

2. The sum of any 5 consecutive integers is divisible by 5.

TRUE.

Proof:

Let a be any integer and S be the sum of 5 consecutive integers beginning with a .

$$S = a + (a + 1) + (a + 2) + (a + 3) + (a + 4)$$

$$S = 5a + (1 + 2 + 3 + 4)$$

$$S = 5a + 10$$

$$S = 5(a + 2) \text{ (which is divisible by 5)}$$

Since a is any integer, S is the sum of any 5 consecutive integers. Therefore, the sum of any 5 consecutive integers is divisible by 5.