Proof: By contradiction

Suppose there exist two natural numbers m and n such that

$$3m + 5n = 12$$

Then

$$\begin{aligned} m &= \frac{12 - 5n}{3} \\ &= 4 - \frac{5}{3}n \end{aligned}$$

Since m is a natural number

$$4 - \frac{5}{3}n \geq 1$$

$$n \leq \frac{9}{5} < 2$$

Let n = 1, then $m = \frac{7}{3}$, there is a contradiction. The following conclusion is false.