

# Binomio de Newton

Bladimir Ramos

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## PRODUCTO NOTABLE

La fórmula del producto notable es

$$(a + b)^2 = a^2 + 2ab + b^2$$

## Función con R

```
binomioNewton2 = function(a,b){  
  a^2+2*a*b+b^2  
}  
binomioNewton2(1,2)
```

```
## [1] 9
```

```
binomioNewton2(2,1)
```

```
## [1] 9
```

## BINOMIO DE NEWTON

$$(a + b)^n = \sum_{k=0}^n \binom{n}{k} \cdot a^{n-k} \cdot b^k = \binom{n}{0} \cdot a^n \cdot b^0 + \dots \binom{n}{n} \cdot a^0 \cdot b^n$$

## Función con R

```
binomioNewton = function(a,b,n){  
  cumsum(choose(n,(0:n))*a^{n-(0:n)}*b^{(0:n)})[n+1]  
}  
binomioNewton(2,1,2)
```

```
## [1] 9
```

```
binomioNewton(3,4,14)
```

```
## [1] 678223072849
```