EXERCICE 1B.1

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

$Z = (x + 2)^2 - 81$ **$Z = (x + 2)^2 - 9^2$** **$Z = (x + 2 + 9)(x + 2 - 9)$** **$Z = (x + 11)(x - 7)$**	$A = (x+1)^2 - 4$	$B = (x+2)^2 - 9$
$C = (2x+1)^2 - 25$	$D = 16 - (3x+2)^2$	$E = 36 - (4-3x)^2$

b. Même consigne :

$Z = (x + 2)^2 - (2x - 3)^2$ **$Z=[(x +2)+(2x -3)][(x +2)-(2x -3)]$** **$Z = (x +2+2x -3)(x +2-2x +3)$** **$Z = (3x - 1)(-x +5)$**	$A = (x+1)^2 - (2x+3)^2$	$B = (2x-1)^2 - (5+x)^2$
$C = (4x-1)^2 - (3x+4)^2$	$D = (3x-4)^2 - (6x+1)^2$	$E = (x+6)^2 - (3x-1)^2$

EXERCICE 1B.2 - Factoriser d'abord l'expression soulignée pour retrouver le facteur commun :

$Z = (x + 2)(x + 1) + \underline{x^2 - 1}$ **$Z = (x +2)(\underline{x +1})+(\underline{x +1})(x -1)$** **$Z = (x +1)[(x +2) + (x -1)]$** **$Z = (x + 1)(x + 2 + x - 1)$** **$Z = (x + 1)(2x + 1)$**	$A = (x+2)(3x-1) + \underline{x^2 - 4}$	$B = (x+4)(2x-1) + \underline{x^2 - 16}$
$C = (x-3)(x+1) - (\underline{x^2 - 9})$	$D = (2x+1)(x-2) - (\underline{x^2 - 4})$	$E = \underline{25 - x^2} - (x-5)(2x+3)$

CORRIGE – NOTRE DAME DE LA MERCI - *MONTPELLIER*

EXERCICE 1B.1

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

$Z = (x + 2)^2 - 81$ **$Z = (x + 2)^2 - 9^2$** **$Z = (x + 2 + 9)(x + 2 - 9)$** **$Z = (x + 11)(x - 7)$**	$A = (x+1)^2 - 4$ $A = (x+1)^2 - 2^2$ $A = (x+1+2)(x+1-2)$ $A = (x+3)(x-1)$	$B = (x+2)^2 - 9$ $B = (x+2)^2 - 3^2$ $B = (x+2+3)(x+2-3)$ $B = (x+5)(x-1)$
$C = (2x+1)^2 - 25$ $C = (2x+1)^2 - 5^2$ $C = (2x+1+5)(2x+1-5)$ $C = (2x+6)(2x-4)$ $C = 4(x+3)(x-2)$	$D = 16 - (3x+2)^2$ $D = 4^2 - (3x+2)^2$ $D = [4 + (3x+2)][4 - (3x+2)]$ $D = [4 + 3x + 2][4 - 3x - 2]$ $D = (3x+6)(2-3x)$ $D = 3(x+2)(2-3x)$	$E = 36 - (4-3x)^2$ $E = 6^2 - (4-3x)^2$ $E = [6 + (4-3x)][6 - (4-3x)]$ $E = [6 + 4 - 3x][6 - 4 + 3x]$ $E = (10-3x)(2+3x)$

b. Même consigne :

$Z = (x + 2)^2 - (2x - 3)^2$ **$Z = [(x + 2) + (2x - 3)][(x + 2) - (2x - 3)]$** **$Z = (x + 2 + 2x - 3)(x + 2 - 2x + 3)$** **$Z = (3x - 1)(-x + 5)$**	$A = (x+1)^2 - (2x+3)^2$ $A = [(x+1) + (2x+3)][(x+1) - (2x+3)]$ $A = [x+1+2x+3][x+1-2x-3]$ $A = (3x+4)(-x-2) = -(3x+4)(x+2)$
$B = (2x-1)^2 - (5+x)^2$ $B = [(2x-1) + (5+x)][(2x-1) - (5+x)]$ $B = [2x-1+5+x][2x-1-5-x]$ $B = (3x+4)(x-6)$	$C = (4x-1)^2 - (3x+4)^2$ $C = [(4x-1) + (3x+4)][(4x-1) - (3x+4)]$ $C = [4x-1+3x+4][4x-1-3x-4]$ $C = (7x+3)(x-5)$
$D = (3x-4)^2 - (6x+1)^2$ $D = [(3x-4) + (6x+1)][(3x-4) - (6x+1)]$ $D = [3x-4+6x+1][3x-4-6x-1]$ $D = (9x-3)(-3x-5) = -3(3x-1)(3x+5)$	$E = (x+6)^2 - (3x-1)^2$ $E = [(x+6) + (3x-1)][(x+6) - (3x-1)]$ $E = [x+6+3x-1][x+6-3x+1]$ $E = (4x+5)(-2x+7)$

EXERCICE 1B.2 - Factoriser d'abord l'expression soulignée pour retrouver le facteur commun :

Z = (x + 2)(x + 1) + $\underline{x^2 - 1}$

Z = (x + 2)($\underline{x + 1}$) + ($\underline{x + 1}$)(x – 1)

Z = (x + 1) [(x + 2) + (x –1)]

Z = (x + 1) (x + 2 + x – 1)

Z = (x + 1) (2x + 1)

$A=(x+2)(3x-1)+x^2-4$

$A=(x+2)(3x-1)+(x+2)(x-2)$

$A=(x+2)\left[(3x-1)+(x-2)\right]$

$A=(x+2)\left[3x-1+x-2\right]$

$A=(x+2)(4x-1)$

$B=(x+4)(2x-1)+x^2-16$

$B=(x+4)(2x-1)+(x+4)(x-4)$

$B=(x+4)\left[(2x-1)+(x-4)\right]$

$B=(x+4)\left[2x-1+x-4\right]$

$B=(x+4)(3x-5)$

$C=(x-3)(x+1)-\left(x^2-9\right)$

$C=(x-3)(x+1)-(x+3)(x-3)$

$C=(x-3)\left[(x+1)-(x+3)\right]$

$C=(x-3)\left[x+1-x-3\right]$

$C=-2(x-3)$

$D=(2x+1)(x-2)-\left(x^2-4\right)$

$D=(2x+1)(x-2)-(x+2)(x-2)$

$D=(x-2)\left[(2x+1)-(x+2)\right]$

$D=(x-2)\left[2x+1-x-2\right]$

$D=(x-2)(x-1)$

$E=25-x^2-(x-5)(2x+3)$

$E=(5+x)(5+x)-(x-5)(2x+3)$

$E=(5+x)(5-x)+(5-x)(2x+3)$

$E=(5-x)\left[(5+x)+(2x+3)\right]$

$E=(5-x)\left[5+x+2x+3\right]$

$E=(5-x)(3x+8)$