Warm-up!
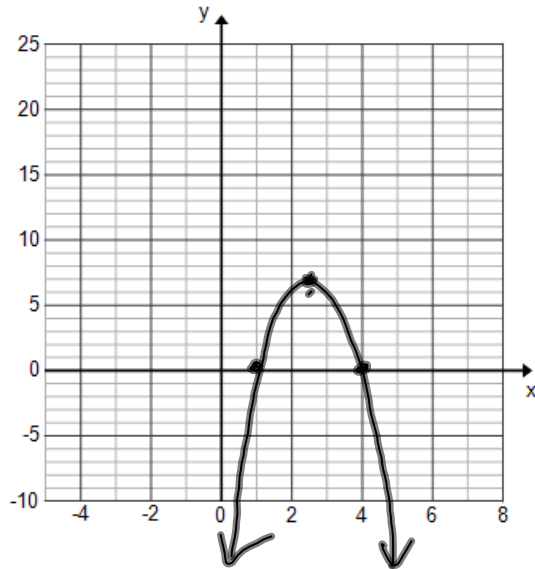
Graph the following equation and find the solutions. Verify the solutions.

$$y = -3x^2 + 15x - 12$$

$$x = 1 \quad x = 4$$

Vertex: $(2.5, 6.75)$

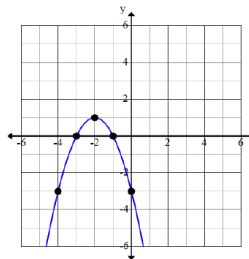---

5.4A *Graphing Quadratic Inequalities*

Section 5.4A

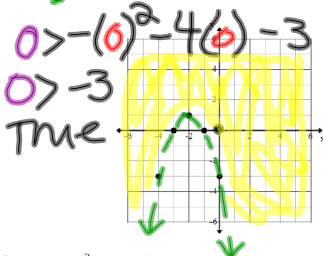To the right is the graph of the equation $y = x^2 - 4x - 3$.

Symbol	Type of line
$<, >$	dash
$\leq, \geq$	solid

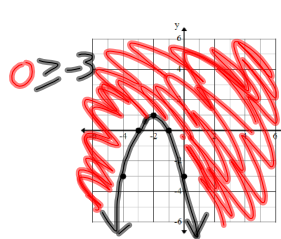| x	y
−4	−3
−3	0
−2	1
−1	0
0	−3

#1 – 4: Using the graph of the given *equation*, complete the graph for each of the following *inequalities* by adding the appropriate boundary and shading.
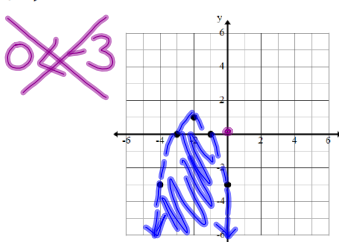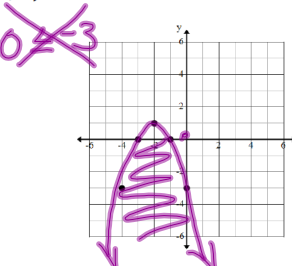
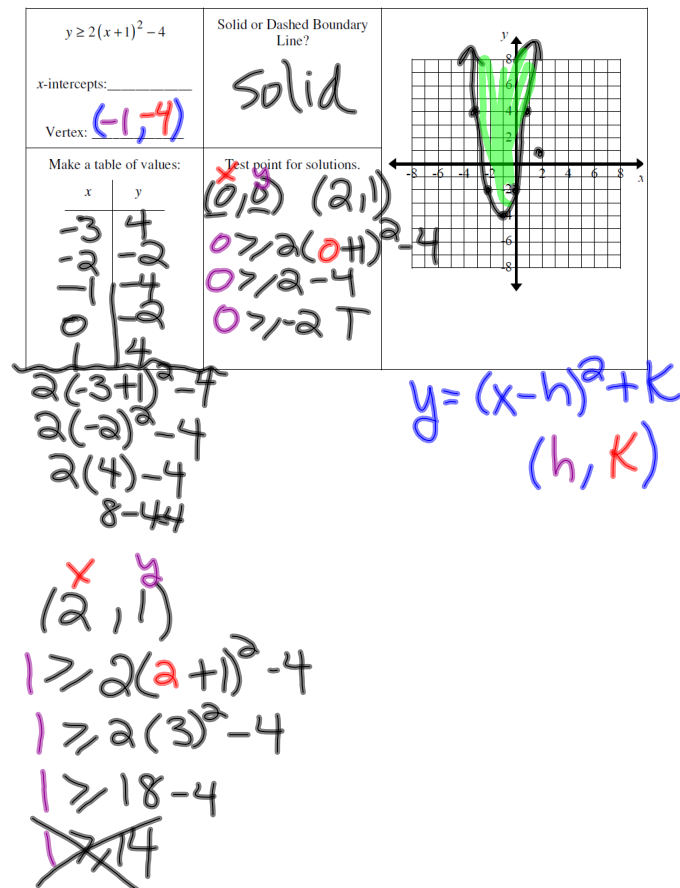1) $y > x^2 - 4x - 3$

$(0, 0)$

$0 > -(0)^2 - 4(0) - 3$

$0 > -3$

True

2) $y \geq -x^2 - 4x - 3$

$(0, 0)$

$0 \geq -3$

3) $y < -x^2 - 4x - 3$

$0 < -3$

4) $y \leq -x^2 - 4x - 3$

$0 \leq -3$

5) Graph the following inequalities.

$y \geq 2(x+1)^2 - 4$	Solid or Dashed Boundary Line?
x-intercepts:_____ Vertex: **(-1, -4)**	**Solid**

Make a table of values:

x	y
-3	4
-2	-2
-1	-4
0	-2
1	4

Test point for solutions.

(0, 0)   (2, 1)

$0 \geq 2(0+1)^2 - 4$
$0 \geq 2 - 4$
$0 \geq -2$ T

$2(-3+1)^2 - 4$
$2(-2)^2 - 4$
$2(4) - 4$
$8 - 4 = 4$

$\overset{x}{(2}, \overset{y}{1)}$

$1 \geq 2(2+1)^2 - 4$
$1 \geq 2(3)^2 - 4$
$1 \geq 18 - 4$
$1 \geq 14$

$y = (x-h)^2 + k$
(h, k)

3/24	5.4	I can find solutions involving quadratic inequalities.	5.4A #1-6, 10-15 (P-61)		☺ 😐 ☹
3/25			5.4B #5-12 (P-66)		☺ 😐 ☹
3/26			Review		☺ 😐 ☹

Test Date: 3/27	**Test Reminders:**	**Standards you still need help on (by LT#)**	*Review Done?*Y/N *Review Checked with answer key?*Y/N *Did you ask about the ones you didn't know how to do?*Y/N