Name _____Quiz 2

1) Let U be the universe of all quadrilaterals, $P(x)$ be the open statement "x is a square" and $Q(x)$ be the open statement "x is a rectangle". Rephrase the statement below into a sentence that makes the logic more clear. Then Write the mathematical symbolism that represents it.

"All squares are rectangles"

2) Find the negation of the statement below.

$$\exists_{x \in U}\big(Q(x) \wedge {\sim}P(x)\big)$$

3) Let x be an integer. Prove that if x is a multiple of 4, then $x + 1$ is even.