Activator

When solving for x, what did I do?

$$4 = \sqrt{x + 7}$$

$$(\quad)^2 \quad (\quad)^2$$

$$16 = x + 7$$

$$-7 \qquad -7$$

$$9 = x$$

To remove the root,

I squared both sides.

Now, check my work.

$$4 = \sqrt{(9) + 7}$$

$$4 = \sqrt{16}$$

$$4 = 4 \ \text{Yes}$$

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Lesson 7.7

Today's Objective

Students will be able to solve and graph radical equations.

Announcements

Give me any number.

7.6

Give me a
perfect number.

Friday **May 10, 2024**

Solve for x when...

The opposite of a root is a square.

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

$$(\quad)^2 \quad (\quad)^2$$

$$9 = x + 5$$

$$-5 \qquad -5$$

$$4 = X$$

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Lesson 7.7

Graph g(x) = $3 - \sqrt{x + 5}$.

Is (4,0) a root?

Yes, it is on the x-axis.

x	g(x)
-5	3
-4	2
-1	1
4	0
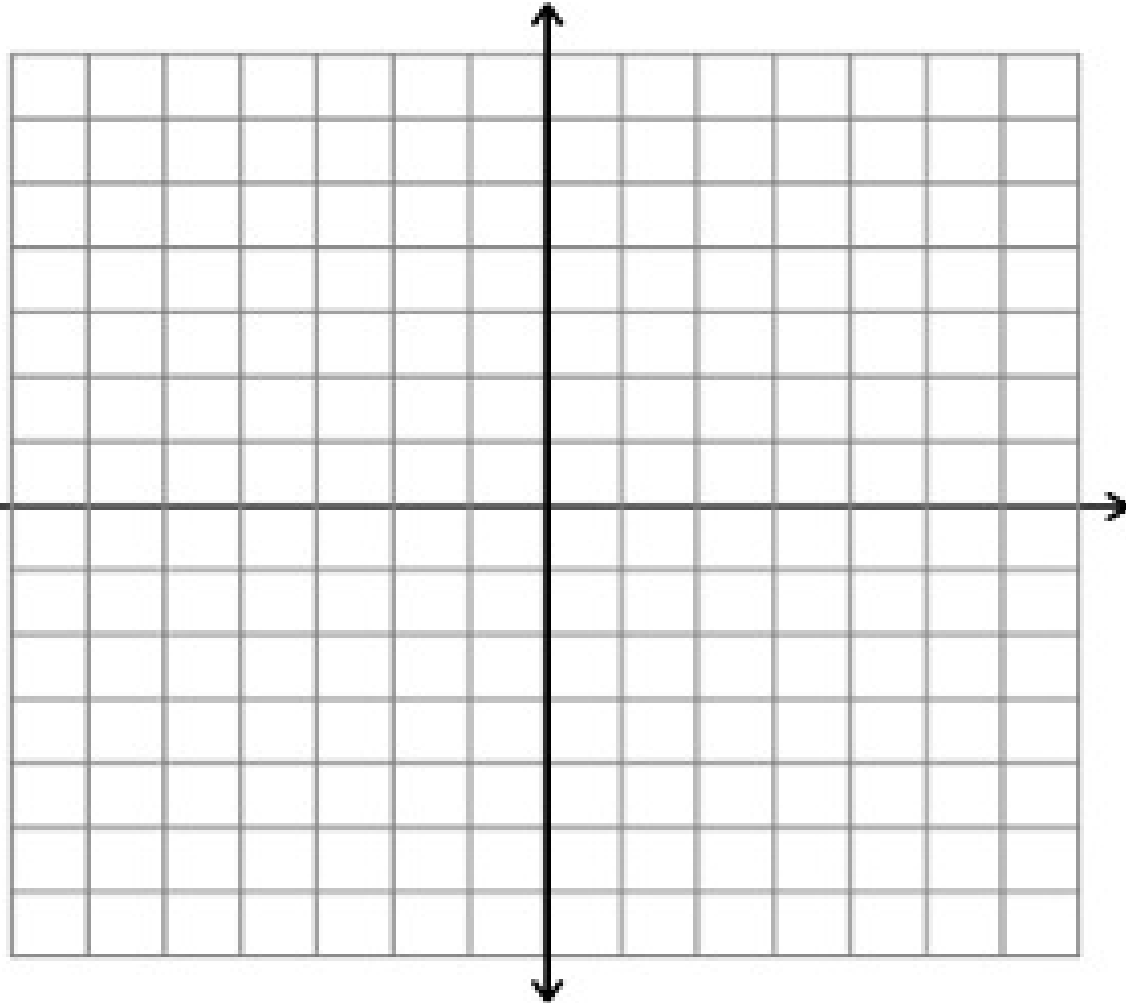
Evaluate g(4) when g(x) = $3 - \sqrt{x + 5}$.

