Name: _____

A.REI.C.7: Quadratic-Linear Systems 1b

1 Given the system of equations: $y = x^2 - 4x$

$x = 4$

The number of points of intersection is

2 When the system of equations $y + 2x = x^2$ and $y = x$ is graphed on a set of axes, what is the total number of points of intersection?

3 How many solutions are there for the following system of equations?

$y = x^2 - 5x + 3$

$y = x - 6$

4 Given: $y = \frac{1}{4}x - 3$

$y = x^2 + 8x + 12$

In which quadrant will the graphs of the given equations intersect?

5 The solution of the system of equations $y = x^2 - 2$ and $y = x$ is

6 What is the solution set of the system of equations $x + y = 5$ and $y = x^2 - 25$?

7 What is the solution of the system of equations $y - x = 5$ and $y = x^2 + 5$?

8 Which ordered pair is a solution to the system of equations $y = x + 3$ and $y = x^2 - x$?

9 When solved graphically, what is the solution to the following system of equations?

$y = x^2 - 4x + 6$

$y = x + 2$

10 Which ordered pair is in the solution set of the system of equations $y = -x + 1$ and $y = x^2 + 5x + 6$?

11 Which values of x are in the solution set of the following system of equations?

$y = 3x - 6$

$y = x^2 - x - 6$

12 Which ordered pair is a solution of the system of equations $y = x^2 - x - 20$ and $y = 3x - 15$?

13 Given the equations: $y = x^2 - 6x + 10$

$y + x = 4$

What is the solution to the given system of equations?

14 The graphs of the equations $y = x^2 + 4x - 1$ and $y + 3 = x$ are drawn on the same set of axes. At which point do the graphs intersect?

15 The equations $y = 2x + 3$ and $y = -x^2 - x + 1$ are graphed on the same set of axes. The coordinates of a point in the solution of this system of equations are

16 What is the solution of the following system of equations?

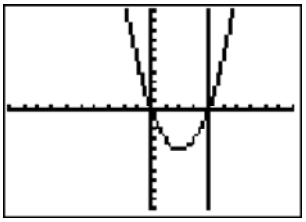
$y = (x + 3)^2 - 4$

$y = 2x + 5$

17 When the system of equations $y + 2 = (x - 4)^2$ and $2x + y - 6 = 0$ is solved graphically, the solution is

A.REI.C.7: Quadratic-Linear Systems 1b
Answer Section

1 ANS:
1



$y = x^2 - 4x = (4)^2 - 4(4) = 0$. $(4,0)$ is the only intersection.

REF: 060923ge

2 ANS:
2

$x + 2x = x^2 \qquad (0,0),(3,3)$

$0 = x^2 - 3x$

$0 = x(x-3)$

$x = 0,3$

REF: 061406ge

3 ANS:
1

$x^2 - 5x + 3 = x - 6 \quad y = 3 - 6 = -3 \quad (3,-3)$

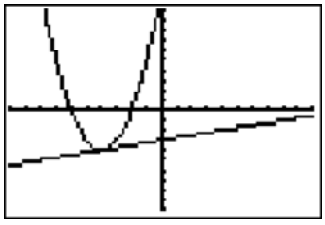
$x^2 - 6x + 9 = 0$

$(x-3)^2 = 0$

$x = 3$

REF: 061330ia

4 ANS:
III



REF: 061011ge

5 ANS:
(2,2) and (−1,−1)

$x^2 - 2 = x$

$x^2 - x - 2 = 0$

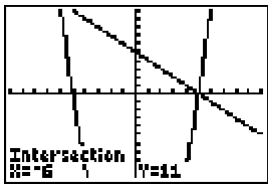
$(x-2)(x+1) = 0$

$x = 2, -1$

REF: 011409ge

6 ANS:
{(5,0),(−6,11)}

$y = -x + 5$. $-x + 5 = x^2 - 25$. $y = -(-6) + 5 = 11$.



