Bellwork Hon Alg 2 Friday, February 10, 2017

Find all the equation of the Horizontal Asymptotes, if any.

1. $y = \frac{2x^2 - 5x + 3}{x^2 - 6x - 10}$ EQ of HA:

2. $y = \frac{8x^2 - 7x}{x^3 + 4x^2 + 9x - 1}$ EQ of HA:

3. $y = \frac{x^3 + 7x^2 + 11x}{x^2 + 4x - 3}$ EQ of HA:

Use this function for 4 to 9: $y = \frac{4x^2 - 11x}{x^2 + 2x - 15}$

Answer the following questions without actually graphing this function.

4. What is the Horizontal Asymptote?
5. On the left-end is the graph approaching the HA from above or below?
6. On the right-end is the graph approaching the HA from above or below?
7. What are the Vertical Asmptotes?
8. Is the graph going up or down on the left side of each VA?
9. Is the graph going up or down the right side of each VA?

Bellwork Hon Alg 2 Friday, February 10, 2017 Answers

Find all the equation of the Horizontal Asymptotes, if any.

1. $y = \frac{2x^2 - 5x + 3}{x^2 - 6x - 10}$ EQ of HA: $y = 2$

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

2. $y = \frac{8x^2 - 7x}{x^3 + 4x^2 + 9x - 1}$ EQ of HA: $y = 0$

3. $y = \frac{x^3 + 7x^2 + 11x}{x^2 + 4x - 3}$ EQ of HA: NONE

Use this function for 4 to 9: $y = \frac{4x^2 - 11x}{x^2 + 2x - 15} = \frac{x(4x-11)}{(x+5)(x-3)}$

Answer the following questions without actually graphing this function.

4. What is the Horizontal Asymptote? HA: $y = \frac{4}{1} = 4$
5. On the left-end is the graph approaching the HA from above or below? Approaches HA from Above

X	Y
-1000	4.0191

6. On the right-end is the graph approaching the HA from above or below? Approaches HA from below

X	Y
1000	3.9811

7. What are the Vertical Asmptotes? $x = -5$ & $x = 3$
8. Is the graph going up or down on the left side of each VA?

Leftside of $x = -5$

X	Y
-5.01	1941.5

Going up on left of $x = -5$

Left side of $x = 3$

X	Y
2.99	-35.92

Going down on left of $x = 3$

9. Is the graph going up or down the right side of each VA?

RT of $x = -5$

X	Y
-4.99	-1934

going down on RT of $x = -5$

RT of $x = 3$

X	Y
3.001	376.58

Going up on RT of $x = 3$