

$$\text{246} \quad a^4 - a^2b^2 = a^2(a^2 - b^2) = a^2(a-b)(a+b)$$

$$\text{247} \quad 3x^2 - 6x + 3 = 3(x^2 - 2x + 1) = 3(x-1)^2$$

$$\text{248} \quad a^2x - b^2x + a^2y - b^2y =$$

$$= x(a^2 - b^2) + y(a^2 - b^2) = (a^2 - b^2)(x + y) =$$

$$= (a-b)(a+b)(x+y)$$

$$\text{249} \quad z(x-y)^2 - z^3 =$$

$$= z[(x-y)^2 - z^2] = z[(x-y) - z][(x-y) + z] =$$

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

$$\text{250} \quad x^4 + 3x^3 + 3x^2 + x =$$

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

$$\text{267} \quad a^4 - a^2 - 20a - 100 = a^4 - (a^2 + 20a + 100) =$$

$$= a^4 - (a+10)^2 = [a^2 - (a+10)][a^2 + (a+10)] =$$

$$= (a^2 - a - 10)(a^2 + a + 10)$$

$$268 \quad x^7 - 2x^5 + x^3 =$$

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

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

$$274 \quad x^{4n+2} y^n - x^2 y^{3n} = x^2 y^n \overbrace{\left(x^{4n} - y^{2n} \right)}^{\text{DIFFERENZA DI QUADRATI}} =$$

$$= x^2 y^n (x^{2n} - y^n)(x^{2n} + y^n)$$

DIFFERENZA DI CUBI

$$A^3 - B^3 = (A - B)(A^2 + AB + B^2)$$

$\underbrace{\hspace{10em}}$
FALSO QUADRATO

ES.

$$8x^3 - 1 = (2x - 1)(4x^2 + 2x + 1)$$

$\downarrow \quad \quad \downarrow$
 $(2x)^3 \quad 1^3$

DIMOSTRAZIONE

$$(A - B)(A^2 + AB + B^2) = A^3 + \cancel{A^2B} + \cancel{AB^2} - \cancel{A^2B} - \cancel{AB^2} - B^3 =$$
$$= A^3 - B^3$$

230 $x^6 - 8y^3 = (x^2 - 2y)(x^4 + 2x^2y + 4y^2)$

234 $a^9 - 8b^6c^3 = (a^3 - 2b^2c)(a^6 + 2a^3b^2c + 4b^4c^2)$

235 $8x^6 - 27y^3 = (2x^2 - 3y)(4x^4 + 6x^2y + 9y^2)$

SOMMA DI CUBI

$$A^3 + B^3 = (A+B)(A^2 - AB + B^2)$$

ES.

$$27x^3 + 1 = (3x+1)(9x^2 - 3x + 1)$$

$$125 + 8t^3 = (5 + 2t)(25 - 10t + 4t^2)$$

$$a^{3x} + a^6 = (a^x + a^2)(a^{2x} - a^{x+2} + a^4)$$

$$\textbf{252} \quad 2x^3 - 16y^3 = 2(x^3 - 8y^3) =$$

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

$$\textbf{256} \quad x^7 - 81x^3 = x^3(x^4 - 81) =$$

$$= x^3(x^2 - 9)(x^2 + 9) = x^3(x - 3)(x + 3)(x^2 + 9)$$

$$\textbf{266} \quad 8a^4 - 27a = a(8a^3 - 27) =$$

$$= a(2a - 3)(4a^2 + 6a + 9)$$