

Problem 2 Solution

The statement is correct.

Proof:-

Any set of five consecutive integers is of the form $\{n, n+1, n+2, n+3, n+4\}$ where $n \in \mathbb{Z}$

Hence the sum(S say) of any set of five consecutive integers is of the form $n + n + 1 + n + 2 + n + 3 + n + 4$ $n \in \mathbb{Z}$

$$\implies S = 5n + 10$$

$$\implies S = 5(n + 2)$$

$$\implies 5|S$$

Hence the sum of any set of five consecutive integers is divisible by 5.