QUESTION 6

Theorem the only prime triple is 3, 5, 7.

Proof: by reductio ad absurdum.

Any prime triple is of the form n, $n+2$, $n+4$.
We know that 2, 4, 6 is not a prime triple.
So assume there is a prime triple n, $n+2$, $n+4$ where $n > 3$.

But we know from the result in question 5 that one of n, $n+2$, $n+4$ must be divisible by 3 and hence not prime. Therefore there can be no such prime triple. □