

3/12/18 Monday 1-8

Assignment #3 non-linear

3/13/18 Tuesday 9-16 Turn In

Name _____

Date _____

Wednesday 3/14/18

Advanced Algebra

Unit 6: Advanced Systems of equations Non- Linear Shades

Graph the following and find the Feasible Region

1) { y ≥ (x - 4)², y ≥ 1/2x + 2

2) { y ≤ -x² + 4, y ≤ -1x + 2

3) { y ≥ |x - 3|, y ≤ -x² + 5

4) { y ≥ x² + 8x - 4, y ≤ -|x + 4| + 3

5) { y ≥ x² - 6x + 5, y ≤ x - 4

6) { y ≥ |x + 1|, y ≤ -(x + 1)²

7) { y > (x + 1)² - 3, y < x

8) { y ≥ |x|, y ≤ -2|x| + 2

9) { y ≥ x², y ≤ |x|

10) { y > (x + 3)² + 1, y ≤ -x + 2

11) { y < -|x|, y ≥ (x - 2)²

12) { y < -|x|, y > (x - 2)²

13) { y < -|x|, y > x² - 3

14) { y > |x|, y > |x + 2|, y > |x - 2|

15) { y > x², y < -x² + 1

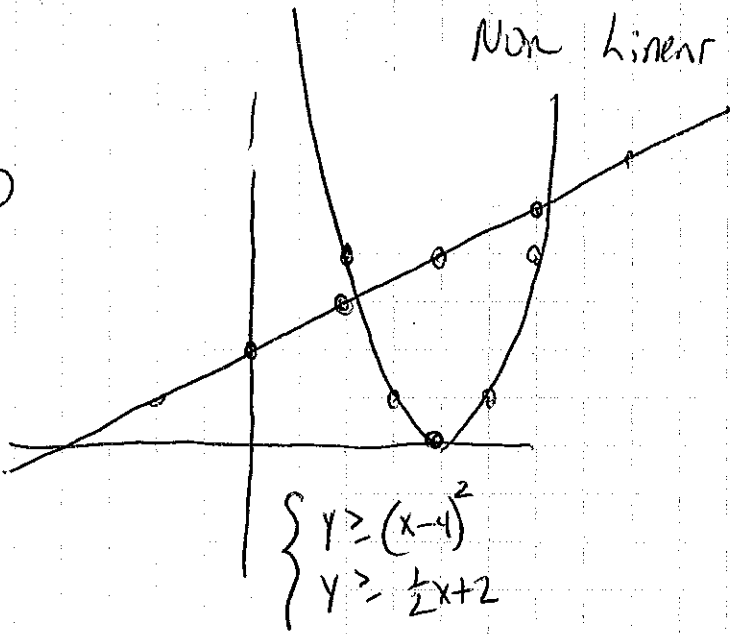
16) { y ≥ |x + 1|, y ≤ -(x + 1)² + 1

FYI Strictly less than or strictly more than IS Dashed

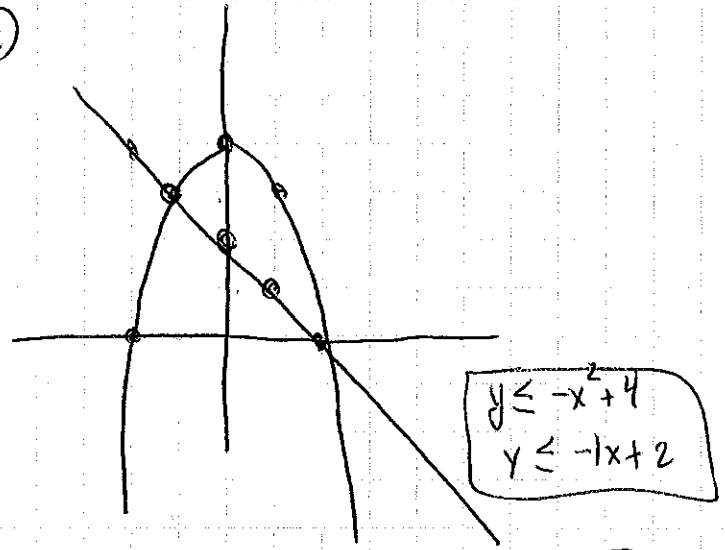
Non Linear Shades

Mr G
3/12/18

