CORRECTIONS DES EXERCICES FACTORISATION

Exercice 22 page 147

$A = 2a + 2b$	$B = 4c + 12$	$C = 2 - 6d$	$D = 5e^2 - 3e$
$A = 2 \times a + 2 \times b$	$B = 4 \times c + 4 \times 3$	$C = 2 \times 1 - 2 \times 3d$	$D = e \times 5e - e \times 3$
$A = 2(a + b)$	$B = 4(c + 3)$	$C = 2(1 - 3d)$	$D = e(5e - 3)$
$E = 5x^2 - 5$	$F = f - 4f^2$	$G = x^3 - 3x^2$	$H = 9a^2 - 6a + 12$
$E = 5 \times x^2 - 5 \times 1$	$F = f \times 1 - f \times 4f$	$G = x^2 \times x - x^2 \times 3$	$H = 3 \times 3a^2 - 3 \times 2a + 3 \times 4$
$E = 5(x^2 - 1)$	$F = f(1 - 4f)$	$G = x^2(x - 3)$	$H = 3(3a^2 - 2a + 4)$

Exercice 36 page 148

$A = (2x + 3)(-4x + 1) + (2x + 3)(8 - x)$

$A = (2x + 3)\,[(-4x + 1) + (8 - x)]$

$A = (2x + 3)\,(-4x + 1 + 8 - x)$

$A = (2x + 3)(-5x + 9)$

$B = (4 - 5x)(8x + 1) - (4 - 5x)(7x - 5)$

$B = (4 - 5x)\,[(8x + 1) - (7x - 5)]$

$B = (4 - 5x)\,(8x + 1 - 7x + 5)$

$B = (4 - 5x)(x + 6)$

$C = (7 - 2x)(4 + 3x) + (2 - 7x)(3x + 4)$

$C = (3x + 4)\,[(7 - 2x) + (2 - 7x)]$

$C = (3x + 4)(7 - 2x + 2 - 7x)$

$C = (3x + 4)(-9x + 9)$

$D = (9x - 4)(2x + 1) + (9x - 4)^2$

$D = (9x - 4)\,[(2x + 1) + (9x - 4)]$

$D = (9x - 4)(2x + 1 + 9x - 4)$

$D = (9x - 4)(11x - 3)$

$E = (2x - 9)(x - 7) + 3(2x - 9)$

$E = (2x - 9)\,[(x - 7) + 3]$

$E = (2x - 9)(x - 7 + 3)$

$E = (2x - 9)(x - 4)$

$F = 3(7x + 1)(4 - 2x) + (5 - x)(7x + 1)$

$F = (7x + 1)\,[3(4 - 2x) + (5 - x)]$

$F = (7x + 1)(12 - 6x + 5 - x)$

$F = (7x + 1)(-7x + 17)$

Exercice 38 page 32 manuel Transmath

$A = 3x - 3$	$B = 4y + 6$	$C = 8 + 2n$
$A = 3 \times x - 3 \times 1$	$B = 2 \times 2y + 2 \times 3$	$C = 2 \times 4 + 2 \times n$
$A = 3(x - 1)$	$B = 2(2y + 3)$	$C = 2(4 + n)$
$D = 7x^2 - 5x$	$E = 30a + 36a^2$	$F = -2x^2 - 2$
$D = x \times 7x - x \times 5$	$E = 6a \times 5 + 6a \times 6a$	$F = -2 \times x^2 - 2 \times 1$
$D = x(7x - 5)$	$E = 6a(5 + 6a)$	$F = -2(x^2 + 1)$

Exercice 39 page 32 manuel Transmath

	Forme factorisée	Forme développée
a.	$(x+5)^2$	$x^2+10x+25$
b.	$(x-6)^2$	$x^2-12x+36$
c.	$(2x+10)^2$	$4x^2+40x+100$
d.	$(x+10)(x-10)$	x^2-100
e.	$(x+11)(x-11)$	x^2-121
f.	$(7x-1)^2$	$49x^2-14x+1$

Exercice 40 page 32 manuel Transmath

a. $4x^2+12x+9=(2x+3)^2$

b. $16x^2-40x+25=(4x^2-5)^2$

c. $9x^2-64=(3x+8)(3x-8)$

d. $49-70x+25x^2=(7-5x)^2$

Exercice 42 page 32 manuel Transmath

Dans cet exercice, on va utiliser la 3e identité remarquable dans le sens de la factorisation :

$$a^2-b^2=(a+b)(a-b)$$

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

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

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

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

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

$E=(x-2)^2-9$

$E=(x-2)^2-3^2$

$E=[(x-2)+3]\,[(x-2)-3]$

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

$E=(x+1)(x-5)$

$F=(3x-1)^2-1$

$F=(3x-1)^2-1^2$

$F=[(3x-1)+1]\,[(3x-1)-1]$

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

$F=3x(3x-2)$