



## PRODUCTOS NOTABLES

- Son aquellos productos que al presentar cierta forma particular, evita que se efectúe la operación de multiplicación escribiendo directamente el resultado.

### I. Cuadrado de un Binomio

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

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

#### Ejemplos:

$$\begin{aligned} 1. \quad (x + 5)^2 &= (x)^2 + 2(x)(5) + (5)^2 \\ &= x^2 + 10x + 25 \end{aligned}$$

$$\begin{aligned} 2. \quad (y - 3)^2 &= (y^2) - 2(y)(3) + (3)^2 \\ &= y^2 - 6y + 9 \end{aligned}$$

$$\begin{aligned} 3. \quad (z^3 + 2)^2 &= (z^3)^2 + 2(z^3)(2) + (2)^2 \\ &= z^6 + 4z^3 + 4 \end{aligned}$$

$$\begin{aligned} 4. \quad (2x^2 + 3)^2 &= (2x^2)^2 + 2(2x^2)(3) + (3)^2 \\ &= 4x^4 + 12x^2 + 9 \end{aligned}$$

$$\begin{aligned} 5. \quad (3x - 8y)^2 &= (3x)^2 - 2(3x)(8y) + (8y)^2 \\ &= 9x^2 - 48xy + 64y^2 \end{aligned}$$

$$\begin{aligned} 6. \quad (3x^4 - 5y^3)^2 &= (3x^4)^2 - 2(3x^4)(5y^3) + (5y^3)^2 \\ &= 9x^8 - 30x^4y^3 + 25y^6 \end{aligned}$$



► Efectuar:

1.  $(x + 4)^2 =$

2.  $(x - 7)^2 =$

3.  $(m^3 - 8)^2 =$

4.  $(x^8 + 9)^2 =$

5.  $(2x + 8y)^2 =$

6.  $(3a^4 + 6)^2 =$

7.  $(10m^3 - 8y^5)^2 =$

8.  $(2a^4 - 3b^2)^2 =$

9.  $(a^{10} + 10b^{12})^2 =$

10.  $(3x^2 + 8b^3)^2 =$



► Resolver:

1.  $(x+y)^2$

2.  $(x+3)^2$

3.  $(x^4+y^5)^2$

4.  $(x+6)^2$

5.  $(m^4+2y)^2$

6.  $(6a+b)^2$

7.  $(7x+1)^2$

8.  $(m-n)^2$

9.  $(2a+3b)^2$

10.  $(a-3)^2$

## II. Cubo de un Binomio

$$(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$$

$$(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$$



Ejemplos:

$$\begin{aligned} 1. \quad (y+2)^3 &= (y)^3 + 3(y)^2(2) + 3(y)(2)^2 + (2)^3 \\ &= y^3 + 6y^2 + 12y + 8 \end{aligned}$$

$$\begin{aligned} 2. \quad (y-3)^3 &= (y)^3 - 3(y)^2(3) + 3(y)(3)^2 - (3)^3 \\ &= y^3 - 9y^2 + 27y - 27 \end{aligned}$$

$$\begin{aligned} 3. \quad (2x+5)^3 &= (2x)^3 + 3(2x)^2(5) + 3(2x)(5)^2 + (5)^3 \\ &= 8x^3 + 60x^2 + 150x + 125 \end{aligned}$$

► Efectuar:



1.  $(a - 2)^3 =$

2.  $(a + 4)^3 =$

3.  $(4x + 5)^3 =$

4.  $(a - 2)^3 =$

5.  $(m + 3)^3 =$

6.  $(a - 4)^3 =$

7.  $(2x + 1)^3 =$

8.  $(b - 4)^3 =$

9.  $(x^6 - 1)^3 =$

10.  $(4x + 1)^3 =$



► Resolver:

1.  $(a + 2b)^3$

2.  $(x - 1)^3$

3.  $(a^2 + 8)^3$

4.  $(x - 5)^3$

5.  $(1 + m)^3$

6.  $(4a - 1)^3$

7.  $(2a - b)^3$

8.  $(x - 4)^3$

9.  $(a - 6)^3$

10.  $(4x - y)^3$