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4/7/20

Research Project

1. Find three ways to solve a system equations. **Substitution**, **Elimination**, and **Augmented Matrix.**

2. Substitution: is a method of solving systems of equations by removing all but one of the variables in one of the equations and then solving that equation. This is achieved by isolating the other variable in an equation

Elimination: Elimination is another way to solve systems of equations by rewriting one of the equations in terms of only one variable. The elimination method achieves this by adding or subtracting equations from each other in order to cancel out one of the variables.

Augmented matrices can also be used to solve systems of equations. The augmented matrix consists of rows for each equation, columns for each variable, and an augmented column that contains the constant term on the other side of the equation.

3. Substitution **x + y = 4, 2x - 3y = 3, isolate the variable x in the first equation to get x = 4 - y, then substitute this value of y into the second equation to get 2(4 - y) - 3y = 3. This equation simplifies to -5y = -5, or y = 1. This becomes x: x + 1 = 4 or x = 3.**

Elimination: x + 2y = 3 and 2x - 2y = 3 here's the new equation, 3x = 6

Augmented: matrices 2**x + y = 4, 2x - y = 0 is [[2 1], [2 -1] ... [4, 0]]**

[[1 0], [0 1]...[1, 2]]. The value of the first variable is given by the first row (1x + 0y = 1 or x = 1). The value of the second variable is given by the second row (0x + 1y = 2 or y = 2).