

Question 1.

It is False

Proof: It's known that $(\exists m \in \mathbb{N})(\forall n > 2)(3m + 5n = 12)$ and ~~$(\forall m > 2)(\exists n \in \mathbb{N})(3m + 5n = 12)$~~ are false.

Thus: $n \leq 2$ and ~~$m \leq 2$~~ .

$$\text{if } n=1: 3m = 12 - 5 \times 1 = 7$$

$$m = \frac{7}{3} \notin \mathbb{N}$$

$$\text{if } n=2: 3m = 12 - 5 \times 2 = 2.$$

$$m = \frac{2}{3} \notin \mathbb{N}$$

Thus, it is proven that this statement is false