$0 = x^2 + x - 30$ $y = -5 + 5 = 0$

$0 = (x+6)(x-5)$

$x = -6, 5$

REF: 061213ia

7 ANS:
(0,5) and (1,6)

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

$x^2 - x = 0$ $y = (1) + 5 = 6$

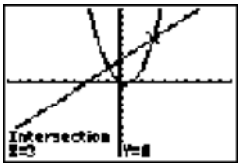
$x(x-1) = 0$

$x = 0, 1$

REF: 081406ge

8 ANS:
(3,6)

$x^2 - x = x + 3$. Since $y = x + 3$, the solutions are (3,6) and (−1,2).



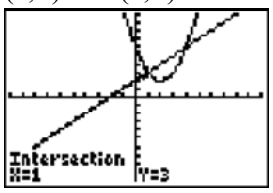
$x^2 - 2x - 3 = 0$

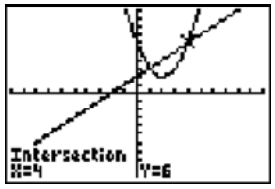
$(x-3)(x+1) = 0$

$x = 3$ or -1

REF: 061118ia

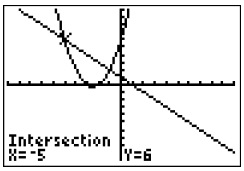
9 ANS:
(1,3) and (4,6)





REF: 081118ge

10 ANS:
(−5,6)



$x^2 + 5x + 6 = -x + 1$. $y = -x + 1$

$x^2 + 6x + 5 = 0$ $= -(-5) + 1$

$(x + 5)(x + 1) = 0$ $= 6$

$x = -5$ or -1

REF: 080812ia

11 ANS:
0, 4

$x^2 - x - 6 = 3x - 6$

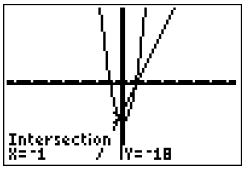
$x^2 - 4x = 0$

$x(x - 4) = 0$

$x = 0, 4$

REF: 081015a2

12 ANS:
(−1,−18)



$x^2 - x - 20 = 3x - 15$. $y = 3x - 15$.

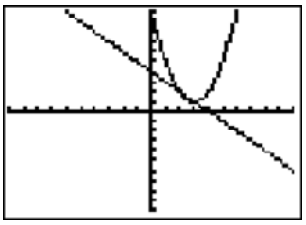
$x^2 - 4x - 6 = 0$ $= 3(-1) - 15$

$(x = 5)(x + 1) = 0$ $= -18$

$x = 5$ or -1

REF: 010922ia

13 ANS:
(2,2) and (3,1)



$y + x = 4$. $x^2 - 6x + 10 = -x + 4$. $y + x = 4$. $y + 2 = 4$

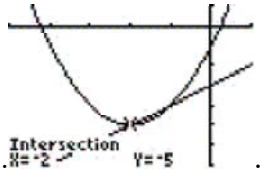
$y = -x + 4$ $x^2 - 5x + 6 = 0$ $y + 3 = 4$ $y = 2$

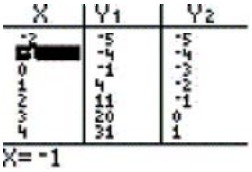
$(x - 3)(x - 2) = 0$ $y = 1$

$x = 3$ or 2

REF: 080912ge

14 ANS:
(–2,–5)





$y + 3 = x$. $x - 3 = x^2 + 4x - 1$. $y + 3 = x$

$y = x - 3$ $x^2 + 3x + 2 = 0$

$(x + 2)(x + 1) = 0$

$x = -2$ $x = -1$ $y = -2 - 3$

$y = -5$

REF: 060018a

15 ANS:
(–2,–1)

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

$x^2 + 3x + 2 = 0$

$(x + 2)(x + 1) = 0$

$x = -2, -1$

REF: 081516ge

16 ANS:
(–4,–3) and (0,5)

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

$x^2 + 6x + 9 - 4 = 2x + 5$

$x^2 + 4x = 0$

$x(x + 4) = 0$

$x = 0, -4$

REF: 081004ge

17 ANS:
$(4,-2)$ and $(2,2)$

$(x-4)^2-2=-2x+6.$ $y=-2(4)+6=-2$

$x^2-8x+16-2=-2x+6$ $y=-2(2)+6=2$

$x^2-6x+8=0$

$(x-4)(x-2)=0$

$x=4,2$

REF: 081319ge