

The Eliminator!



Using what you learned in the Sewer Gator activity, solve the following systems of equations by the *elimination* method.

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

1st:

1. Can I add or subtract the two equations to eliminate a variable?

_____ new equation

2nd:

2. Solve for the remaining variable.

3rd:

3. Solve for the eliminated variable by substituting the known variable value into either of the original equations.

$$4^{\text{th}}: \begin{array}{r} 2x - y = 7 \\ x + y = 2 \\ \hline \end{array}$$

4. Verify your solution by substituting the values in to *both* equations.

The point of intersection (*solution*) is _____.

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

1st:

1. Can I add or subtract the two equations to eliminate a variable?

_____ new equation

2nd:

2. Solve for the remaining variable.

3rd:

3. Solve for the eliminated variable by substituting the known variable value into either of the original equations.

$$4^{\text{th}}: \begin{array}{r} 3x + 2y = 5 \\ \hline 3x + y = 1 \end{array}$$

4. Verify your solution by substituting the values in to *both* equations.

The point of intersection (*solution*) is _____.

Practice solving the following *systems of equations* by following the five steps of *elimination* on the prior page:

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

The *solution* is _____.

$$4) \begin{cases} -5x + 3y = 5 \\ 5x - 2y = 1 \end{cases}$$

The *solution* is _____.

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

The *solution* is _____.

$$6) \begin{cases} x + y = -5 \\ x - 2y = 1 \end{cases}$$

The *solution* is _____.

Conclusion: When using the *elimination* method, if the _____ of one of the variables are _____ of each other I _____ (add/subtract) them to *eliminate* a variable OR if the _____ of one set of variables are the same I _____ (add/subtract) to *eliminate* one of the variables.