

Review

Find the solution to the following system of linear equations

$$2y = 6x + 8 \rightarrow y = 3x + 4$$

$$2y = 3x + 11 \rightarrow y = \frac{3}{2}x + \frac{11}{2}$$

$$6x + 8 = 3x + 11$$

$$6x - 3x = 11 - 8$$

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

$$x = 1$$

Solve for y

$$2y = 6x + 8$$

$$2y = 6(1) + 8$$

$$2y = 6 + 8$$

$$2y = 14$$

$$\frac{2y}{2} = \frac{14}{2}$$

$$y = 7$$

Solution: $(1, 7)$

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SYSTEMS - ELIMINATION METHOD

Used when both equations are in general form

General form: $ax + by = c$

Steps:

1. Multiply each equation by a number in order to get the same coefficient for either x or y.
2. Subtract one equation from the other.
3. Solve for the variable (x or y).
4. Input the value into one of the two equations and solve.
5. Express answer as a solution (x, y).

EX:

$$3x + 5y = -2$$

$$2x + 2y = 18$$

$$8x + 15y = -12$$

$$-6x - 4y = 20$$

$$-x + 11y = -28$$

$$0x + 19y = -38$$

$$\frac{19y}{19} = \frac{-38}{19}$$

$$y = -2$$

$$2x + 5y = -4$$

$$2x + 5(-2) = -4$$

$$2x - 10 = -4$$

$$2x = -4 + 10$$

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

$$x = 3$$

Solution: $(3, -2)$

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$$x = 2y + 8$$

$$x = 3y - 2$$

$$2y + 8 = 3y - 2$$

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$$1(3x + 5y = 9)$$

$$5(2x + y = -1)$$

$$3x + 5y = 9$$

$$-10x - 5y = -5$$

$$-7x = 4$$

$$\frac{-7x}{-7} = \frac{4}{-7}$$

$$x = -\frac{4}{7}$$

$$3(-\frac{4}{7}) + 5y = 9$$

$$-\frac{12}{7} + 5y = 9$$

$$5y = 9 + \frac{12}{7}$$

$$5y = \frac{63}{7} + \frac{12}{7}$$

$$5y = \frac{75}{7}$$

$$\frac{5y}{5} = \frac{75}{7 \cdot 5}$$

$$y = \frac{15}{7}$$

Solution: $(-\frac{4}{7}, \frac{15}{7})$

Sep 29-11:26 AM

Homework

1. Comparison Method MHS
2. Elimination Method MHS
3. Elimination Method Problems from Website
4. Elimination OR Comparison Method MHS

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