

## IGUALDADES NOTABLES

## EJERCICIOS

$$\begin{aligned}(A+B)^2 &= A^2 + 2AB + B^2 \\ (A-B)^2 &= A^2 - 2AB + B^2 \\ (A+B)(A-B) &= A^2 - B^2\end{aligned}$$

- Desarrollar las siguientes expresiones utilizando la identidad notable correspondiente, y simplificar. Obsérvense los primeros ejemplos:

1.  $(x+5)^2 = x^2 + 2 \cdot x \cdot 5 + 5^2 = x^2 + 10x + 25$

2.  $(x-6)^2 = x^2 - 2 \cdot x \cdot 6 + 6^2 = x^2 - 12x + 36$

3.  $(x+2)(x-2) = x^2 - 2^2 = x^2 - 4$

4.  $(x+2)^2 =$  (Soluc:  $x^2 + 4x + 4$ )

5.  $(x-3)^2 =$  (Soluc:  $x^2 - 6x + 9$ )

6.  $(x+4)(x-4) =$  (Soluc:  $x^2 - 16$ )

7.  $(x+3)^2 =$  (Soluc:  $x^2 + 6x + 9$ )

8.  $(x-4)^2 =$  (Soluc:  $x^2 - 8x + 16$ )

9.  $(x+5)(x-5) =$  (Soluc:  $x^2 - 25$ )

10.  $(a+4)^2 =$  (Soluc:  $a^2 + 8a + 16$ )

11.  $(a-2)^2 =$  (Soluc:  $a^2 - 4a + 4$ )

12.  $(a+3)(a-3) =$  (Soluc:  $a^2 - 9$ )

13.  $(2x+3)^2 =$  (Soluc:  $4x^2 + 12x + 9$ )

14.  $(3x-2)^2 =$  (Soluc:  $9x^2 - 12x + 4$ )

15.  $(2x+1)(2x-1) =$  (Soluc:  $4x^2 - 1$ )

**16.**  $(3x + 2)^2 =$  (Soluc:  $9x^2 + 12x + 4$ )

**17.**  $(2x - 5)^2 =$  (Soluc:  $4x^2 - 20x + 25$ )

**18.**  $(3x + 2)(3x - 2) =$  (Soluc:  $9x^2 - 4$ )

**19.**  $(4b + 2)^2 =$  (Soluc:  $16b^2 + 16b + 4$ )

**20.**  $(5b - 3)^2 =$  (Soluc:  $25b^2 - 30b + 9$ )

**21.**  $(b + 1)(b - 1) =$  (Soluc:  $b^2 - 1$ )

**22.**  $(4a + 5)^2 =$  (Soluc:  $16a^2 + 40a + 25$ )

**23.**  $(5a - 2)^2 =$  (Soluc:  $25a^2 - 20a + 4$ )

**24.**  $(5a + 2)(5a - 2) =$  (Soluc:  $25a^2 - 4$ )

**25.**  $(4y + 1)^2 =$  (Soluc:  $16y^2 + 8y + 1$ )

**26.**  $(2y - 3)^2 =$  (Soluc:  $4y^2 - 12y + 9$ )

**27.**  $(2y + 3)(2y - 3) =$  (Soluc:  $4y^2 - 9$ )

**28.**  $(3x + 4)^2 =$  (Soluc:  $9x^2 + 24x + 16$ )

**29.**  $(3x - 1)^2 =$  (Soluc:  $9x^2 - 6x + 1$ )

**30.**  $(3x + 4)(3x - 4) =$  (Soluc:  $9x^2 - 16$ )

**31.**  $(5b + 1)^2 =$  (Soluc:  $25b^2 + 10b + 1$ )

**32.**  $(2x - 4)^2 =$  (Soluc:  $4x^2 - 16x + 16$ )

**33.**  $(4x + 3)(4x - 3) =$  (Soluc:  $16x^2 - 9$ )

**34.** Carlos, un alumno de 3º de ESO, indica lo siguiente en un examen:

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

Razonar que se trata de un grave error. ¿Cuál sería la expresión correcta?