

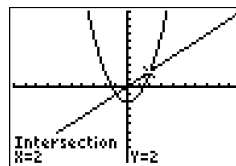
A.A.11: Quadratic-Linear Systems: Solve a system of one linear and one quadratic equation in two variables, where only factoring is required

- 1 Which ordered pair is a solution to the system of equations $y = x$ and $y = x^2 - 2$?
 - 1) $(-2, -2)$
 - 2) $(-1, 1)$
 - 3) $(0, 0)$
 - 4) $(2, 2)$
- 2 Which ordered pair is a solution to the system of equations $y = x + 3$ and $y = x^2 - x$?
 - 1) $(6, 9)$
 - 2) $(3, 6)$
 - 3) $(3, -1)$
 - 4) $(2, 5)$
- 3 Which ordered pair is in the solution set of the system of equations $y = -x + 1$ and $y = x^2 + 5x + 6$?
 - 1) $(-5, -1)$
 - 2) $(-5, 6)$
 - 3) $(5, -4)$
 - 4) $(5, 2)$
- 4 Which ordered pair is a solution of the system of equations $y = x^2 - x - 20$ and $y = 3x - 15$?
 - 1) $(-5, -30)$
 - 2) $(-1, -18)$
 - 3) $(0, 5)$
 - 4) $(5, -1)$
- 5 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?
 - 1) $(1, 4)$
 - 2) $(1, -2)$
 - 3) $(-2, 1)$
 - 4) $(-2, -5)$
- 6 What is the solution set of the system of equations $x + y = 5$ and $y = x^2 - 25$?
 - 1) $\{(0, 5), (11, -6)\}$
 - 2) $\{(5, 0), (-6, 11)\}$
 - 3) $\{(-5, 0), (6, 11)\}$
 - 4) $\{(-5, 10), (6, -1)\}$
- 7 Solve the following system of equations algebraically: $y = x^2 + 5x - 17$
$$y = x - 5$$
- 8 Solve the following system of equations algebraically.
$$y = x^2 + 4x - 2$$
$$y = 2x + 1$$
- 9 Solve the following system of equations algebraically for *all* values of x and y .
$$y = x^2 + 2x - 8$$
$$y = 2x + 1$$
- 10 Solve the following system of equations algebraically for all values of x and y .
$$y = x^2 + 2x - 8$$
$$y = 2x + 1$$
- 11 Solve the following system of equations algebraically: $y = x^2 - 6x + 9$
$$y = -9x + 19$$

A.A.11: Quadratic-Linear Systems: Solve a system of one linear and one quadratic equation in two variables, where only factoring is required

Answer Section

1 ANS: 4



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

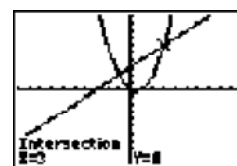
$$x^2 - x - 2 = 0$$

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

$$x = 2 \text{ or } -1$$

REF: 060810ia

2 ANS: 2



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

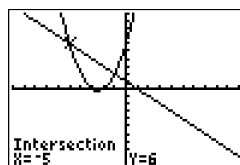
$$x^2 - 2x - 3 = 0$$

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

$$x = 3 \text{ or } -1$$

REF: 061118ia

3 ANS: 2



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

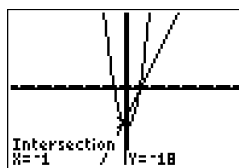
$$x^2 + 6x + 5 = 0 \quad = -(-5) + 1$$

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

$$x = -5 \text{ or } -1$$

REF: 080812ia

4 ANS: 2



$$x^2 - x - 20 = 3x - 15 \quad y = 3x - 15$$

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

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

$$x = 5 \text{ or } -1$$

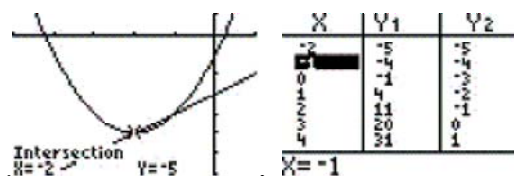
REF: 010922ia

5 ANS: 4

$$\begin{aligned} x - 3 &= x^2 + 4x - 1 \\ y + 3 &= x \\ y &= x - 3 \end{aligned}$$

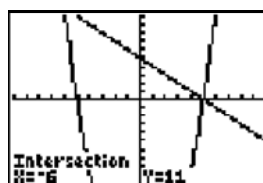
$$\begin{aligned} x^2 + 3x + 2 &= 0 \\ (x + 2)(x + 1) &= 0 \\ x &= -2 \quad x = -1 \end{aligned}$$

$$\begin{aligned} y + 3 &= x \\ y &= -2 - 3 \\ y &= -5 \end{aligned}$$



REF: 060018a

6 ANS: 2



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

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

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

$$x = -6, 5$$

REF: 061213ia

7 ANS:

$$x^2 + 5x - 17 = x - 5 \quad y = -6 - 5 = -11 \quad (-6, -11), (2, -3)$$

$$x^2 + 4x - 12 = 0 \quad y = 2 - 5 = -3$$

$$(x + 6)(x - 2) = 0$$

$$x = -6, 2$$

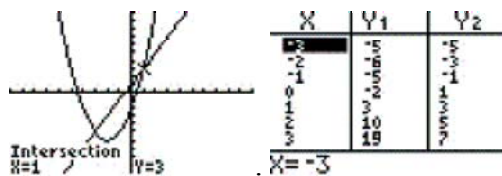
REF: 011538ia

8 ANS:

$$\begin{aligned}
 x^2 + 4x - 2 &= 2x + 1 \\
 x^2 + 2x - 3 &= 0 \\
 (x+3)(x-1) &= 0 \\
 x = -3 \quad x = 1
 \end{aligned}$$

$(-3, -5), (1, 3)$.

$$\begin{aligned}
 y &= 2(-3) + 1 = -5 \\
 &= 2(1) + 1 = 3
 \end{aligned}$$



REF: 080135a

9 ANS:

$$\begin{aligned}
 (-3, -5), (3, 7). \quad x^2 + 2x - 8 &= 2x + 1. \quad y = 2(3) + 1 = 7 \\
 x^2 - 9 &= 0 \quad y = 2(-3) + 1 = -5 \\
 x &= \pm 3
 \end{aligned}$$

REF: 081236ia

10 ANS:

$$\begin{aligned}
 (-3, -5), (3, 7). \quad x^2 + 2x - 8 &= 2x + 1. \quad y = 2(3) + 1 = 7 \\
 x^2 - 9 &= 0 \quad y = 2(-3) + 1 = -5 \\
 x &= \pm 3
 \end{aligned}$$

REF: 061434ia

11 ANS:

$$\begin{aligned}
 x^2 - 6x + 9 &= -9x + 19 \quad y = -9(-5) + 19 = 64 \quad (-5, 64) \text{ and } (2, 1) \\
 x^2 + 3x - 10 &= 0 \quad y = -9(2) + 19 = 1 \\
 (x+5)(x-2) &= 0 \\
 x &= -5, 2
 \end{aligned}$$

REF: 081439ia