

Intermediate Algebra Skill
Solving Other Nonlinear Systems

$$1) \begin{cases} 2y^2 + xy + x^2 = 7 \\ x - 2y = 5 \end{cases}$$

$$2) \begin{cases} 2y^2 + xy = 5 \\ 4y + x = 7 \end{cases}$$

$$3) \begin{cases} p + q = -6 \\ pq = -7 \end{cases}$$

$$4) \begin{cases} xy = 4 \\ x + y = 5 \end{cases}$$

$$5) \begin{cases} x^2 + y^2 = 25 \\ xy = 12 \end{cases}$$

$$6) \begin{cases} x^2 + y^2 = 5 \\ xy = 2 \end{cases}$$

$$7) \begin{cases} x^2 + y^2 = 13 \\ xy = 6 \end{cases}$$

$$8) \begin{cases} 3xy + x^2 = 34 \\ 2xy - 3x^2 = 8 \end{cases}$$

$$9) \begin{cases} xy - y^2 = 2 \\ 2xy - 3y^2 = 0 \end{cases}$$

$$10) \begin{cases} \frac{1}{x} + \frac{1}{y} = 0 \\ \frac{2}{x} + \frac{3}{y} = -1 \end{cases}$$

$$11) \begin{cases} \frac{1}{x} - \frac{1}{y} = -2 \\ \frac{3}{x} + \frac{5}{y} = 2 \end{cases}$$

$$12) \begin{cases} \frac{2}{x} + \frac{2}{y} = -1 \\ \frac{2}{x} - \frac{1}{y} = 2 \end{cases}$$

$$13) \begin{cases} \frac{3}{x} - \frac{2}{y} = -2 \\ -\frac{2}{x} - \frac{2}{y} = 3 \end{cases}$$

$$14) \begin{cases} \frac{4}{x} + \frac{3}{y} = -1 \\ \frac{3}{x} + \frac{4}{y} = -6 \end{cases}$$

Answers to Solving Other Nonlinear Systems

1) $\left(\frac{11}{4}, -\frac{9}{8}\right), (1, -2)$

2) $\left(-3, \frac{5}{2}\right), (3, 1)$

3) $(1, -7), (-7, 1)$

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

5) $(-4, -3), (-3, -4), (3, 4), (4, 3)$

6) $(-2, -1), (-1, -2), (1, 2), (2, 1)$

7) $(-3, -2), (-2, -3), (2, 3), (3, 2)$

8) $(2, 5), (-2, -5)$

9) $(3, 2), (-3, -2)$

10) $(1, -1)$

11) $(-1, 1)$

12) $(2, -1)$

13) $(-1, -2)$

14) $\left(\frac{1}{2}, \frac{-1}{3}\right)$