

Corrigés Savoir Cd. 3

Corrigé Exercice 8

1)

$$\begin{aligned} F(x) &= x^2 - 2x - (x + 3x^2 - 7) \\ &= x^2 - 2x - x - 3x^2 + 7 \\ &= -2x^2 - 3x + 7 \end{aligned}$$

$$\begin{aligned} G(x) &= (2x - 3) - (x^2 - x - 5) \\ &= 2x - 3 - x^2 + x + 5 \\ &= 3x - x^2 + 2 \end{aligned}$$

$$\begin{aligned} A(x) &= 3x^2 - 1 - (2 - x) \\ &= 3x^2 - 1 - 2 + x \\ &= 3x^2 + x - 3 \end{aligned}$$

$$\begin{aligned} H &= (3t - 1) \times (2t - 1) \\ &= 6t^2 - 3t - 2t + 1 \\ &= 6t^2 - 5t + 1 \end{aligned}$$

$$\begin{aligned} f(h) &= (5h - h^2) - (3 - h^2) \\ &= 5h - h^2 - 3 + h^2 \\ &= 5h - 3 \end{aligned}$$

$$\begin{aligned} B &= (n + 1) - (n + 2) \\ &= n + 1 - n - 2 \\ &= -1 \end{aligned}$$

$$\begin{aligned} 2) \text{ On a : } D &= M - N \\ &= (1 - 2x) - (3 - x) = 1 - 2x - 3 + x \\ &= -2 - x \end{aligned}$$

$$\begin{aligned} 3) \text{ On a : } h(x) &= g(x) - f(x) \\ &= (0,4x^2 + 1) - (x^2 - 5x + 1) \\ &= 0,4x^2 + 1 - x^2 + 5x - 1 \\ &= -0,6x^2 + 5x \end{aligned}$$

$$\begin{aligned} 4) R - S &= (p^2 - 3p) - (1 - p^2 + 2p) \\ &= p^2 - 3p - 1 + p^2 - 2p = 2p^2 - 5p - 1 \end{aligned}$$

$$\begin{aligned} 5) \text{ On a : } g(x) &= x - f(x) \\ &= x - (2x^2 - 5x + 1) \\ &= x - 2x^2 + 5x - 1 \\ &= -2x^2 + 6x - 1 \end{aligned}$$

$$\begin{aligned} 6) \text{ On a : } T - S &= (2p - 4p^2 - 1) - (p^2 + p) \\ &= 2p - 4p^2 - 1 - p^2 - p \\ &= -5p^2 + p - 1 \end{aligned}$$

Corrigé Exercice 9

$$\begin{aligned} Z &= 2 + 3(x - 5) \\ Z &= 2 + 3x - 15 \\ Z &= 3x - 13 \end{aligned}$$

$$\begin{aligned} Y &= 2x(x - 1) - (x + 2) \\ Y &= 2x^2 - 2x - x - 2 \\ Y &= 2x^2 - 3x - 2 \end{aligned}$$

$$\begin{aligned} f(x) &= 5x - 2x(x - 1) \\ &= 5x - 2x^2 + 2x \\ &= 7x - 2x^2 \end{aligned}$$

$$\begin{aligned} X &= 2t(t - 1) - t(1 - t) \\ X &= 2t^2 - 2t - t + t^2 \\ X &= 3t^2 - 3t \end{aligned}$$

$$\begin{aligned} W &= 6a + 2a(3 - a) \\ W &= 6a + 6a - 2a^2 \\ W &= 12a - 2a^2 \end{aligned}$$

$$\begin{aligned} M &= (n - 1)^2 - n(n + 1) \\ &= n^2 - 2n + 1 - n^2 - n \\ &= 1 - 3n \end{aligned}$$

$$\begin{aligned} V &= 3(y - 1) + y(y + 2) \\ V &= 3y - 3 + y^2 + 2y \\ V &= y^2 + 5y - 3 \end{aligned}$$

$$\begin{aligned} U &= 5(q + 2)(q - 1) \\ U &= 5q^2 - 5q + 10q - 10 \\ U &= 5q^2 + 5q - 10 \end{aligned}$$

$$\begin{aligned} N &= 2(p - 1)(p + 1) - p^2 \\ &= 2(p^2 - 1) - p^2 \\ &= p^2 - 2 \end{aligned}$$

