



# Solving Systems of Equations by Substitution (Part 1)

(Video Notes)

[Video Link](#)

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Solve the following system of equations:

$$2x + 3y = 14$$

$$x = 4$$

$$y = 2$$

POT

$$(4, 2)$$

$$2x + 3y = 14$$

↓ substitute

$$2(4) + 3y = 14$$

$$\begin{array}{r} 8 + 3y = 14 \\ -8 \quad -8 \\ \hline \end{array}$$

$$\frac{3y}{3} = \frac{6}{3}$$

$$y = 2$$

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$$y = 2$$

Solve the following system of equations:

$$2x + 3y = 14 \quad (1)$$

$$x = 5y - 6 \quad (2)$$

$$y = 2$$

$$x = 4$$

$$\boxed{\begin{matrix} x & y \\ 4 & 2 \end{matrix}} \text{ solution}$$

$$2x + 3y = 14$$

Substitute  
brackets

$$2(5y - 6) + 3y = 14$$

$$10y - 12 + 3y = 14$$

$$13y - 12 = 14$$
$$+12 \quad +12$$

$$\frac{13y = 26}{13 \quad 13}$$

$$\underline{\underline{y = 2}}$$

$$x = 5y - 6$$

Sub

$$x = 5(2) - 6$$

$$x = 10 - 6$$

$$x = 4$$