We are done with the material for the next Test!

Topic 9/10 test will be on
Thursday, December 19, 2019

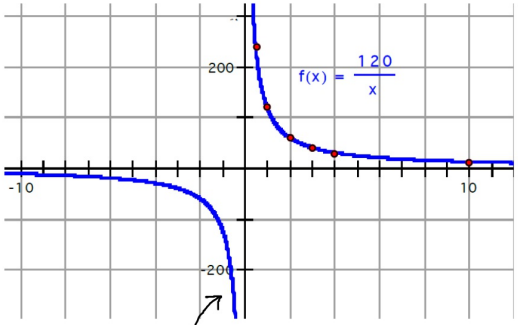
Hwk #39: Due tomorrow

Practice Sheet: Review Topic 9/10

Agilemind Workbook:
Topic 9 - Rational Expressions and Functions

SAS1 - Overview - Question 1a,b

Hours to travel 120 miles	Process	Speed
2	$\frac{120 \text{ miles}}{2 \text{ hours}}$	60 mph
3	$120/3$	40
4	$120/4$	30
10	$120/10$	12
h	$120/h$	$120/h$



This is an example of a specific rational function called:
Inverse Variation

this branch wouldn't exist in the real situation but it is part of the function y=120/x when you replace x with negative values.

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Overview - page 1

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Overview

SAS 1 - Question #2 a-c

Answer to SAS 1 - Question #2 a-c

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Overview - page 2 - panel 1

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Overview

SAS 1 - Question #3 a,b

Answer to SAS 1 - Question #3 a,b

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Overview - page 2 - panels 2 & 3

SAS1 - Question #'s 4 & 5

Answer to SAS1 - Question # 4

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Overview - page 3

SAS1 - Question # 5

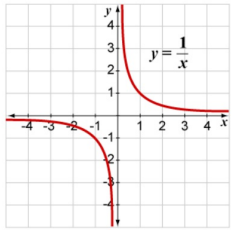
5. The function that models Terrence's grade is an example of what type of function? How is this type of function formed? [OV, page 4]

This is an example of a rational function, formed by the quotient of two polynomials.

$$y = \frac{3+x}{20+x}$$

SAS1 - Question #6

Parent Rational Function: $y = \frac{1}{x}$



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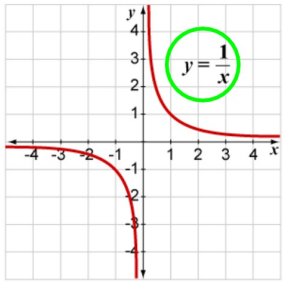
Overview - page 4

This equation is sometimes referred to as the Reciprocal Function.

This graph is called a Hyperbola.

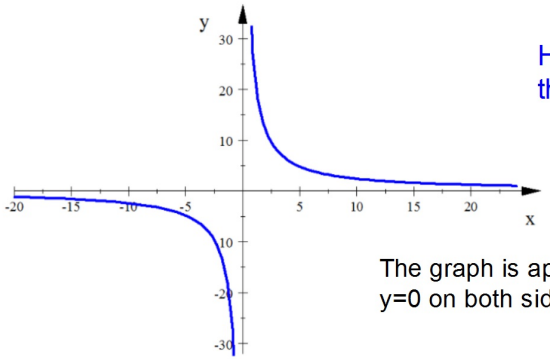


Why does this graph have two parts?
because the function is undefined when x=0, therefore, there is a break in the graph at that point.

The two parts of this graph are called Branches.

There are two lines the graph approaches as you move farther from the origin. These lines are called Asymptotes.

The branches of the Parent Reciprocal Function are located in "Quadrants I and III".



How would you describe
the end-behavior of this graph?

As $x \to \infty$, $y \to 0$

As $x \to -\infty$, $y \to 0$

The graph is approaching the horizontal line
y=0 on both sides.

This graph has a
Horizontal Asymptote.