

$$(2) \quad 2 + 5 + 8 + \dots + \dots + (2 + 3n) = \frac{n(4 + 3n)}{2}, \quad \forall n \in \mathbb{N}$$

Básica: $n = 0$

$$2 + 3 \cdot 0 = \frac{0(4 + 3 \cdot 0)}{2}$$

~~$2 = 0$~~ n é verdadeira

$$(3) \quad 2^0 + 2^1 + 2^2 + \dots + 2^{n-1} = 2^n - 1 \quad \forall n \in \mathbb{N}^*$$

Básica: $2^{1-1} = 2^0 = 2^1 - 1 = 2 - 1$

$$1 = 1 \quad \text{OK}$$

HI: Admitir que $P(n) = 2^n - 1$

P.I.: Provar que

$$\underbrace{2^0 + 2^1 + \dots + 2^{n-1}} + 2^n = 2^{n+1} - 1$$

$$= 2^n - 1 + 2^n$$

$$= 2 \cdot 2^n - 1$$

$$= 2^{n+1} - 1 \quad \underline{\underline{\text{OK}}}$$