

Binomial Theorem - Class XI

Related Questions with Solutions

Questions

Question: 01

$aC_0 + (a + b)C_1 + (a + 2b)C_2 + \dots + (a + nb)C_n$ is equal to

- A. $(2n + nb)2^n$
- B. $(2a + nb) 2^{n-1}$
- C. $(na + 2b)2^{n-1}$
- D. $(na + 2b)2^{n-1}$

Solutions

Solution: 01

$$\text{Let, } E = a \sum_{r=0}^n C_r + b \sum_{r=1}^n r C_r$$
$$\Rightarrow E = a \cdot 2^n + b \cdot n \cdot 2^{n-1}$$
$$\therefore E = 2^{n-1} [2a + nb]$$

Correct Options

Answer:01

Correct Options: B