

Cuadrado de un binomio

1. Calcula el cuadrado de cada binomio.

Recuerda que:

$$\begin{aligned}(a + b)^2 &= (a + b) \cdot (a + b) \\ &= a(a + b) + b(a + b) \\ &= (a \cdot a + a \cdot b) + (b \cdot a + b \cdot b) \\ &= a^2 + ab + ba + b^2 \\ &= a^2 + 2ab + b^2\end{aligned}$$

$$\begin{aligned}(a - b)^2 &= (a - b) \cdot (a - b) \\ &= a(a - b) - b(a - b) \\ &= (a \cdot a - a \cdot b) + (-b \cdot a + b \cdot b) \\ &= a^2 - ab - ba + b^2 \\ &= a^2 - 2ab + b^2\end{aligned}$$

a. $s + 3$

$$(s + 3)^2 = s^2 + 6s + 9$$

d. $n + 5$

$$(n + 5)^2 = n^2 + 10n + 25$$

b. $3a + b$

$$(3a + b)^2 = 9a^2 + 6ab + b^2$$

e. $c - 5$

$$(c - 5)^2 = c^2 - 10c + 25$$

c. $r - 5t$

$$(r - 5t)^2 = r^2 - 10rt + 25t^2$$

f. $k^3 + 3b^2$

$$(k^3 + 3b^2)^2 = k^6 + 6k^3 b^2 + 9b^4$$

2. Resuelve los siguientes cuadrados de binomios:

a. $(s + 3)^2$

$$(s + 3)^2 = s^2 + 6s + 9$$

g. $(a^5 - 6)^2$

$$(a^5 - 6)^2 = a^{10} - 12a^5 + 36$$

b. $(n^3 + 5)^2$

$$(n^3 + 5)^2 = n^6 + 10n^3 + 25$$

h. $(r^3 - 2m^3)^2$

$$(r^3 - 2m^3)^2 = r^6 - 4r^3m^3 + 4m^6$$

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

$$(3a + b)^2 = 9a^2 + 6ab + b^2$$

i. $\left(\frac{1}{2} + k\right)^2$

$$\left(\frac{1}{2} + k\right)^2 = \frac{1}{4} + k + k^2$$

d. $(c - 5)^2$

$$(c - 5)^2 = c^2 - 10c + 25$$

j. $\left(k^3 + \left(\frac{1}{3}\right)^2\right)^2$

$$\left(k^3 + \left(\frac{1}{3}\right)^2\right)^2 = k^6 + \frac{2}{9}k^3 + \frac{1}{81}$$

e. $(r - 5t)^2$

$$(r - 5t)^2 = r^2 - 10rt + 25t^2$$

k. $\left(a^5 - \frac{1}{3}\right)^2$

$$\left(a^5 - \frac{1}{3}\right)^2 = a^{10} - \frac{2}{3}a^5 + \frac{1}{9}$$

f. $(k^3 + 3b^2)^2$

$$(k^3 + 3b^2)^2 = k^6 + 6k^3b^2 + 9b^4$$

l. $\left(\left(\frac{1}{5}\right)^2 - m^3\right)^2$

$$\left(\left(\frac{1}{5}\right)^2 - m^3\right)^2 = \frac{1}{625} - \frac{2}{25}m^3 + m^6$$