

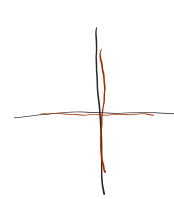
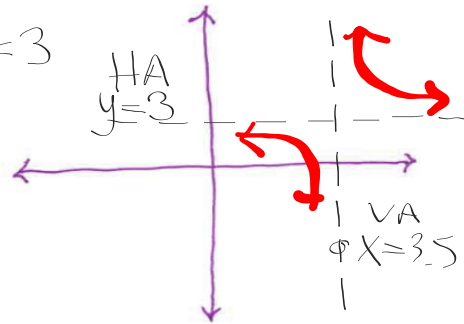
Pick Up
the
Warm Up



Check work from HW
(Any questions?)

- ① Make a sketch of the Rational function
 $f(x) = \frac{6x+7}{2x-7}$ Label the sketch appropriately

$$\frac{6x}{2x} = 3$$



$$2x+7=0$$

$$2x = -7$$

$$x = -\frac{7}{2}$$

- ② Describe all discontinuities

$$VA \quad x = 3.5$$

$$HA \quad y = 3$$

You should be able to write the domain and range of $f(x)$

- ③ Create an equation of a circle with radius 12 whose center is $(-100, -90)$

$$(x)^2 + (y)^2 = 144$$

$$(x+100)^2 + (y+90)^2 = 144$$

$$\textcircled{4} \quad x^2 - 8y - 12x + y^2 = 12 \quad \left(\frac{12}{2}\right)^2 = 36$$

$$x^2 - 12x + 36 \quad y^2 - 8y + 16 = 12 + 36 + 16$$

$$x^2 - 12x + 36 \quad y^2 - 8y + 16 = 12 + 36 + 16$$

$$(x-6)^2 + (y-4)^2 = 64$$

center (6, 4) r = 8

radius 8

5 a. How do I know if an equation is quadratic?

Circle any from

$$10 = 3x - 7$$

$$6 = x^2 - 7x + 2$$

$$5x^2 - 8x + 100 = 7$$

$$3x^2 - x + 1$$

$$(x-2)^2 = 17$$

$$x^2 - 1 = 0$$

5b) what are the two ways
to solve a quadratic
equation?

1) Quadratic Formula as long as it is
set equal to 0.

2) Factor \rightarrow 2PP?

huh? \rightarrow
3)

$$\textcircled{6} \quad \frac{4a-4b}{(a+1)^2} \div \frac{6b-6a}{a^2-1}$$

$$\frac{2\cancel{4}(a-b)}{(a+1)^2(a+1)} \cdot \frac{(a+1)(a-1)}{\cancel{6}(b-a)\cancel{1}(a-b)} \rightarrow \frac{2(a-1)}{3(a+1)}$$

(106)

Lexington HS growth rate 4.7% $\rightarrow 100\% + 4.7\%$
 3 years ago there were 1500 students 104.7%
 (1.047)

a) How many are there now?

$$y = 1500(1.047)^3 = 1722 \text{ students}$$

• in terms of
3 years

b) How many were there 5 years ago?

$$y = 1722(1.047)^{-5} = 1368 \text{ students}$$

c) in n years? $y = 1722(1.047)^n$

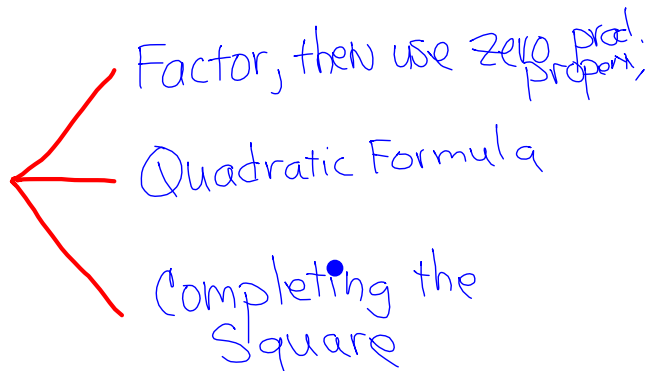
In your
notes



NOTES

A third method to solve a quadratic equation

Methods to solve a
quadratic equation:



Today's
AIM

Use completing the square to solve a quadratic equation ✓

Simplify complex
Algebraic fractions

Something we've never done before:

Solve the equation $x^2 - 4x - 5 = 0$

Using the idea of completing the square concept.

$$x^2 - 4x - 5 = 0$$

+5 +5

Rewrite equation focusing on first two terms

$$x^2 - 4x + 4 = 5 + 4$$

$$(x-2)^2 = 9$$

$$x-2 = \pm 3$$

$$x-2=3$$

+2 +2

$$x-2=-3$$

+2 +2

$$x=5 \quad x=-1$$

$$\left(\frac{-4}{2}\right)^2 = 4$$

	x	-2
x	x^2	$-2x$
-2	$-2x$	4

Another •

$$x^2 = 10 - 12x$$

$$x^2 + 12x - 10 = 0$$

$$x^2 + 12x + 36 = 10 + 36$$

$$\sqrt{(x+6)^2} = \sqrt{46}$$

$$x+6 = \pm\sqrt{46}$$

$$0 = -x^2 - 12x + 10$$

$$x+6 = \frac{\sqrt{46}}{-6}$$

$$x+6 = \frac{-\sqrt{46}}{-6}$$

$$x = -6 + \frac{\sqrt{46}}{-6} \quad x = -6 - \frac{\sqrt{46}}{-6}$$

Test Information

for • Ch. 3 Test

on • Tues. Nov 6th

See your
LCQ

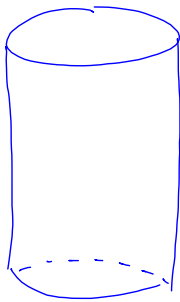
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Partner
LCQ

Assignment

3 113, 116 to 118

..... do 119 with your GDC



$$V = \pi r^2 h$$

$$SA = 2\pi r^2 + 2\pi r h$$

Volume to SA ratio

$$\frac{V}{SA} = \frac{\pi r^2 h}{2\pi r^2 + 2\pi r h}$$

Simplify
it