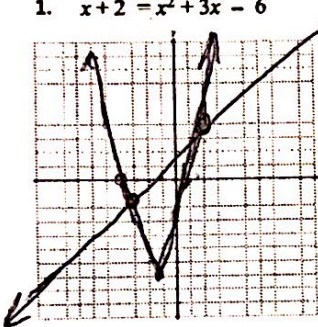


Day 7: QUADRATIC/ LINEAR SYSTEMS

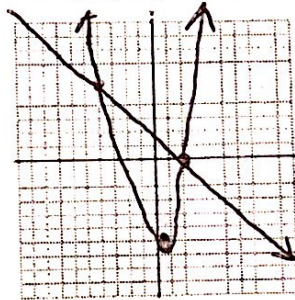
Solve each of the following equations, sketch graphs showing both the linear and quadratic function involved, and label solution points with their coordinates.

1. $x+2 = x^2+3x-6$



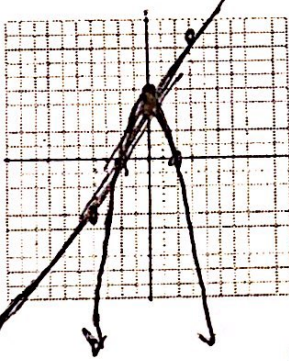
Solutions
(2, 4)
(-4, -2)

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



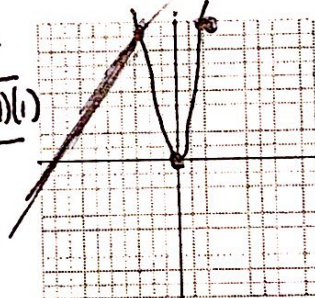
Solutions
(-4, 6)
(2, 0)

3. $2x+3 = 4-x^2$



2 solutions
 $-x^2-2x+1=0$
 $a=-1 \quad b=-2 \quad c=1$
 $x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4(-1)(1)}}{2(-1)}$
 $x = \frac{2 \pm \sqrt{8}}{-2}$
 $x = -1 \pm \sqrt{2}$

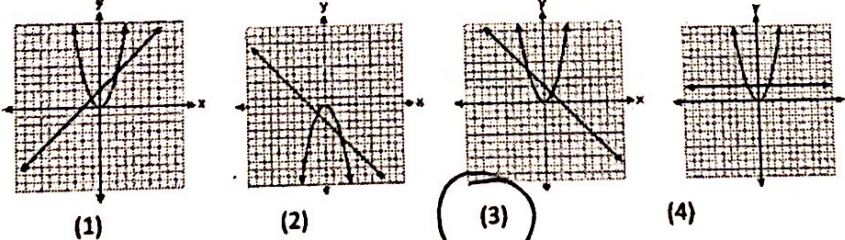
4. $2x^2-x = 3x+16$



Solution
(-2, 10)
(4, 28)
Graph or algebraically
FOR ALL

5. Which graph could be used to find the solution to the following system of equations?

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



#3

Solution
 $(-1 + 2\sqrt{2}, 1 + 4\sqrt{2})$ $(-1 - 2\sqrt{2}, 1 - 4\sqrt{2})$
↑ plug into original equation to get this

Directions: Sketch each to its solution on the right

1. $y \leq x$
2. $y < 2$
3. $y > -$
4. $y \leq -$
5. $y < 3$
6. $y < -$
7. $y \geq -$
8. $y \geq 2$

Sketch your para

