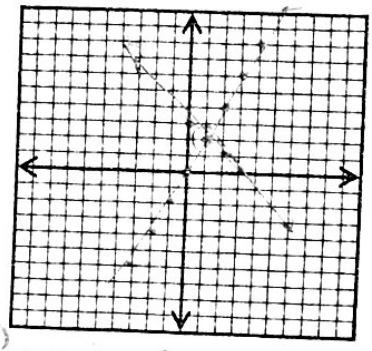
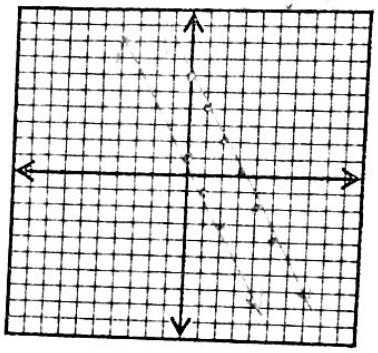
Systems of Equations Name_____

Solve each system by graphing or substitution. You must draw the graphs and label the solution or show all work.

1. $y = 2x$
$x + y = 3$ $y = -x + 3$ (1, 2)

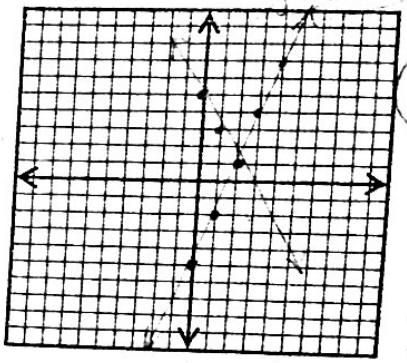


2. $2x + y = 6$ $y = -2x + 6$
$4x + 2y = -2$ $2y = -4x + 2$
$y = -2x + 1$



No soln

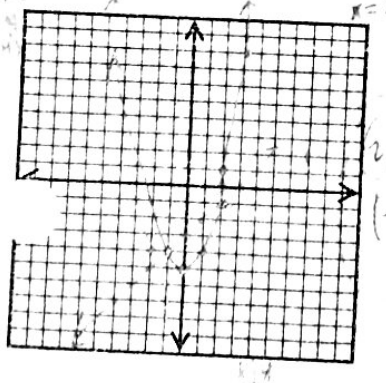
3. $4x + 2y = 10$ $2y = -4x + 10$
$3x - y = 5$ $y = -2x + 5$
$-y = -3x + 5$
$y = 3x - 5$



(2, 1)

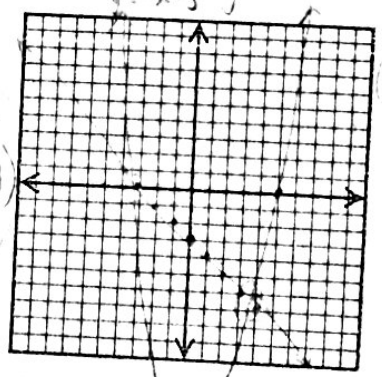
(2, 1)
$y = x^2 - 5 = 4 - 5 = -1$

4. $y = x^2 - 5$ $x^2 - 5 = x - 3$
$y = x - 3$ $x^2 - x - 2 = 0$
$(x-2)(x+1) = 0$
$x = 2, x = -1$



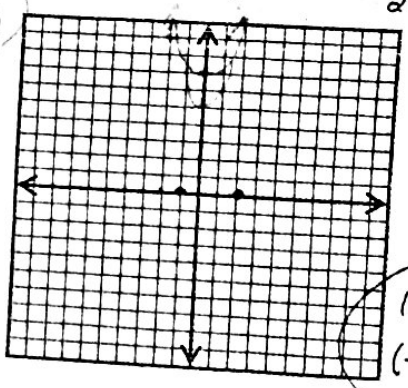
(2, -1)
(-1, -4)

5. $y = x^2 - 2x - 15$ $(x+3)(x-5)$
$x + y = -3$ $y = -x - 3$



(-3, 0)
(4, -7)

6. $2x^2 - x = y - 5$ $2x^2 - x + 5 = y$
$y - x^2 = 7$ $y = x^2 + 7$



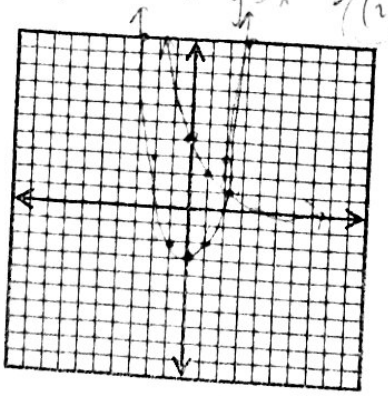
$2x^2 - x + 5 = x^2 + 7$
$x^2 - x + 5 = +7$
$x^2 - x - 2 = 0$
$(x-2)(x+1) = 0$
$x = 2 \quad x = -1$

(2, 11)
(-1, 8)

7. $y = 4\left(\frac{1}{2}\right)^x$

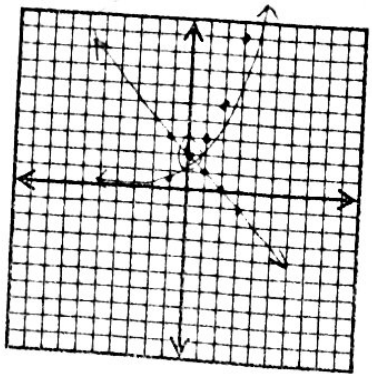
0	4
1	2
2	1

$y - x^2 = -3$ $y = x^2 - 3$ (2, 1)

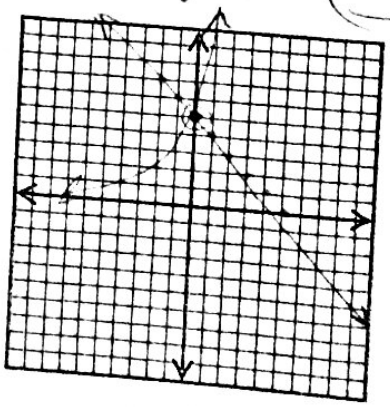


8. $y = 2^x + 1$
$y = -x + 2$ (0, 2)

x	y
0	2
1	3
2	5
3	9



9. $y = 5(3)^x$
$x + y = 5$ $y = -x + 5$ (0, 5)



(5) $x^2 - 2x - 15 = -x - 3$
$x^2 - x - 12 = 0$
$(x-4)(x+3) = 0$
$x = 4 \quad x = -3$

$2(2)^2 - 2 + 5 = y$
$8 - 2 + 5$
$6 + 5 = 11$

$2(-1)^2 - (-1) + 5$
$2 + 1 + 5$
$3 + 5 = 8$