Q.2

Prove that the sum of any 5 consequtive integers is divisible by 5.

Proof: we describe 5 consequtive integers as $n, n+1, n+2, n+3, n+4$.

~~Assume the sum~~

By Algebra, $n+n+1+n+2+n+3+n+4 = 5n+10$.

By Modular Arithmetic, $5n+10 \pmod 5 \equiv 0$.

Thus, $5 \mid 5n+10$ is true.

The statement is proven.

QED ∎