

Q.6

Prove that the only set of 3 primes separated by 2 is $\{3, 5, 7\}$

Proof: Let p denote a natural number.

In $p, p+2, p+4$, one ^{of these} is divisible by 3. (Answer to Question 5)
So, In order for $p, p+2$, and $p+4$ to be prime, p has to be 3.

Following, $p+2=5, p+4=7$.

QED 