6 **(a)** A student suggests that, for any prime number between 20 and 40, when its digits are squared and then added, the sum is an odd number.

For example, 23 has digits 2 and 3 which gives $2^2 + 3^2 = 13$, which is odd.

Show by counter example that this suggestion is false. **[2]**

(b) Prove that the sum of the squares of any three consecutive positive integers cannot be divided by 3. **[3]**