**2.3.27** Factoriser :

a) $x^3 + 2x^2 + x = x(x^2 + 2x + 1) = x(x+1)^2$

b) $2a^6 - 6a^4 + 6a^2 - 2 = 2(a^6 - 3a^4 + 3a^2 - 1)$

c) $9a^3 - ab^2 = a(9a^2 - b^2) = a(3a - b)(3a + b)$

d) $54a^6 - 2 =$

e) $\underset{A^2 - \quad B^2}{1 - (x-y)^2} = \left(1 - (x-y)\right)\left(1 + (x+y)\right) = \left(1 - x + y\right)\left(1 + x + y\right)$

f) $(x^2 - 1)^2 + 4x^2 = x^4 - 2x^2 + 1 + 4x^2 = x^4 + 2x^2 + 1 = \left(x^2 + 1\right)^2$

moche g) $(-3x + y)^2 - (4x - z)^2 = \left((-3x + y) - (4x - z)\right)\left(-3x + y) + (4x - z)\right) =$

$(7x + y + z)(x + y - z)$

b) $2\left(a^2 - 1\right)^3 = 2\left[(a-1)(a+1)\right]^3 = 2(a-1)^3(a+1)^3$

09.11.21

1) Mise en évidence

2) formule

3) trinôme (SP)

4) Groupement

5) Division

$$A^2 + B^2$$

$$A^2 - B^2 = (A-B)(A+B)$$

$$A^2 + 2AB + B^2 = (A + B)^2$$

$\longrightarrow$ factorisation

$\longleftarrow$ calcul littéral

h) $x^3 + 9x^2 + 11x - 21 = p$

$p(1) = 0 \implies x - 1 / p$

Par Horner :

| | 1 | 9 | 11 | $-21$ |
|---|---|---|---|---|
| ① | | 1 | 10 | 21 |
| | 1 | 10 | 21 | 0 |

$p = (x-1)(x^2 + 10x + 21)$

$= (x-1)(x+3)(x+7)$