

Honors Algebra 2
Solving Non-Linear Systems Homework

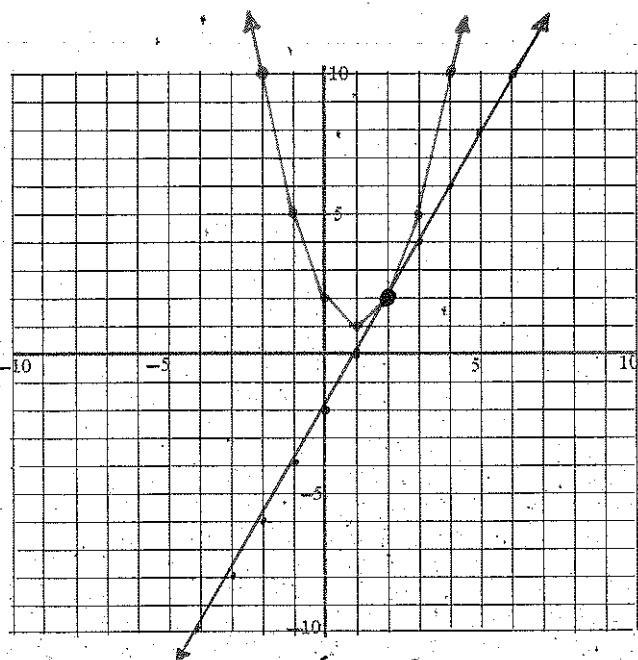
Name: Key
Date: _____ Period: _____

Graphically.

Algebraically.

1A.) $y = x^2 - 2x + 2$
 $y - 2x = -2 \rightarrow y = 2x - 2$

1B.) $y = x^2 - 2x + 2$
 $y - 2x = -2 \rightarrow y = 2x - 2$



$$x^2 - 2x + 2 = 2x - 2$$

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

$$(x - 2)(x - 2) = 0$$

$$x = 2$$

$$y = 2x - 2$$

$$y = 2(2) - 2$$

$$y = 4 - 2$$

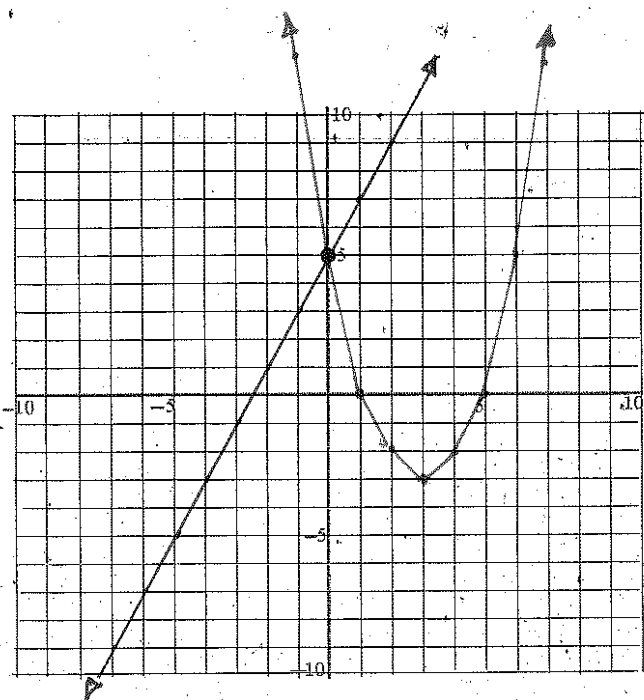
$$y = 2$$

Solution(s): (2, 2)

Solution(s): (2, 2)

2A.) $y - 2x = 5 \rightarrow y = 2x + 5$
 $y = (x - 3)^2 - 4$

2B.) $y - 2x = 5 \rightarrow y = 2x + 5$
 $y = (x - 3)^2 - 4$



$$(x - 3)^2 - 4 = 2x + 5$$

$$(x - 3)(x - 3) - 4 = 2x + 5$$

$$x^2 - 3x - 3x + 9 - 4 = 2x + 5$$

$$x^2 - 6x + 5 = 2x + 5$$

$$x^2 - 8x = 0$$

$$x(x - 8) = 0$$

$$x = 0 \text{ AND } x - 8 = 0$$

$$x = 8$$

$$y = 2x + 5$$

$$y = 2(0) + 5$$

$$y = 0 + 5$$

$$y = 5$$

$$y = 2x + 5$$

$$y = 2(8) + 5$$

$$y = 16 + 5$$

$$y = 21$$

Solution(s): (0, 5) (8, 21)

Solution(s): (0, 5) AND (8, 21)