2nde : correction de l'accompagnement personnalisé (séance 12 du 12/12/2023)

Exercice I

Développer, puis réduire, si possible, chaque expression :

1. $A(x) = 2x(x+3) = 2x \times x + 2x \times 3 = \boxed{2x^2 + 6x}$
2. $B(y) = -7y^2\left(-5 - 2y^2\right) = 7y^2 \times 5 + 7y^2 \times 2y^2 = 35y^2 + 14y^4 = \boxed{14y^4 + 35y^2}$
3. $C(x) = (x+5)(x+1) = x \times x + x \times 1 + 5 \times x5 \times 1 = x^2 + x + 5x + 5 = \boxed{x^2 + 6x + 5}$
4. $D(x) = (2x-5)(x+4) = 2x \times x + 2x \times 4 - 5 \times x - 5 \times 4 = 2x^2 + 8x - 5x - 20 = \boxed{2x^2 + 3x - 20}$
5. $E(x) = (x+4)(x-6) + (-1+x)(x-7)$
   $= \left[x^2 - 6x + 4x - 24\right] + \left[-x + 7 + x^2 - 7x\right]$
   $= \left(x^2 - 2x - 24\right) + \left(x^2 - 8x + 7\right)$
   $= x^2 - 2x - 24 + x^2 - 8x + 7 = \boxed{2x^2 - 10x - 17}$
6. $F(a) = -3\left(a^2 + 2\right) - (a-3)(2a+7)$
   $= -3a^2 - 6 - \left[2a^2 + 7a - 6a - 21\right]$
   $= -3a^2 - 6 - 2a^2 - 7a + 6a + 21$
   $= \boxed{-5a^2 - a + 15}$

Exercice II

Développer et réduire

1. $A(x) = 5x(x-1) + 3x = 5x^2 - 5x + 3x = \boxed{5x^2 - 2x}$
2. $B(x) = (x-2)(x+3) = x^2 + 3x - 2x - 6 = \boxed{x^2 + x - 6}$
3. $C(x) = (6x+7)(3x-1) = 18x^2 - 6x + 21x - 7 = \boxed{18x^2 + 15x - 7}$
4. $D(y) = (y+1)(y-3) + (y-1)(y+5) = \left[y^2 - 3y + y - 7\right] + \left[y^2 + 5y - y - 5\right] = y^2 - 2y - 7 + y^2 + 4y - 5$
   $= \boxed{2y^2 + 2y - 12}$
5. $E(y) = 5(x-y) + y(8-x) + x(y+3) = 5x - 5y + 8y - xy + xy + 3x = \boxed{8x + 3y}$
6. $F(d) = (d-3)(d+1) - (d+4)(d-1) = \left[d^2 + d - 3d - 3\right] - \left[d^2 - d + 4d - 4\right] = \left[d^2 - 2d - 3\right] - \left[d^2 + 3d - 4\right]$
   $= d^2 - 2d - 3 - d^2 - 3d + 4 = \boxed{-5d + 1}$