

EXERCICE 1 - Retrouver l'expression dont on connaît le carré :

- a. $4x^2 = (2x)^2$ b. $9x^2 = (\dots)^2$ c. $36x^2 = (\dots)^2$ d. $25x^2 = (\dots)^2$ e. $49x^2 = (\dots)^2$
 f. $81x^2 = (\dots)^2$ g. $100t^2 = (\dots)^2$ h. $400a^2 = (\dots)^2$ i. $144b^2 = (\dots)^2$ j. $16y^2 = (\dots)^2$

EXERCICE 2 - Factoriser en utilisant l'identité remarquable : $a^2 + 2ab + b^2 = (a + b)^2$

| | | |
|--|----------------------|------------------------|
| $Z = 25x^2 + 30x + 9$ $Z = (5x)^2 + 2 \times 5x \times 3 + 3^2$ $Z = (5x + 3)^2$ | $A = x^2 + 10x + 25$ | $B = x^2 + 6x + 9$ |
| $C = 36 + 12x + x^2$ | $D = 4x^2 + 12x + 9$ | $E = 16x^2 + 40x + 25$ |

EXERCICE 3 - Factoriser en utilisant l'identité remarquable : $a^2 - 2ab + b^2 = (a - b)^2$

| | | |
|--|-----------------------|------------------------|
| $Z = 9x^2 - 30x + 25$ $Z = (3x)^2 - 2 \times 3x \times 5 + 5^2$ $Z = (3x - 5)^2$ | $A = x^2 - 2x + 1$ | $B = 4x^2 - 20x + 25$ |
| $C = 9 - 6x + x^2$ | $D = 36x^2 - 12x + 1$ | $E = 100 - 40x + 4x^2$ |

EXERCICE 4

a. Factoriser en utilisant l'identité remarquable : $a^2 - b^2 = (a + b)(a - b)$

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|---|----------------|----------------|
| $Z = x^2 - 81$ $Z = x^2 - 9^2$ $Z = (x + 9)(x - 9)$ | $A = x^2 - 4$ | $B = 9 - x^2$ |
| $C = x^2 - 16$ | $D = x^2 - 49$ | $E = 25 - x^2$ |

b. Même consigne que l'exercice précédent :

| | | |
|---|------------------|-----------------|
| $Z = 4x^2 - 81$ $Z = (2x)^2 - 9^2$ $Z = (2x + 9)(2x - 9)$ | $A = 4x^2 - 9$ | $B = 16 - 9x^2$ |
| $C = 16x^2 - 25$ | $D = 49x^2 - 36$ | $E = 4 - 64x^2$ |