Is g(4) rational? Yes
b/c $\sqrt{9}$ is $perfect.$

$g(4) = 3 - \sqrt{(4) + 5}$
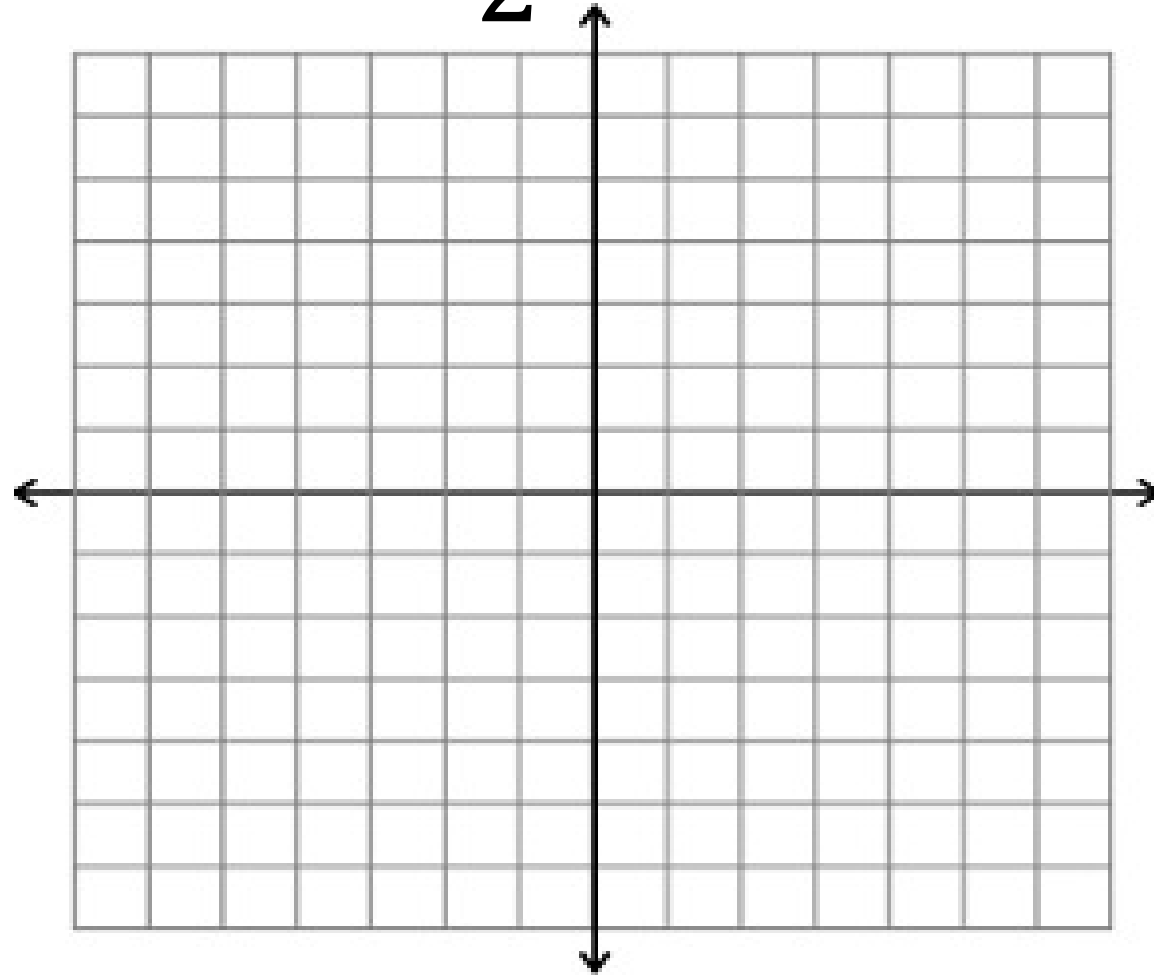
$g(4) = 3 - \sqrt{9}$

$g(4) = 3 - 3$

$g(4) = 0$

x	g(x)
4	0

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Also, Graph $f(x) = \frac{1}{2}\sqrt{x + 5}$

| x	f(x)
-5	0
-1	1
11	2

Where does
G(x) = f(x) ?
(-1, 1)

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Lesson 7.7

Work Period

Recycling operation: The people helping, p = $90\sqrt{3x}$ + 400, where x is the number of months the recycling plant has been open. How people, p, were involved starting the recycling operation?
After 3 months? After 12 months?

