Calcul littéral

Exercice 1.

a) $3x-5+5x-6+3x^2-5x+6=$ $\boxed{3\,x^2+3\,x-5}$

b) $3x-5+x^3-5x^2+5x-1+3x^2-5x+6=$ $\boxed{x^3-2\,x^2+3\,x}$

c) $-15x^2+18x+25x-30=$ $\boxed{-15\,x^2+43\,x-30}$

d) $9x^3-15x^2+18x-15x^2+25x-30-x^3+5x^2-5x+1=$ $\boxed{8\,x^3-25\,x^2+38\,x-29}$

e) $(-5x+6)(3x-5+x^3-5x^2+5x-1)=(-5x+6)(x^3-5\,x^2+8\,x-6)$
$=-5x^4+25x^3-40x^2+30x+6x^3-30x^2+48x-36=$ $\boxed{-5\,x^4+31\,x^3-70\,x^2+78\,x-36}$

f) $A-D+B-C+A=2A+B-C-D=$ $\boxed{x^3-8\,x^2+11\,x-11}$

Exercice 2.

a) $\boxed{\frac{3}{5}x^8y^8-\frac{1}{6}x^6y^5}$

b) $12\,xy^2-8\,y^2-(-6\,xy^2+21\,y^2)=$ $\boxed{18\,xy^2-29\,y^2}$

c) $\boxed{4x^2-7}$

d) $(2x-1)(-15x^2+9x+20x-12)=(2x-1)(-15\,x^2+29\,x-12)=$
$-30x^3+58x^2-24x+15x^2-29x+12=$ $\boxed{-30\,x^3+73\,x^2-53\,x+12}$

e) $1-x+x^2-x^3+x^4+x-x^2+x^3-x^4+x^5=$ $\boxed{x^5+1}$

f) $-3x^2+\frac{1}{12}x+18x-\frac{1}{2}=$ $\boxed{-3\,x^2+\frac{217}{12}\,x-\frac{1}{2}}$

g) $-24x^4+30x^3-48x^3+60x^2-16x^2+20x+24x-30=$ $\boxed{-24\,x^4-18\,x^3+44\,x^2+44\,x-30}$

h) $1+6x+2y+7x-1-3y=$ $\boxed{13\,x-y}$