FACTORISER AVEC UNE IDENTITE REMARQUABLE

Exercice 1 : Retrouver l'expression dont on connaît le carré :

$4x^2 = (2x)^2$	$9x^2 = (..3x..)^2$	$49x^2 = (.....7x.....)^2$
$36x^2 = (.....6x.....)^2$	$81x^2 = (....9x.....)^2$	$25x^2 = (.....5x.....)^2$

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

$A = x^2 + 10x + 25 = (...x..)^2 + 2 \times ..x. \times ...5... + (5)^2 = (.x + 5)^2$

$B = x^2 + 6x + 9 = (..x...)^2 + 2 \times ..x.. \times ....3... + (....3..)^2 = (..x + 3..)^2$

$C = 4x^2 + 12x + 9 = (...2x..)^2 + 2 \times .2x \times ....3... + (....3.....)^2 = (...2x + 3.)^2$

$D = 36x^2 + 84x + 49 = (...6x..)^2 + 2 \times ..6x. \times ...7... + (....7..)^2 = (...6x + 7)^2$

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

$A = x^2 - 2x + 1 = (...x...)^2 - 2 \times ..x.. \times ...1.. + (.....1...)^2 = (.x - 1)^2$

$B = 9x^2 - 18x + 9 = (...3x)^2 - 2 \times ..3x \times ...3... + (...3.)^2 = (..3x - 3)^2$

$C = 49x^2 - 56x + 16 = (7x)^2 - 2 \times .7x. \times ..4.. + (...4.)^2 = (..7x - 4...)^2$

$D = 4x^2 - 40x + 100 = (..2x..)^2 - 2 \times ..2x \times .10... + (..10....)^2 = (..2x - 10.)^2$

Exercice 4 : Factoriser en utilisant l'identité remarquable $a^2 - b^2 = (a + b)(a - b)$

$A = x^2 - 25 = (...x..)^2 - (....5....)^2 = (..x - 5)(..x + 5)$

$B = x^2 - 64 = (.x.)^2 - (....8...)^2 = (.x - 8..)(....x + 8...)$

$C = 25x^2 - 9 = (..5x.)^2 - (..3)^2 = (..5x - 3..)(..5x + 3..)$

$D = 49 - 16x^2 = (7)^2 - (.4x..)^2 = (.7 - 4x.)(.7 + 4x..)$

Exercice 5 : Factoriser en utilisant l'identité remarquable $a^2 - b^2 = (a + b)(a - b)$

$A = (x + 1)^2 - 25 = (.x + 1.)^2 - (..5.)^2 = [\ (\ x + 1\ )+ 5\ ][\ (x + 1\ )- 5\ ]$

$A = (x + 6)(x - 4)$

$B = (2x - 1)^2 - (x + 5)^2 = [\ (.2x - 1.\ )+ (.x + 5..\ )\ ][\ (..2x - 1..\ )- (..x + 5...\ )\ ]$

$B = (3x + 4)(x - 6)$