

Binomio de Newton

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

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

Función con R

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

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

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

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