3. To prove the statement "For any integer n, n^2+n+1 is odd".

We see that $n^2+n+1 = n(n+1)+1$.

Since n and $(n+1)$ are consecutive integers, one of them is always going to be even. So their product $n(n+1)$ is also always even which means $n(n+1)+1$ should always be odd.

Hence proved.