

Systems of Equations: Linear and Quadratic

Date _____ Block _____

Solve each system of equations.

$$1) \begin{cases} y = \frac{1}{22}x^2 - \frac{1}{66}x + \frac{118}{66} \\ y = -\frac{1}{3}x + \frac{4}{3} \end{cases}$$

$$2) \begin{cases} y = \frac{2}{3}x^2 + \frac{23}{3}x + 11 \\ y = 3x + 3 \end{cases}$$

$$3) \begin{cases} y = \frac{3}{8}x^2 + \frac{1}{8}x + \frac{17}{2} \\ x + y = -1 \end{cases}$$

$$4) \begin{cases} y = x^2 + 5x - 3 \\ x - y = 3 \end{cases}$$

$$5) \begin{cases} y = \frac{1}{18}x^2 - \frac{1}{9}x - \frac{17}{18} \\ x + 3y = -2 \end{cases}$$

$$6) \begin{cases} y = -x^2 - \frac{7}{2}x - 3 \\ 2y = x + 2 \end{cases}$$

$$7) \begin{cases} y = -2x^2 + 33x - 130 \\ y = x - 2 \end{cases}$$

$$8) \begin{cases} y = -x^2 + 8x - 6 \\ -3x + y + 2 = 0 \end{cases}$$

$$9) \begin{cases} y = \frac{3}{2}x^2 - 9x + 6 \\ y = -3x \end{cases}$$

$$10) \begin{cases} y = x^2 + \frac{5}{3}x + \frac{2}{3} \\ y = -\frac{1}{3}x - \frac{1}{3} \end{cases}$$

$$11) \begin{cases} y = x^2 + x + 31 \\ 3x + y + 4 = 0 \end{cases}$$

$$12) \begin{cases} y = -\frac{2}{3}x^2 + \frac{20}{3}x - 6 \\ y = 2x + 2 \end{cases}$$

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Solve each system of equations.

1) $y = \frac{1}{22}x^2 - \frac{1}{66}x + \frac{118}{66}$

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

$(-5, 3), (-2, 2)$

2) $y = \frac{2}{3}x^2 + \frac{23}{3}x + 11$

$y = 3x + 3$

$(-3, -6), (-4, -9)$

3) $y = \frac{3}{8}x^2 + \frac{1}{8}x + \frac{17}{2}$

$x + y = -1$

No solution.

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

$x - y = 3$

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

5) $y = \frac{1}{18}x^2 - \frac{1}{9}x - \frac{17}{18}$

$x + 3y = -2$

$(1, -1), (-5, 1)$

6) $y = -x^2 - \frac{7}{2}x - 3$

$2y = x + 2$

$(-2, 0)$

7) $y = -2x^2 + 33x - 130$

$y = x - 2$

$(8, 6)$

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

$-3x + y + 2 = 0$

$(4, 10), (1, 1)$

9) $y = \frac{3}{2}x^2 - 9x + 6$

$y = -3x$

$(2, -6)$

10) $y = x^2 + \frac{5}{3}x + \frac{2}{3}$

$y = -\frac{1}{3}x - \frac{1}{3}$

$(-1, 0)$

11) $y = x^2 + x + 31$

$3x + y + 4 = 0$

No solution.

12) $y = -\frac{2}{3}x^2 + \frac{20}{3}x - 6$

$y = 2x + 2$

$(4, 10), (3, 8)$