

Quiz 1

1. Solve the following system of linear equations:

$$\begin{array}{r} x + 2y = 3 \quad \text{I} \\ 4x + 5y = 6 \quad \text{II} \end{array}$$

$$\begin{array}{r} \xrightarrow{-4\text{I} + \text{II}} \\ \begin{array}{r} x + 2y = 3 \quad \text{I} \\ -3y = -6 \quad \text{II} \end{array} \end{array}$$

$$\begin{array}{r} \xrightarrow{-\frac{1}{3}\text{II}} \\ \begin{array}{r} x + 2y = 3 \quad \text{I} \\ \boxed{y = 2} \quad \text{II} \end{array} \end{array}$$

Option 1 At this point, we have y , and we could back substitute it into I to get x :

$$x + 2(2) = 3 \implies \boxed{x = -1}$$

Option 2 Continue row-reducing until you get x by itself in row I:

$$\begin{array}{r} \xrightarrow{-2\text{II} + \text{I}} \\ \boxed{\begin{array}{r} x = -1 \quad \text{I} \\ y = 2 \quad \text{II} \end{array}} \end{array}$$

Voilà!