

Happy Thursday, September 29th!

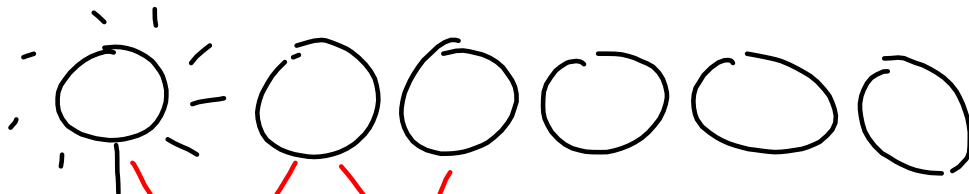
Do Now:

Write the equation for a graph that has a hole at $x=4$, a vertical asymptote at $x=-2$, and a horizontal asymptote at $y=2$.

$$\frac{2x(x-4)}{(x-4)(x+2)}$$

$$\frac{4x^2(x-4)}{2x(x-4)(x+2)}$$

Sep 29-7:42 AM



$$1+2+2+2=8$$

$$1-2-2+2+2=11$$

* # of lights on doesn't change

* +2 to the # of lights on

Sep 29-2:09 PM

Quiz tomorrow will cover:

U2LT4 I can construct a model to find max/mins.

U2LT5 I can find a function's inverse.

U2LT6 I can find the average rate of change under a given function

U2LT7 I can graph rational functions.

But remember, Unit 2 test is next Thursday, so these grades will be replaced!

Sep 29-7:48 AM

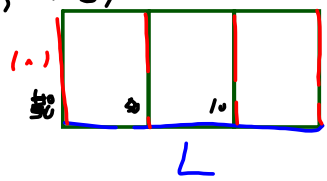
Let's look at your homework...What problems do you want to see?

Sep 29-8:01 AM

Using models:

Angelina and Sara are building a really weird fence. They want it to look like the picture below. They only have 110 feet of fencing. What is the maximum area their yard after it being fenced in?

D: (0, 27.5)



Condition
 $4w + 2L = 110$
 Max:
 $\text{Area} = LW$
 Max
 $\text{Area} = (55 - 2w)w$
 ↑ output y ↑ width x
 (13.75, 378)

Rewrite:
 $2L = 110 - 4w$
 $L = 55 - 2w$

378 ft²

Sep 29-8:01 AM

Inverses Review:

$$f(x) = \sqrt{3x + 5} - 7$$

* Switch x and y
 solve for y

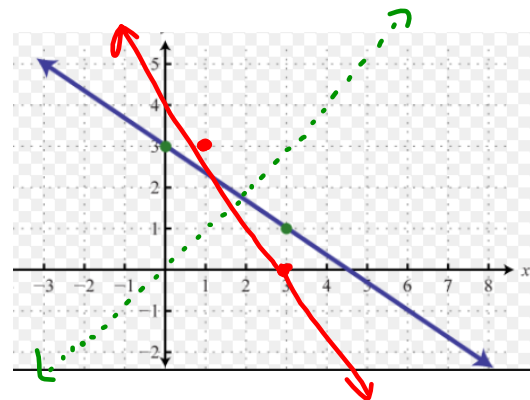
$$f^{-1}(x) = \frac{(x+7)^2 - 5}{3}$$

$$x = \sqrt{3y + 5} - 7$$

$$x + 7 = \sqrt{3y + 5}$$

$$(x + 7)^2 = 3y + 5$$

$$\frac{(x + 7)^2 - 5}{3} = y$$



$$f(g(x)) = x$$

Sep 29-8:04 AM

Average Rate of Change:

$$f(x) = 3x^2 - 6x + 9$$

Find the average Rate of Change:

$x \in$
 $(0, 7)$
 $x=0$ to $x=7$

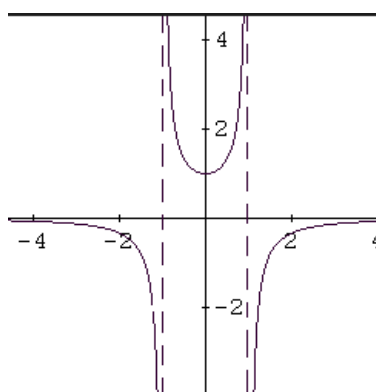
$$\frac{f(7) - f(0)}{7 - 0} = \frac{(3(49) - 42 + 9) - 9}{7}$$

$(-2, 5)$ $\boxed{3}$ $= \frac{\boxed{105}}{7} = \boxed{15}$

Note: In the original image, the number 114 is written above the numerator, and the number 9 is circled in a cloud shape.

Sep 29-8:14 AM

Graphing Rationals:



Sep 29-8:16 AM

Exit Ticket:

Finish the sentence

In order to be successful on the quiz tomorrow,
tonight I will...

Sep 29-8:19 AM

Sep 29-2:46 PM