

Name: Key

Date: _____

Graphing Systems of Inequalities Homework

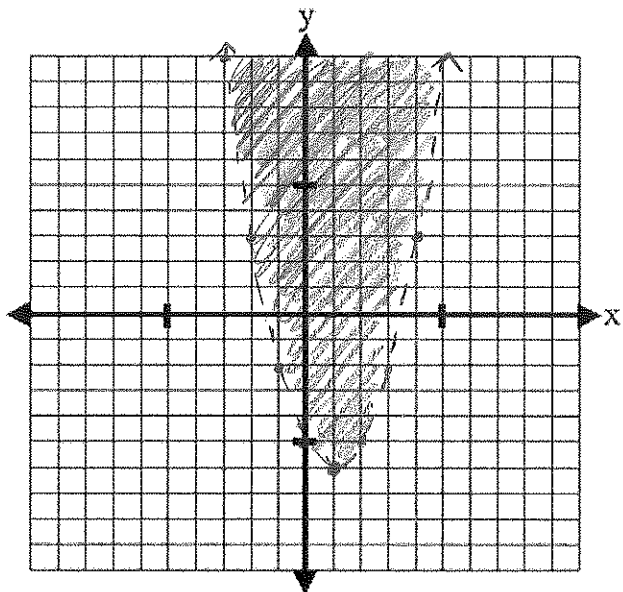
Graph each of the following systems of equations.

1. $y > x^2 - 2x - 3$

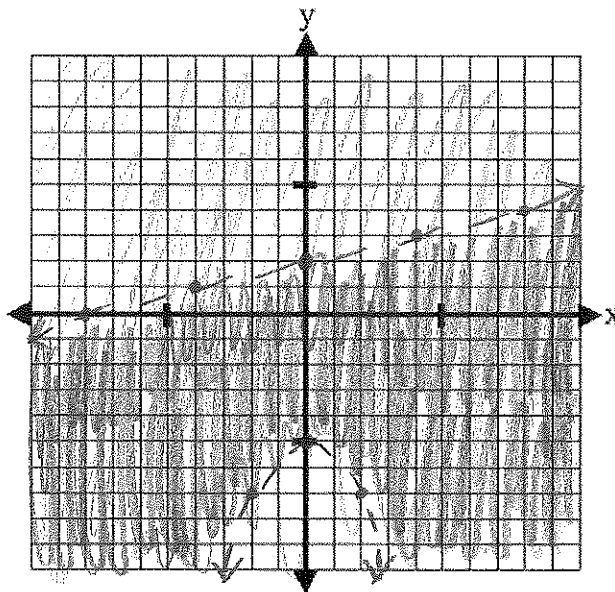
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = 1$$

$$y = (1)^2 - 2(1) - 3 = 1 - 2 - 3 = -6$$

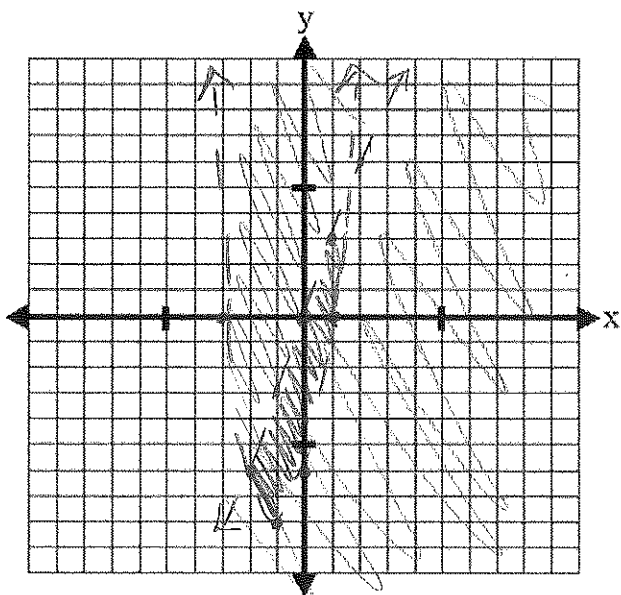
Test: (0,0)
 $0 > -3$ ✓



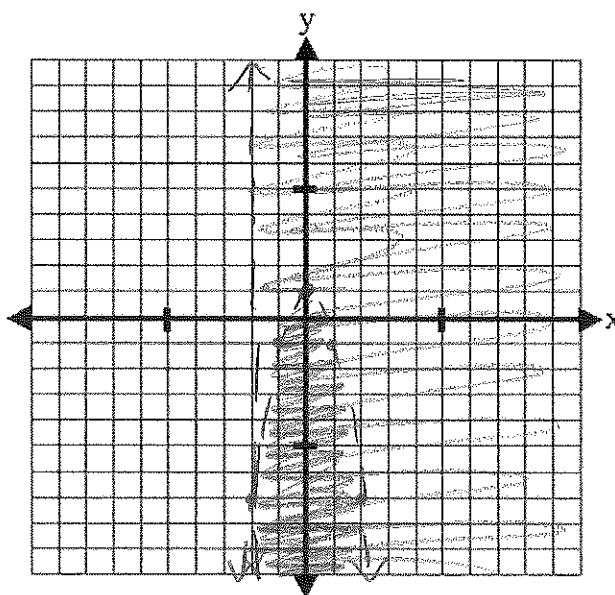
2. $y > -\frac{1}{2}x^2 - 5$ Test: (0,0) $0 > -5$ ✓
 $y < \frac{1}{4}x + 2$ Test: (0,0) $0 < 2$ ✓



