Corrigé

Exercice 1

$A = \underbrace{-x^2 - 7x^2 - x^2}_{-9x^2} \underbrace{-5x + 8x}_{+3x} \underbrace{+7 - 11}_{-4}$

$\boxed{A = -9x^2 + 3x - 4}$

$B = -x^3 - \frac{x^2}{3} + 4x^2 + x + 3x + \frac{2x}{3}$

$= -x^3 \underbrace{- \frac{x^2}{3} + \frac{12x^2}{3}} + \frac{3x}{3} + \frac{9x}{3} + \frac{2x}{3}$

$= -x^3 + \frac{11}{3}x^2 + \frac{14}{3}x$

$\boxed{B = -x^3 + \frac{11}{3}x^2 + \frac{14}{3}x}$

Exercice 2

$C = 15x - 10x^2 - 9 + 6x = \boxed{-10x^2 + 21x - 9}$

$D = -3x^2 - 9x + 2x + 6 - 2x + 8 = \boxed{-3x^2 - 9x + 14}$

$E = (x^2 + 5x + 2x + 10)(1 - x) = (x^2 + 7x + 10)(1 - x)$

$= x^2 + 7x + 10 - x^3 - 7x^2 - 10x$

$= \boxed{-x^3 - 6x^2 - 3x + 10}$

Exercice 3

$F = (3x)^2 - 2 \times 3x \times 2 + 2^2 = \boxed{9x^2 - 12x + 4}$

$G = (2x)^2 + 2 \times 2x \times 7 + 7^2 = \boxed{4x^2 + 28x + 49}$

$H = (3x)^2 - 5^2 = \boxed{9x^2 - 25}$

$I = (5x)^2 - \left(\frac{2}{3}\right)^2 = \boxed{25x^2 - \frac{4}{9}}$

Exercice 4

$J = 2x - 10 - (x^2 - 2x + 1) - 2x + 3$

$= 2x - 10 - x^2 + 2x - 1 - 2x + 3 = \boxed{-x^2 + 2x - 8}$

$K = 3(x^2 - 4x + 4) = \boxed{3x^2 - 12x + 12}$

$L = 9(x^2 - 4x + 4) = \boxed{9x^2 - 36x + 36}$

$M = (2x - 3)(x^2 + 2x + 1) = 2x^3 + 4x^2 + 2x - 3x^2 - 6x - 3$

$= \boxed{2x^3 + x^2 - 4x - 3}$