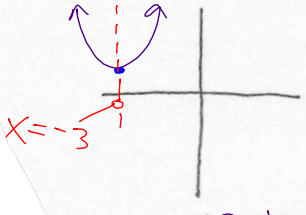
Pick up the
No calculator
Warm Up

HW tally

LCQ later today

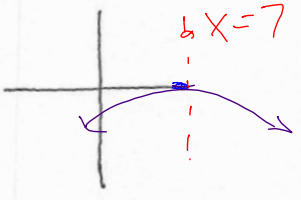
1. Without a GDC sketch the following parabolas. Then label the vertex. $y=x^2$ is already shown.

$y = (x+3)^2 + 1$



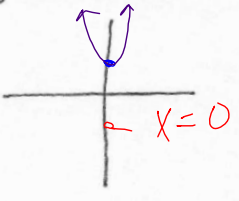
Vertex (-3, 1)

$y = -\frac{1}{2}(x-7)^2$



Vertex (7, 0)

$y = 3x^2 + 2$



Vertex (0, 2)

y-int (0, 10)

2. Go back to #1 and, with a dashed line, draw the line of symmetry and label with its equation.

Now go back and the y-intercept

3. Convert the following to graphing form. If absent yesterday get a partner to teach you.

$y = x^2 + 8x + 6$

$16x^2$

	x	4
x	x^2	$4x$
4	$4x$	16

$y + 16 = x^2 + 4x + 4x + 16 + 6$

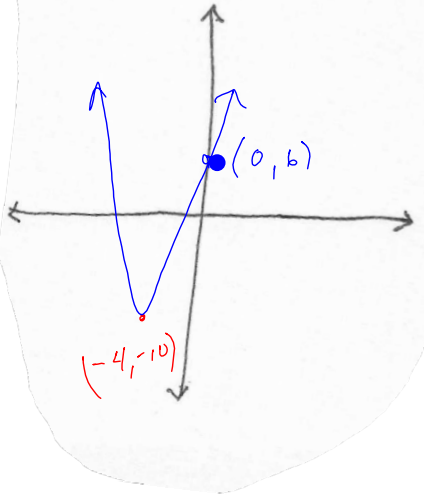
$y + 16 = (x+4)^2 + 6$

$-16 \qquad -16$

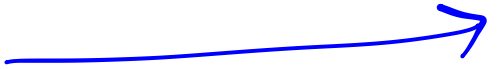
$y = (x+4)^2 - 10$

$(-4, -10)$

4. Now make a sketch of the graph below. Be sure to figure out the y-intercept to help you.



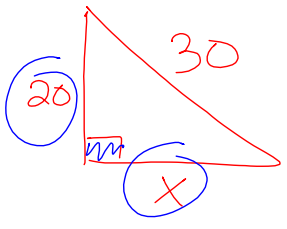
Add to your Notes



HW Questions

50a

55b



$a^2 + b^2 = c^2$

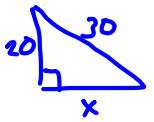
$20^2 + x^2 = 30^2$

50 c

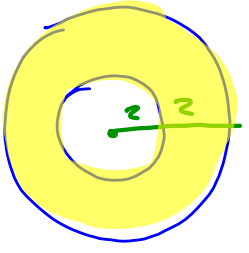
53 (-2,4) (4,7) equation

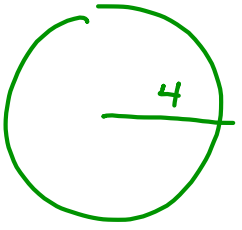
d=

55 b



56a





$A = \pi \cdot 4^2$

probability of landing in unshaded region

=

$A = \pi \cdot 2^2$

Date of Next Test

Friday Feb 23

Find the x-intercepts, then graph

$y = (x-3)^2 - 25$

do this

don't do this

$0 = (x-3)(x-3) - 25$

$0 = x^2 - 3x - 3x + 9 - 25$

$0 = x^2 - 6x - 16$

etc

$(x-3)^2 - 25 = 0$

$\sqrt{(x-3)^2} = \sqrt{25}$

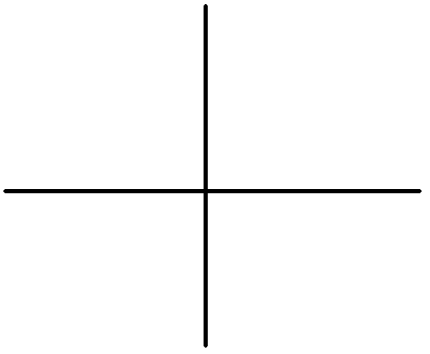
$x - 3 = \pm 5$

$+3 \quad +3$

$x = 3 \pm 5$

$3+5$

$3-5$



$(8, 0)$

$(-2, 0)$

Aim Today:

Complete The Square, Part 2

NOTES Convert $y = x^2 + 5x + 2$

$y + 6.25 =$

	x	−2.5
x	x^2	2.5x
−2.5	2.5x	6.25

$+ 2$

$y + 6.25 = (x + 2.5)^2 + 2$

$-6.25 \quad -6.25$

$y = (x + 2.5)^2 - 4.25$

What if $a \neq 1$? compl. square does not work ... yet.

$y = 2x^2 + 8x + 100$

divide by 2

$\frac{y}{2} = x^2 + 4x + 50$

$\frac{y}{2} + 4 =$

	x	2
x	x^2	2x
2	2x	4

$+ 50$

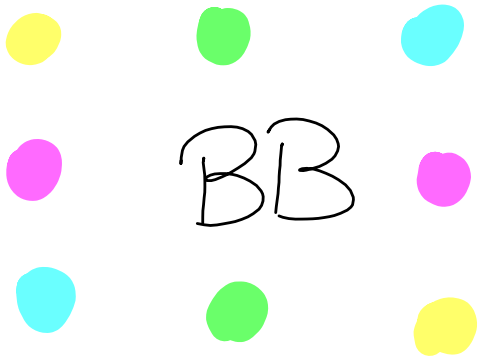
$\frac{y}{2} + 4 = (x + 2)^2 + 50$

multiply by 2

$y + 8 = 2(x + 2)^2 + 100$

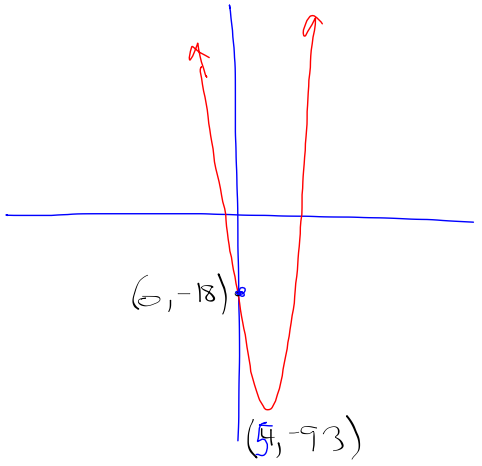
$-8 \quad -8$

$y = 2(x + 2)^2 + 92$



Convert

$f(x) = 3x^2 - 30x - 18$



LCQ

Assignment

Worksheet 2.1.4 Day 2