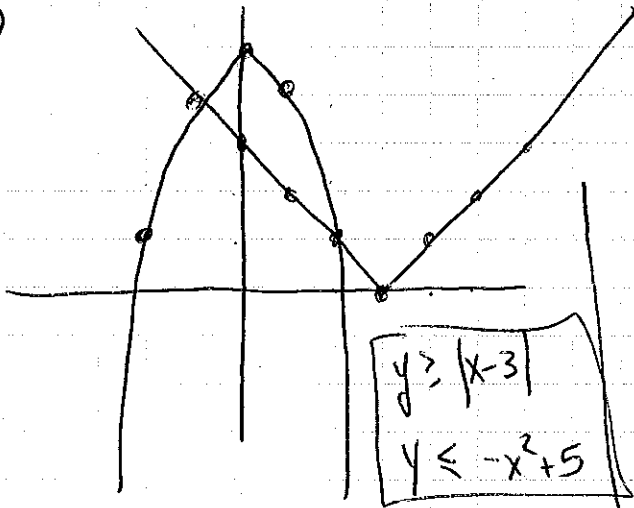
①



②



③



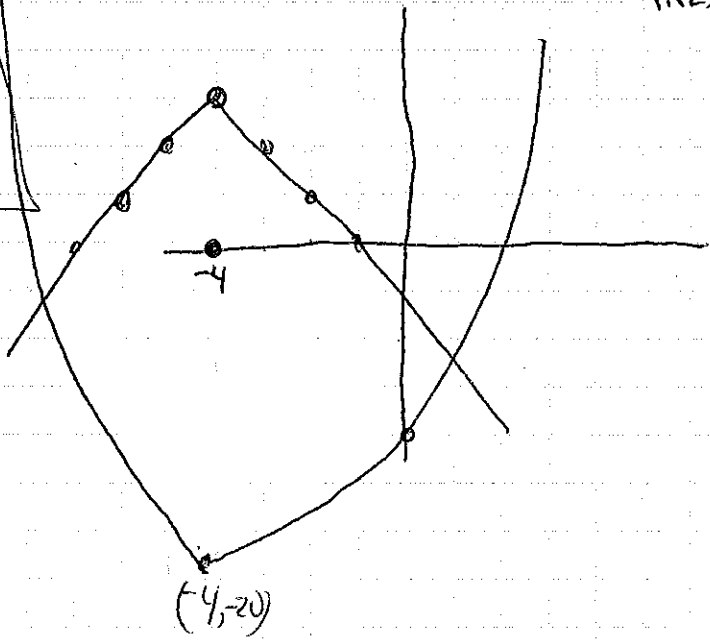
④

$y \geq x^2+8x-4$

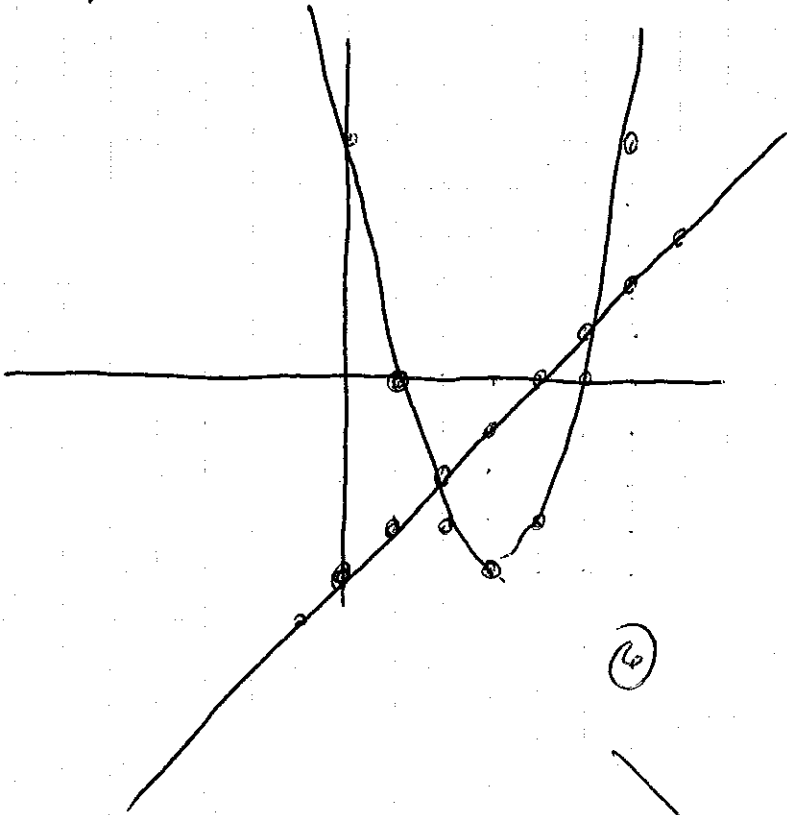
I can use $x = \frac{-b}{2a}$

$y \leq -|x+4|+3$

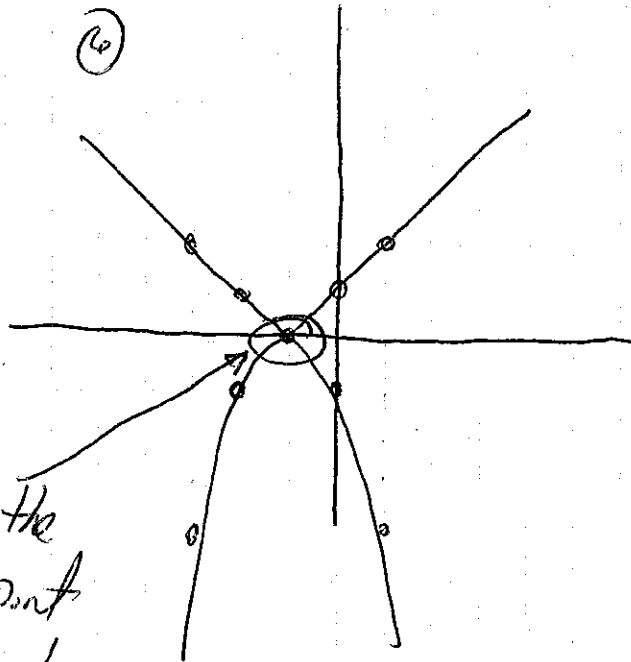
$\frac{-8}{2} = -4$
 $\text{VARS}(-4) = -20$



(5) $y \geq x^2 - 6x + 5$ $\frac{b}{a} = 3$
 $y \leq x - 4$ $\text{VARs}(3) = -4$



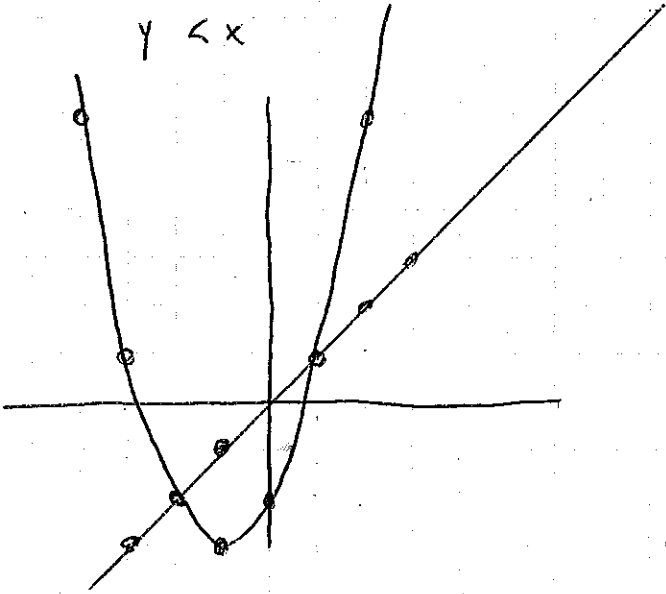
(6)



-1 is the
only point
that works
for both!

