Question3.

It is True

Proof:

~~If n is odd, n² is odd, it can be expressed as 2n+1,~~

~~n can be expressed as 2b+1~~

~~thus~~

Let n = 1. $n^2 + n + 1 = 1 + 1 + 1 = 3$, so when $n=1$, this statement is true.

For n+1, $(n+1)^2 + (n+1) + 1 = n^2 + 2n + 1 + n + 1 + 1$

$$= (n^2 + n + 1) + 2n + 2.$$

because $(n^2 + n + 1)$ is odd. and $(2n+2)$ is even. thus $(n+1)^2 + (n+1) + 1$ is odd.

this is proven by redudant