Does this graph indicate growth or decay of this recycling program? Growth

Why? The number of people helping is increasing.

x	P(x)
0	400
3	670
12	940
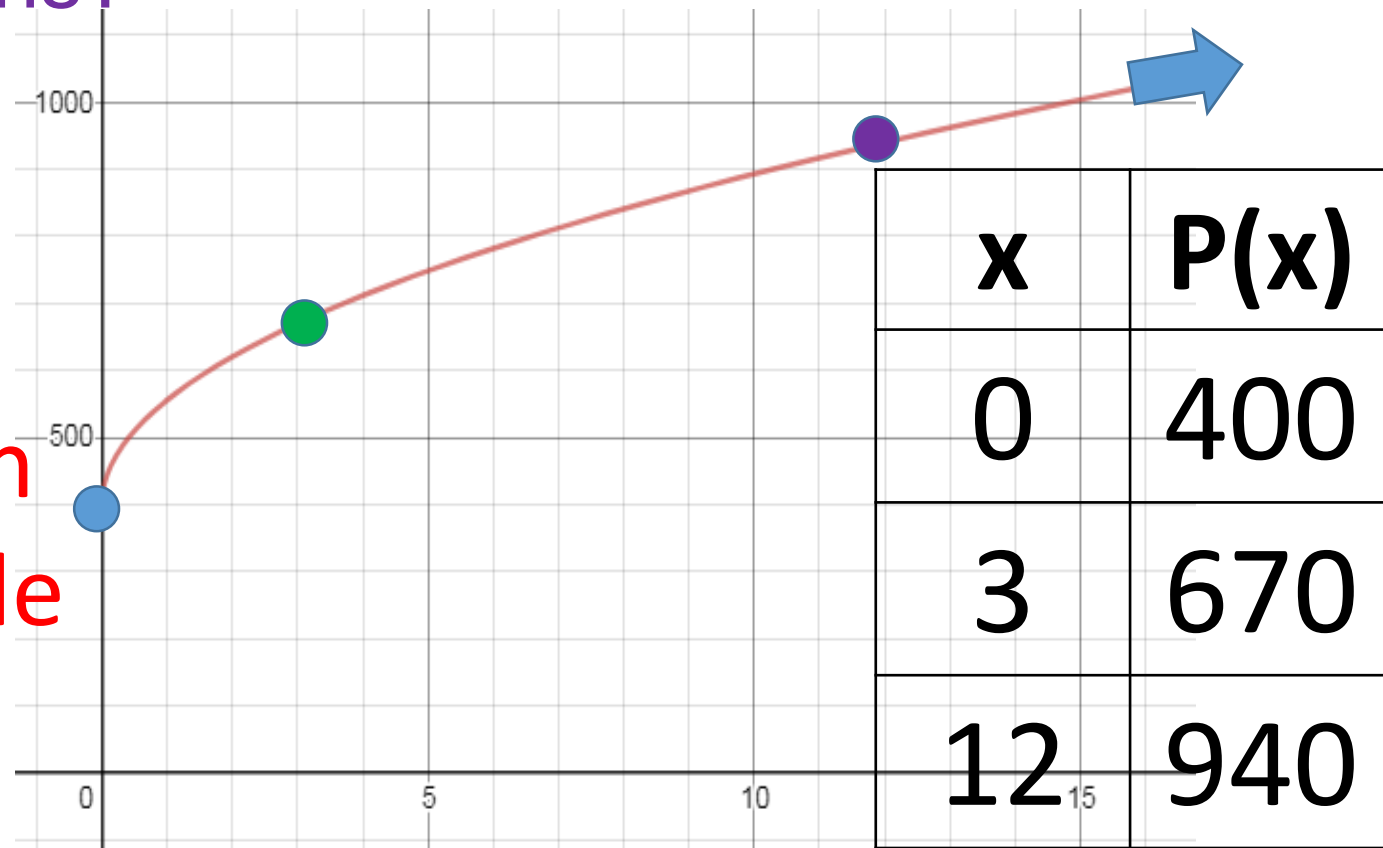
Group Work Questions

Directions: All groups, please do all of the questions. Use your notes from last class to help you. [Ask 2 people before you ask me.]

Last time, we did Lesson 7.7 Notes.

2nd Stop @ 9:03   3rd Stop @ 10:06   8th Stop @ 2:25

*One person from each group will present one question.

Exit Ticket

The number of people, p involved in recycling in a community is modeled by the function p = $90\sqrt{3x}$ + 400.

*How many people will be helping after **4 years (48 months)?***

$p(x) = 90\sqrt{3x} + 400$

$p(48) = 90\sqrt{3(48)} + 400$

$p(48) = 90\sqrt{144} + 400$

$p(48) = 90(12) + 400$

$p(48) = 1480$

X = Number of Months

x	p(x)
48	1480

The more helping hands the better.

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Lesson 7.7