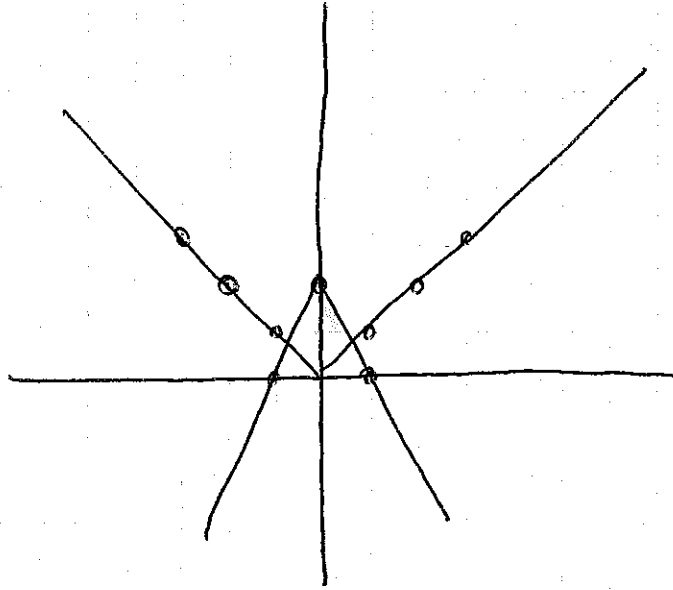
⑦ $y > (x+1)^2 - 3$

$y < x$



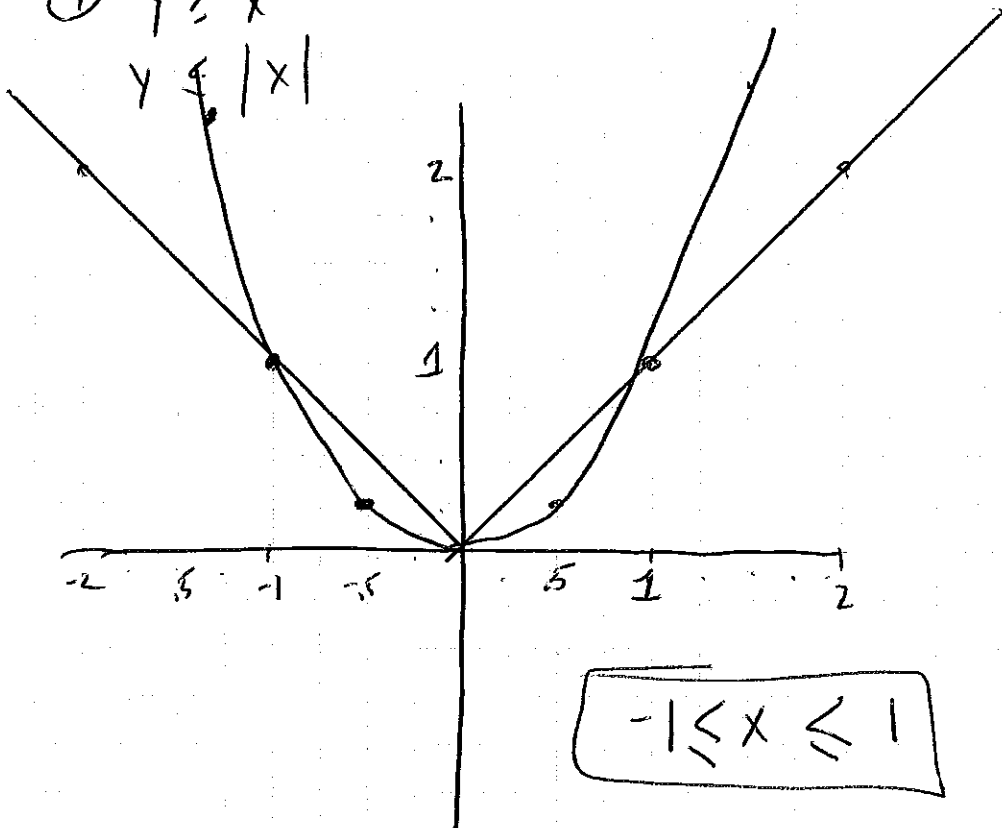
⑧ $y \geq |x|$

$y \leq -2|x| + 2$



⑨ $y \geq x^2$

$y \leq |x|$



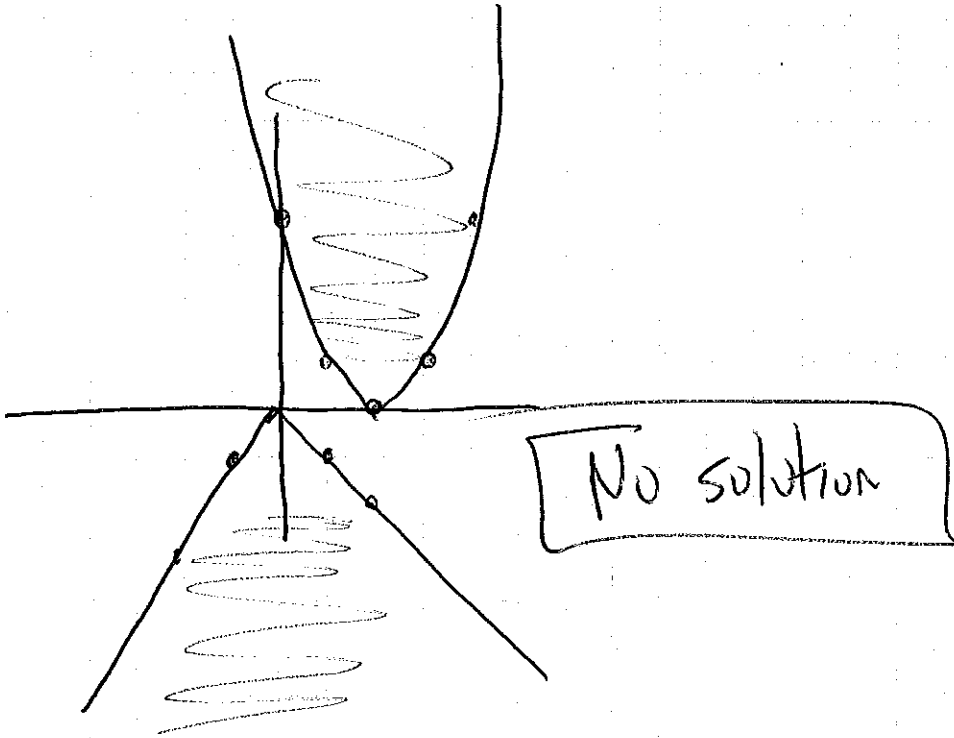
$-1 \leq x \leq 1$

(11)

$$y < -|x|$$
$$y > (x-2)^2$$

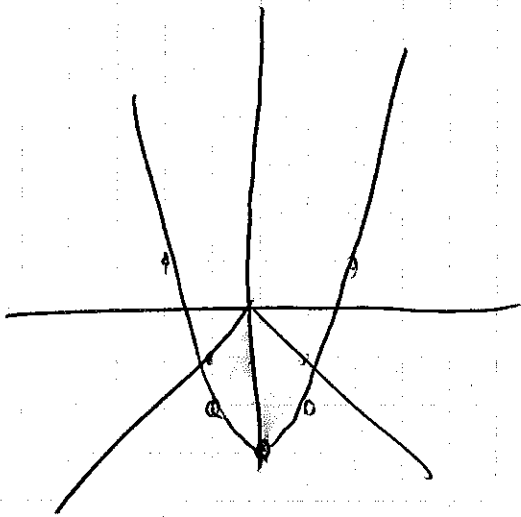
(12)

$$y < -|x|$$
$$y > (x-2)^2$$



(13)

$$y < -|x|$$
$$y > x^2 - 3$$



(14)

$$y > |x|$$
$$y > |x+2|$$
$$y > |x-2|$$

