

# Unit 5 - Day 10 Elimination Homework

Directions: Solve the linear systems by elimination. Show all of your work!

1.  $x + 3y = 6$

$+ \quad x - 3y = 12$

$$\frac{2x = 18}{2 \quad 2}$$

$$\boxed{x = 9}$$

$$9 + 3y = 6$$

$$\frac{3y = -3}{3 \quad 3}$$

$$\boxed{y = -1}$$

$$\boxed{(-1, 9)}$$

2.  $x + y = 4$

$+ \quad x - y = -10$

$$\frac{2x = -6}{2 \quad 2}$$

$$\boxed{x = -3}$$

Name:

$$-3 + y = 4$$

$$\boxed{y = 7}$$

$$\boxed{-3, 7}$$

Flip to the back for more ☺

# Unit 5 - Day 10 Elimination Homework

Directions: Solve the linear systems by elimination. Show all of your work!

1.  $x + 3y = 6$

$x - 3y = 12$

2.  $x + y = 4$

$x - y = -10$

Name:

Flip to the back for more ☺

$$3. \begin{cases} 2x + y = 4 \\ x - y = 2 \end{cases}$$

$$\begin{array}{r} 2x + y = 4 \\ + \\ x - y = 2 \\ \hline \end{array}$$

$$\frac{3x = 6}{\frac{3}{3} \quad \frac{3}{3}}$$

$$\boxed{x = 2}$$

$$\begin{array}{r} 2 - y = 2 \\ -2 \quad -2 \\ \hline \end{array}$$

$$\frac{-y = 0}{-1 \quad -1}$$

$$\boxed{y = 0}$$

$$\boxed{(2, 0)}$$

$$5. \begin{cases} x - y = 0 \\ -3x - y = 2 \end{cases}$$

$$-3x - y = 2$$

$$-\frac{1}{2} - y = 0$$

$$\frac{-y = \frac{1}{2}}{\frac{-1}{-1} \quad \frac{1}{-1}}$$

$$\boxed{y = -\frac{1}{2}}$$

$$\Rightarrow \begin{array}{r} -x + y = 0 \\ + \\ -3x - y = 2 \\ \hline \end{array}$$

$$-4x = 2$$

$$\frac{-4x = 2}{-4 \quad -4}$$

$$\boxed{x = -\frac{1}{2}}$$

$$\boxed{(-\frac{1}{2}, -\frac{1}{2})}$$

$$3. 2x + y = 4$$

$$x - y = 2$$

$$5. x - y = 0$$

$$-3x - y = 2$$

$$4. \begin{cases} x + 3y = 3 \\ x + 6y = 3 \end{cases}$$

$$x + 6y = 3$$

$$x + 6(0) = 3$$

$$\boxed{x = 3}$$

$$\boxed{(3, 0)}$$

$$\Rightarrow \begin{array}{r} -x - 3y = -3 \\ + \\ x + 6y = 3 \\ \hline \end{array}$$

$$3y = 0$$

$$\frac{3y = 0}{\frac{3}{3} \quad \frac{3}{3}}$$

$$\boxed{y = 0}$$

$$6. \begin{cases} 2p - q = 2 \\ 2p + 3q = 22 \end{cases}$$

$$2p + 3q = 22$$

$$2p - 5 = 2$$

$$\frac{2p = 7}{\frac{2}{2} \quad \frac{7}{2}}$$

$$\boxed{p = \frac{7}{2}}$$

$$\Rightarrow \begin{array}{r} -2p + q = -2 \\ + \\ 2p + 3q = 22 \\ \hline \end{array}$$

$$4q = 20$$

$$\frac{4q = 20}{\frac{4}{4} \quad \frac{20}{4}}$$

$$\boxed{q = 5}$$

$$\boxed{(\frac{7}{2}, 5)}$$

$$4. x + 3y = 3$$

$$x + 6y = 3$$

$$6. 2p - q = 2$$

$$2p + 3q = 22$$