Corrigé Exercice 10

$$\begin{aligned}
 1. \quad A &= (x-3)(2+7x) + (6-3x)(5+2x) \\
 A &= (2x+7x^2-6-21x) + (30+12x-15x-6x^2) \\
 A &= (7x^2-19x-6) + (-6x^2-3x+30) \\
 A &= 7x^2-19x-6+(-6x^2-3x+30) \\
 A &= x^2-22x+24
 \end{aligned}$$

$$\begin{aligned}
 C &= 5x + 2(3-4x) + x - 5 \\
 C &= 5x + 6 - 8x + x - 5 \\
 C &= -2x + 1
 \end{aligned}$$

$$\begin{aligned}
 B &= (4x-1)^2 + (3+4x)(5-x) \\
 B &= (4x-1)(4x-1) + (15-3x+20x-4x^2) \\
 B &= (16x^2-4x-4x+1) + (-4x^2+17x+15) \\
 B &= 16x^2-8x+1+(-4x^2+17x+15) \\
 B &= 12x^2+9x+16
 \end{aligned}$$

$$\begin{aligned}
 2. \quad D &= (x+1)(2x-1) + 3(x-2)(x+2) \\
 D &= 2x^2-x+2x-1+3(x^2-4) \\
 D &= 2x^2+x-1+3x^2-12 \\
 D &= 5x^2+x-13
 \end{aligned}$$

$$\begin{aligned}
 F &= (3x-1)(4-2x) + 2(3+4x)(5-x) \\
 F &= (12x-6x^2-4+2x) \\
 &\quad + 2(15-3x+20x-4x^2) \\
 F &= (-6x^2+14x-4) + 2 \times (-4x^2+17x+15) \\
 F &= -6x^2+14x-4-8x^2+34x+30 \\
 F &= -14x^2+48x+26
 \end{aligned}$$

$$\begin{aligned}
 E &= 2(x+3)(1-x) + (2x+4)(3-x) \\
 E &= 2(x-x^2+3-3x) \\
 &\quad + 6x-2x^2+12-4x \\
 E &= 2(-x^2-2x+3) - 2x^2+2x+12 \\
 E &= -2x^2-4x+6-2x^2+2x+12 \\
 E &= -4x^2-2x+18
 \end{aligned}$$

$$\begin{aligned}
 3. \quad G &= (4+3x)(x+5) - (2x-1)(3+4x) \\
 G &= (4x+20+3x^2+15x) - (6x+8x^2-3-4x) \\
 G &= +3x^2+19x+20 - (8x^2+2x-3) \\
 G &= +3x^2+19x+20-8x^2-2x+3 \\
 G &= -5x^2+17x+23
 \end{aligned}$$

$$\begin{aligned}
 I &= (2x-1)(4+x) - (2x-1)^2 \\
 I &= (8x+2x^2-4-x) - (2x-1)(2x-1) \\
 I &= (2x^2+7x-4) - (4x^2-2x-2x+1) \\
 I &= 2x^2+7x-4-4x^2+4x-1 \\
 I &= -2x^2+11x-5
 \end{aligned}$$

$$\begin{aligned}
 H &= (2x-3)(2x+3) - (4x-3)(1+x) \\
 H &= 4x^2-9 - (4x+4x^2-3-3x) \\
 H &= 4x^2-9 - (4x^2+x-3) \\
 H &= 4x^2-9-4x^2-x+3 \\
 H &= -x-6
 \end{aligned}$$

$$\begin{aligned}
 4. \quad J &= (5x-3)^2 - 3(3-5x)(2+8x) \\
 J &= (25x^2-15x-15x+9) \\
 &\quad - 3(6+24x-10x-40x^2) \\
 J &= (25x^2-30x+9) - 3 \times (-40x^2+14x+6) \\
 J &= 25x^2-30x+9+120x^2-42x-18 \\
 J &= 145x^2-72x-9
 \end{aligned}$$

$$\begin{aligned}
 L &= x-2(x-3) - (2x-4)^2 \\
 L &= x-2x+6 - (4x^2-16x+16) \\
 L &= -x+6-4x^2+16x-16 \\
 L &= -4x^2+15x-10
 \end{aligned}$$

$$\begin{aligned}
 K &= 2(1-4x)(5+x) - (1-3x)(x+8) \\
 K &= 2(5+x-20x-4x^2) - (x+8-3x^2-24x) \\
 K &= 2(-4x^2-19x+5) - (-3x^2-23x+8) \\
 K &= -8x^2-38x+10+3x^2+23x-8 \\
 K &= -5x^2-15x+2
 \end{aligned}$$