1) Let P be the set of passwords, and Q be the set of computers. Choose ONE the following statements and express it in statement in a grammatically correct sentence. (4 points)

$\exists_{x \in P} \forall_{y \in Q} (x \text{ unlocks } y)$ $\qquad$ $\exists_{x \in P} \exists_{y \in Q} (x \text{ unlocks } y)$ $\qquad$ $\forall_{y \in Q} \forall_{x \in P} (x \text{ unlocks } y)$

3) Let x and y be even integers. Prove that the product xy is an even integer. (6 points)