Proof:

Given any five consecutive integers n, n+1, n+2, n+3, n+4,then let S be the sum of the five numbers.

So

$$S = n + (n+1) + (n+2) + (n+3) + (n+4) = 5n + 10 = 5(n+2)$$

By the Division Theorem, S is divisible by 5. The following conclusion is true.