Problem 1

a) Proof :

> Let $a = 0$ AND arbitrary $b \in \mathbb{N}$

> $0 \in \mathbb{N}$, so $a \in \mathbb{N}$ by

> By definition of natural numbers, 0 is the smallest natural number. Thus, the statement $0 \leq b$ holds true , since arbitrary b can only be ≥ 0

> Thus , $a \leq b$ when $a = 0$, satisfying the condition $\square$

b) $x^2 - 2x - 8 = 0$, $(x - 4)(x + 2) = 0$, $\underline{x = 4, -2}$

Roots of Quadratic Equation : $\underline{4, -2}$