Algebra 2

Name Key

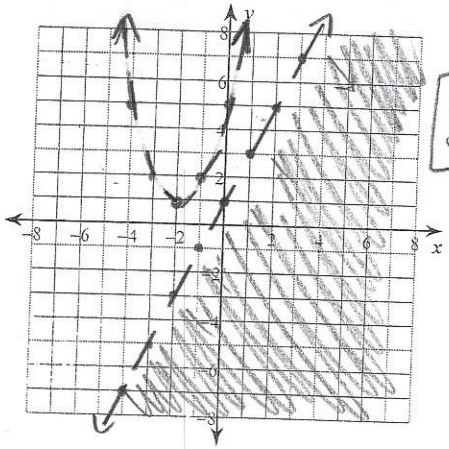
Linear - Quadratic Inequalities

Date _____ Hour ____

Solve each inequality by graphing.
Then determine if the (3,4) is a solution for each system.

1) $y < 2x + 1$ $0 < 1$

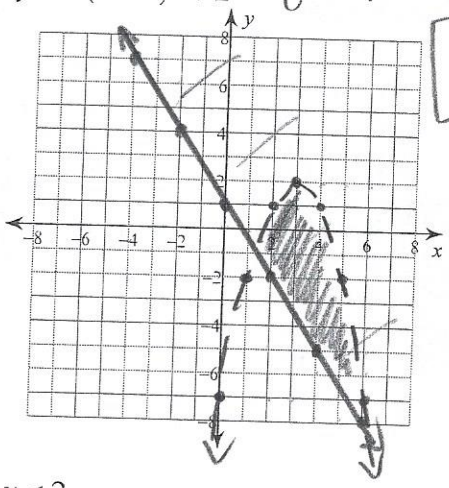
$y < (x+2)^2 + 1$ $(-2,1)$ $0 < 5$



Yes

2) $y \geq -\frac{3}{2}x + 1$ $0 \geq 1$

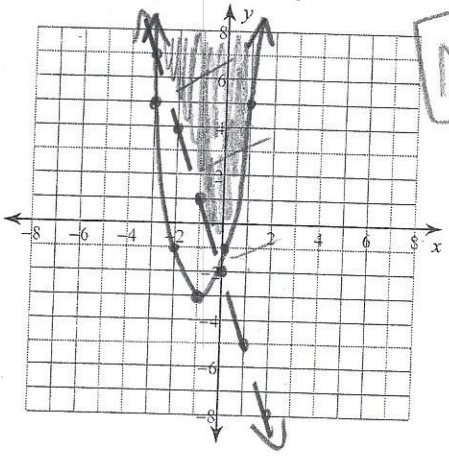
$y < -(x-3)^2 + 2$ $0 < -7$



NO

3) $y > -3x - 2$ $0 > -2$

$y \geq 2(x+1)^2 - 3$ $0 \geq -1$



NO

4) $y < 2$

$y > -x^2 + 6x - 4$ $0 > -4$

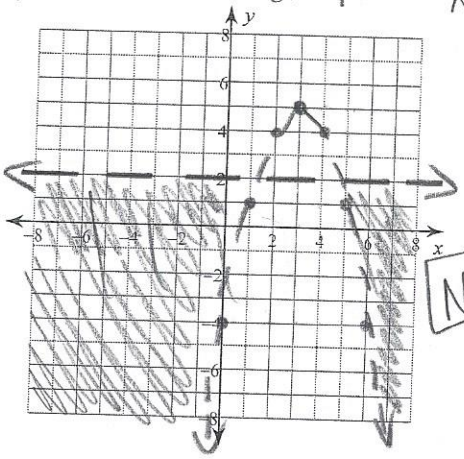
$x = \frac{-6}{2(-1)} = \frac{-6}{-2} = 3$

$x = 3$

$-(3)^2 + 6(3) - 4$

$-9 + 18 - 4 = 5$

$(3,5)$



NO

5) $y < -x$ $1 < -1$

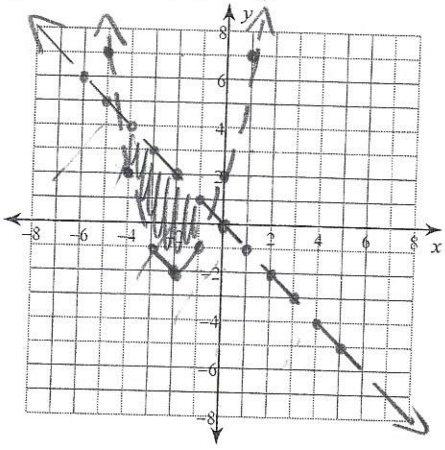
$y > x^2 + 4x + 2$ $0 > 2$

$x = \frac{-4}{2(1)} = \frac{-4}{2} = -2$

$(-2)^2 + 4(-2) + 2$

$4 - 8 + 2 = -2$

$(-2,-2)$



NO

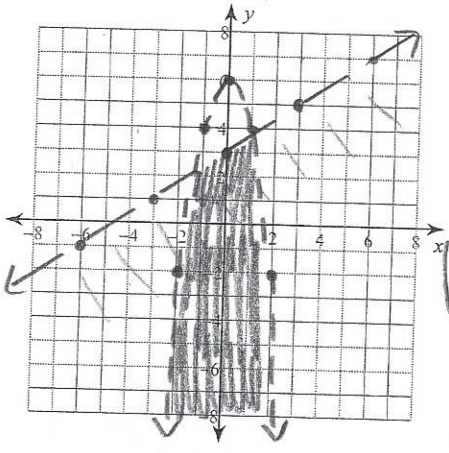
6) $y < \frac{2}{3}x + 3$ $0 < 3$

$y < -2x^2 + 6$ $0 < 6$

$x = \frac{0}{2(-2)} = 0$

$-2(0)^2 + 6$

$y = 6$ $(0,6)$



NO