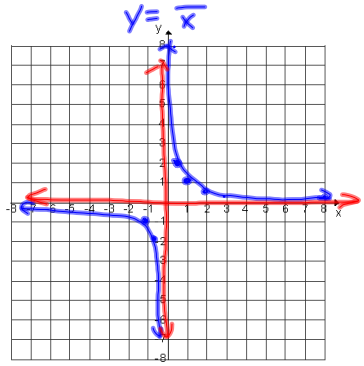
1-16-14

4th Trig

Asymptotes

$y = \frac{1}{x}$

x	y
1	1
2	$\frac{1}{2}$
3	$\frac{1}{3}$
$\frac{1}{2}$	2
$\frac{1}{8}$	8



Horizontal Asymptotes

Bobo ↓ Bigger on Bottom → $y = 0$

Botn ↓ Bigger on Top → NONE

Eats DC Exponents Are The Same Divide Coefficients

① $y = \frac{x^4 + 6x - 1}{x^2 - 60}$

Bo**t**→ None

② $y = \frac{2x^3 + 1}{1x^3 - 2x + 7}$

Eats DC

$y = 2$

③ $y = \frac{x^4 + 7x}{x^6 - 5x + 10000}$

Bob → $y = 0$

④ $y = \frac{x^4 - 6x^3 + x - 1}{5x^3 + 2x - 6}$

Bot → None

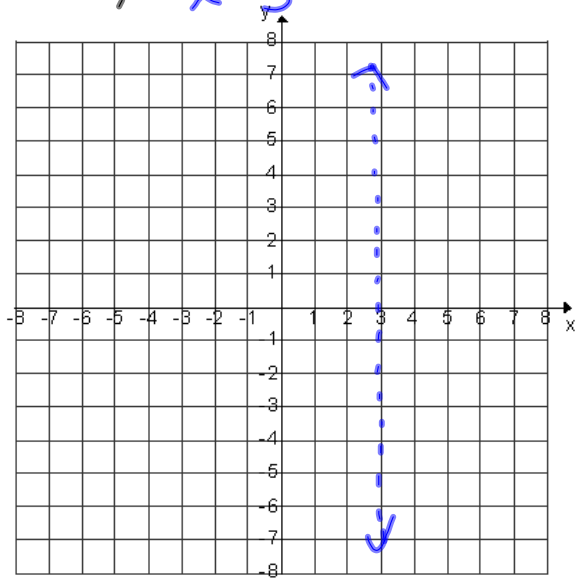
⑤ $y = \frac{5x^2 + 6x}{2x^2 - 1}$

EATS DC

$y = \frac{5}{2} = 2\frac{1}{2}$

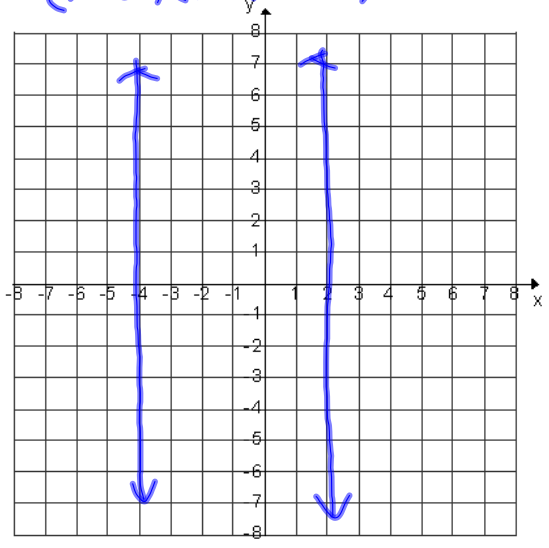
Vertical

$y = \frac{\square}{x-3}$



Vertical asymptotes are determined by what X cannot be in the denominator.

$y = \frac{\square}{(x-2)(x+4)} = \frac{\square}{x^2+2x-8}$



Determine the vertical asymptote for these equations

① $y = \frac{6x^{100}}{x+8}$ $x = -8$

② $y = \frac{x^2-8}{x}$ $x = 0$

③ $y = \frac{x^3+6x-10}{x^2+5x+4}$ $x=-1$ and $x=-4$

$(x+1)(x+4)$

Give horizontal & vertical

① $y = \frac{x^4+6x-1}{x-5}$ Bot None Horiz.

Vert. $x=5$

② $y = \frac{6x-1}{x^2+6x+5}$ H: Bob $y=0$

$(x+5)(x+1)$ V: $x=-5$ $x=-1$

③ $y = \frac{x^2-6x-10}{x^2+8x+7}$ H: EatsDC $y=1$

V: $x=-7$ $x=-1$

$(x+7)(x+1)$