

SIMULTANEOUS EQUATIONS LINEAR (ELIMINATION)

Where elimination is the quicker option

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Worked example

Solve:

$$5x + 4y = 19$$

$$5x + 2y = 17$$

$$5x + 3y = 26$$

$$2x + 3y = 14$$

Your turn

Solve:

$$7x + 2y = 29$$

$$3x + 2y = 17$$

$$x = 3, y = 4$$

Worked example

Solve:

$$5x + 2y = 17$$

$$5x + 4y = 19$$

$$2x + 3y = 14$$

$$5x + 3y = 26$$

Your turn

Solve:

$$3x + 2y = 17$$

$$7x + 2y = 29$$

$$x = 3, y = 4$$

Worked example

Solve:

$$5x + 4y = 8$$

$$5x + 2y = 14$$

$$5x + 3y = 5$$

$$2x + 3y = 11$$

Your turn

Solve:

$$7x + 2y = 13$$

$$3x + 2y = 1$$

$$x = 3, y = -4$$

Worked example

Solve:

$$5x + 2y = 14$$

$$5x + 4y = 8$$

$$2x + 3y = 11$$

$$5x + 3y = 5$$

Your turn

Solve:

$$3x + 2y = 1$$

$$7x + 2y = 13$$

$$x = 3, y = -4$$

Worked example

Solve:

$$5x + 4y = -32$$

$$5x + 2y = -26$$

$$5x + 3y = -20$$

$$2x + 3y = -17$$

Your turn

Solve:

$$7x + 2y = -20$$

$$3x + 2y = -12$$

$$x = -2, y = -3$$

Worked example

Solve:

$$5x + 2y = -26$$

$$5x + 4y = -32$$

$$2x + 3y = -17$$

$$5x + 3y = -20$$

Your turn

Solve:

$$3x + 2y = -12$$

$$7x + 2y = -20$$

$$x = -2, y = -3$$

Worked example

Solve:

$$5x - 4y = 19$$

$$5x - 2y = 17$$

$$5x - 3y = 26$$

$$2x - 3y = 14$$

Your turn

Solve:

$$7x - 2y = 29$$

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Your turn

Solve:

$$3x - 2y = -12$$

$$7x - 2y = -20$$

$$x = -2, y = 3$$

Worked example

Solve:

$$-5x - 4y = 19$$

$$-5x - 2y = 17$$

$$-5x - 3y = 26$$

$$-2x - 3y = 14$$

Your turn

Solve:

$$-7x - 2y = 29$$

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$$x = -3, y = 4$$

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$$-5x - 3y = -20$$

Your turn

Solve:

$$-3x - 2y = -12$$

$$-7x - 2y = -20$$

$$x = 2, y = 3$$

Worked example

Solve:

$$\begin{aligned}5x + 4y &= 23 \\ -5x + 2y &= 19\end{aligned}$$

$$\begin{aligned}5x + 3y &= 23 \\ 2x - 3y &= 5\end{aligned}$$

Your turn

Solve:

$$\begin{aligned}6x + 8y &= 22 \\ -6x + 2y &= 28\end{aligned}$$

$$x = -3, y = 5$$

Worked example

Solve:

$$4x - 0.2y = 23$$

$$2x + 0.2y = 19$$

$$8x + 0.5y = 31$$

$$2x - 0.5y = 19$$

Your turn

Solve:

$$5x - 0.7y = 51$$

$$6x + 0.7y = 9$$

$$x = 5, y = -30$$

Worked example

Solve:

$$2x + 3y = 11$$

$$3x + y = 13$$

$$3x + 2y = 9$$

$$5x + 7y = 4$$

Your turn

Solve:

$$2x + 3y = 9$$

$$5x + 7y = 23$$

$$x = 6, y = -1$$