

Solve by Elimination

$$3x + 5y = 19$$

$$2x + 3y = 12$$

(1)

(2)

label

multiply eq. (1) by 2 & multiply eq. (2) by 3

$$\begin{array}{r} 3x + 5y = 19 \\ 2x + 3y = 12 \\ \hline \text{mult. } 2 \rightarrow 6x + 10y = 38 \\ \text{mult. } 3 \rightarrow -(6x + 9y = 36) \\ \hline 0x \quad 1y = 2 \end{array}$$

what is going to be done

$$\boxed{y = 2}$$

box answer

back substitute into equation (1)

$$3x + 5y = 19$$

$$3x + 5(2) = 19$$

$$3x = 19 - 10$$

$$x = \frac{9}{3}$$

$$\boxed{x = 3}$$