

CORRIGE – M. QUET

EXERCICE 1

a. Factoriser les expressions suivantes comme dans l'exemple :

$Z = (x+1)(x-2) + 5(x+1)$ $Z = (x+1) [(x-2) + 5]$ $Z = (x+1)(x+3)$	$A = (x-3)(2x+1) + 7(2x+1)$ $A = (2x+1) [(x-3) + 7]$ $A = (2x+1) [x-3+7]$ $A = (2x+1)(x+4)$	$B = (x+1)(x+2) - 5(x+2)$ $B = (x+2) [(x+1) - 5]$ $B = (x+2) [x+1-5]$ $B = (x+2)(x-4)$
$C = (3-x)(4x+1) - 8(4x+1)$ $C = (4x+1) [(3-x) - 8]$ $C = (4x+1) [3-x-8]$ $C = (4x+1)(-x-5)$	$D = 5(1+2x) - (x+1)(1+2x)$ $D = (1+2x) [5 - (x+1)]$ $D = (1+2x) [5-x-1]$ $D = (1+2x)(4-x)$	$E = -6(3x-2) - (3x-2)(x-4)$ $E = (3x-2) [-6 - (x-4)]$ $E = (3x-2) [-6-x+4]$ $E = (3x-2)(-2-x)$

b. Même consigne que l'exercice précédent :

$Z = (x+1)(x-2) + (x+1)(x+7)$ $Z = (x+1) [(x-2) + (x+7)]$ $Z = (x+1)(2x+5)$	$A = (x+1)(3-x) + (x+1)(2+5x)$ $A = (x+1) [(3-x) + (2+5x)]$ $A = (x+1) [3-x+2+5x]$ $A = (x+1)(5+4x)$	$B = (x+2)(x+1) + (x+2)(7x-5)$ $B = (x+2) [(x+1) + (7x-5)]$ $B = (x+2) [x+1+7x-5]$ $B = (x+2)(8x-4)$
$C = (x+3)(3-2x) - (x+3)(5+x)$ $C = (x+3) [(3-2x) - (5+x)]$ $C = (x+3) [3-2x-5-x]$ $C = (x+3)(-3x-2)$	$D = (2x+1)(x-5) - (3x+1)(2x+1)$ $D = (2x+1) [(x-5) - (3x+1)]$ $D = (2x+1) [x-5-3x-1]$ $D = (2x+1)(-6-2x)$	$E = (x-6)(2-x) - (2-x)(3+4x)$ $E = (2-x) [(x-6) - (3+4x)]$ $E = (2-x) [x-6-3-4x]$ $E = (2-x)(-3x-9)$

c. Même consigne que l'exercice précédent :

$Z = (x+1)^2 + (x+1)(x+7)$ $Z = (x+1) [(x+1) + (x+7)]$ $Z = (x+1)(2x+8)$	$A = (x+1)^2 + (x+1)(3x+1)$ $A = (x+1) [(x+1) + (3x+1)]$ $A = (x+1) [x+1+3x+1]$ $A = (x+1)(4x+2)$	$B = (2x+1)^2 + (2x+1)(x+3)$ $B = (2x+1) [(2x+1) + (x+3)]$ $B = (2x+1) [2x+1+x+3]$ $B = (2x+1)(3x+4)$
$C = (x-3)^2 - (x-3)(4x+1)$ $C = (x-3) [(x-3) - (4x+1)]$ $C = (x-3) [x-3-4x-1]$ $C = (x-3)(-3x-4)$	$D = (x+1)(2x-5) + (2x-5)^2$ $D = (2x-5) [(x+1) + (2x-5)]$ $D = (2x-5) [x+1+2x-5]$ $D = (2x-5)(3x-4)$	$E = (3x-4)(2-x) - (3x-4)^2$ $E = (3x-4) [(2-x) - (3x-4)]$ $E = (3x-4) [2-x-3x+4]$ $E = (3x-4)(6-4x)$

EXERCICE 2

Transformer l'expression soulignée, pour faire apparaître le facteur commun, puis factoriser :

$Z = (x-1)(x-2) + (2x-2)(x+7)$ $Z = (x-1)(x-2) + 2(x-1)(x+7)$ $Z = (x+1)[(x-2) + 2(x+7)]$ $Z = (x+1)(x-2+2x+14)$ $Z = (x+1)(3x+12)$	$A = (x+1)(x+2) + (2x+2)(3x-4)$ $A = (x+1)(x+2) + 2(x+1)(3x-4)$ $A = (x+1) [(x+2) + 2(3x-4)]$ $A = (x+1) [x+2+6x-8]$ $A = (x+1)(7x-6)$	$B = (x-1)(2x+1) + (6x+3)(3-x)$ $B = (x-1)(2x+1) + 3(2x+1)(3-x)$ $B = (2x+1) [(x-1) + 3(3-x)]$ $B = (2x+1) [x-1+9-3x]$ $B = (2x+1)(8-2x)$
$C = (10x-5)(x+2) + (1-x)(2x-1)$ $C = 5(2x-1)(x+2) + (1-x)(2x-1)$ $C = (2x-1) [5(x+2) + (1-x)]$ $C = (2x-1) [5x+10+1-x]$ $C = (2x-1)(4x+11)$	$D = (4x+4)(1-2x) + (x+1)^2$ $D = 4(x+1)(1-2x) + (x+1)^2$ $D = (x+1) [4(1-2x) + (x+1)]$ $D = (x+1) [4-8x+x+1]$ $D = (x+1)(5-7x)$	$E = (2x+1)^2 - (x+3)(10x+5)$ $E = (2x+1)^2 - (x+3) \times 5(2x+1)$ $E = (2x+1) [(2x+1) - (x+3) \times 5]$ $E = (2x+1) [2x+1-5x-15]$ $E = (2x+1)(-3x-14)$