Développements et factorisations

I   Développer , réduire et ordonner les expressions suivantes :

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

$B(x) = 7(x-2)(2x+5)$

$C(x) = (1-x)^2 - 2(1-x)(3+x)$

$D(x) = 3x(x+5)^2 + 5x(1-2x) - (x+2)(x-3)$

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

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

$G(x) = (-4x-1)^2 - 4(x+5)(-3x+4)$

$H(x) = 5x - 3(x-6)^2 - 7(3x-4)(3x+4)$

$I(x) = (4x-3y+5)^2$

II   Factoriser les expressions suivantes :

$A(x) = 16x^7 - 8x^4$

$B(x) = 2x(x+1) - (x+1)(x-3)$

$C(x) = xy - x - y + 1$

$D(x) = (5+x)(4-3x) + (3x-4)(x-4)$

$E(x) = 9x^2 + 12x + 4$

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

$G(x) = 9xy + 3y + 6x + 2$

$H(x) = (x-1)^2 - 25x^2$

$I(x) = (2x+3)(x-1) - 2(1-x)^2(5x+1)$

$J(x) = x^3 - 16x$

$K(x) = x^3 + 2x^2 + x - 2(x+1)(x-2)$

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

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

$N(x) = (4x-8)(1-2x) - (9x-18)(5-x)$

$P(x) = 2xy - 4y + 2 - x$

$Q(x) = (4x-10)(4x+7) + 4x^2 - 25$

$R(x) = 3(x-2)(x-3) - 4x^2 + 36$

$S(x) = (3x+2)(5x-1) - (9x^2 + 12x + 4) + 9x + 6$

$T(x) = \dfrac{x^2}{16} + \dfrac{x}{2} + 1$

$U(x) = 2(2x-1)^2 - 9$

$V(x) = (5x+2)^2 - 4 - 10x$

$W(x) = (2x-6)^2 + (x-3)$

$X(x) = 4x^2 - 9 - 4(3-2x)^2$

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

$Z(x) = -6x + 14 - (3x-7)^2 + (-9x+21)(x-1)$

$a(x) = 9x^2 - 6x + 1 - (2x-5)^2$

$b(x) = (1-3x)(7x+4) - (9x-3)^2 + 2(9x^2 - 1)$

$c(x) = 5x^2 + 3x - 125 + 15$