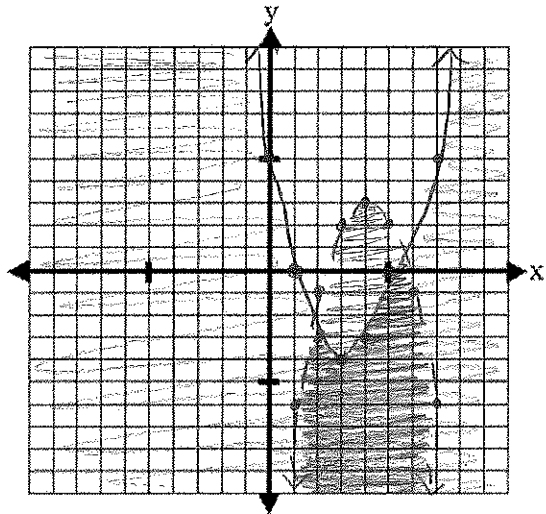
3. $y > 2x^2 + 4x - 6$ Test: (0,0) $0 > -6$ ✓
 $y < 3x$ Test: (1,0) $0 < 3$ ✓



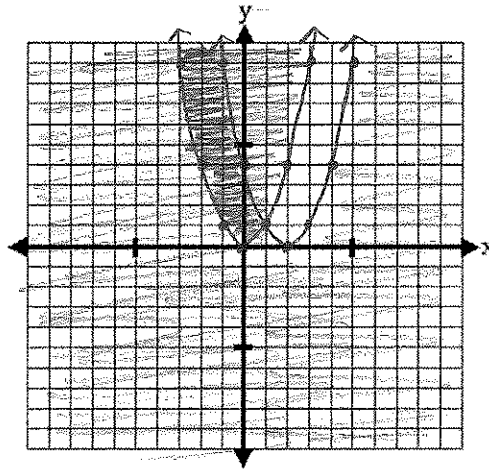
4. $y < -2x^2 + 1$ Test: (0,0) $0 < 1$ ✓
 $x > -2$



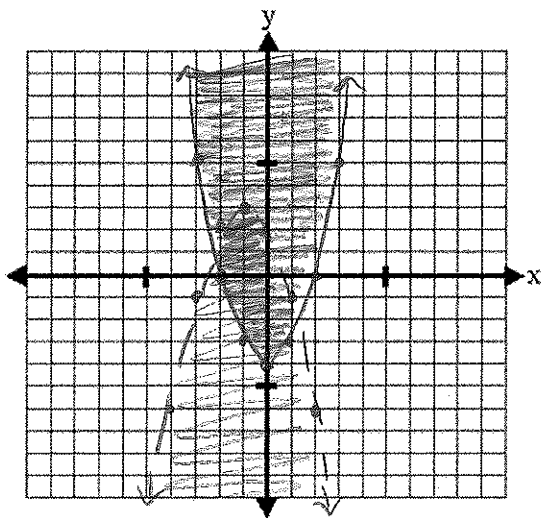
5. $y < -(x-4)^2 + 3$ Test: (0,0) $0 < -13 \times$
 $y \leq (x-3)^2 - 4$ Test: (0,0) $0 \leq 5 \checkmark$



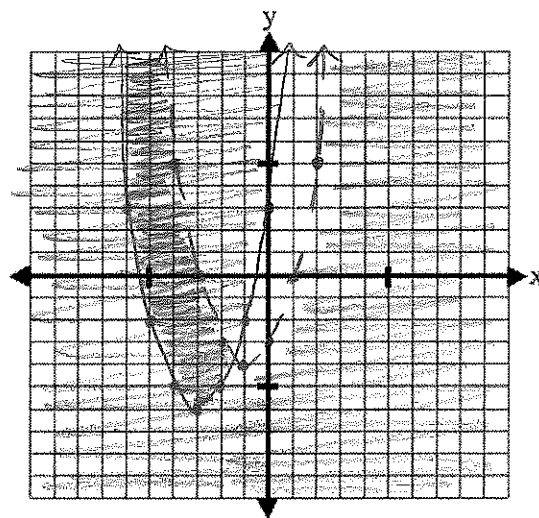
6. $y \geq x^2$
 $y \leq x^2 - 4x + 4$ Test: (0,0) $0 \leq 4 \checkmark$



7. $y \geq x^2 - 4$ Test: (0,0) $0 \geq -4 \checkmark$
 $y < -x^2 - 2x + 2$ Test: (0,0) $0 < 2 \checkmark$



8. $y \geq (x+3)^2 - 6$ Test: (0,0) $0 \geq 3 \times$
 $y > (x+1)^2 - 4$ Test: (0,0) $0 > -3 \checkmark$



9. Two equations have been graphed for you, correctly shade the graph and answer the following questions.

$$x^2 + y^2 \geq 16$$

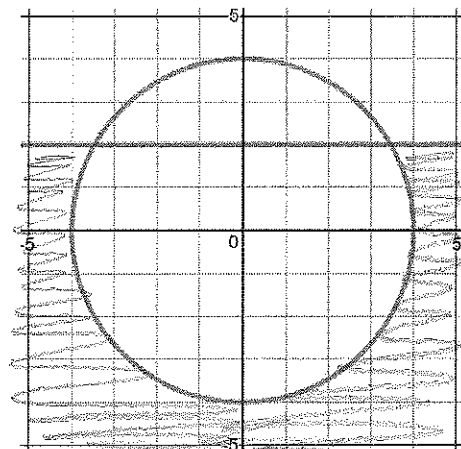
$$y \leq 2$$

a. Give an example of a coordinate that is a solution for this system. How do you know?

(0, -5) Shaded

b. Give an example of a coordinate is NOT a solution for this system. How do you know?

(0,0) Not Shaded



*Answers may vary