Prove that the sum of three consecutive integers is divisible by 3

Let the first integer $= n$

…then, the second integer $= n + 1$

…and the third integer $= n + 2$

The sum of the three consecutive integers $= n + n + 1 + n + 2$

$$= 3n + 3$$

$$= 3(n + 1)$$

Since this is a multiple of 3, then the sum of the three consecutive integers is divisible by 3