Lezione 45

$$\frac{m^6 - n^6}{(a^2 - b^2)} = \frac{(m^3 - n^3)(m^3 + n^3)}{(a-b)(a+b)}$$

(A) (B)

(A) $m^3 - n^3 = (m-n)(m^2+mn+n^2)$

(B) $m^3 + n^3 = (m+n)(m^2-mn+n^2)$

$$m^6 - n^6 = (m-n)(m^2+mn+n^2)(m+n)(m^2-mn+n^2) =$$

$$= (m-n)(m+n)(m^2+mn+n^2)(m^2-mn+n^2)$$

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

$x^3 - y^3 = (x-y)(x^2+xy+y^2)$

$(a-b)(a^2+ab+b^2) =$

$= a^3 + a^2b + ab^2 - a^2b - ab^2 - b^3$

$= a^3 - b^3$

$$2a^3b^3 - a^4 - a^2b^6 =$$

RACCOGLIMENTO TOTALE

$$= a^2 \cdot (2ab^3 - a^2 - b^6) =$$

$$= a^2 \left[-1 (b^6 + a^2 - 2ab^3)\right] =$$

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

QUADRATO DI BINOMIO

$$= -a^2 (b^3 - a)^2$$

$$x^{10} + x^9 + x^8 + x^7 =$$

RACC. TOTALE

$$= x^7 \cdot (x^3 + x^2 + x + 1)$$

RACC. PARZIALE

$$= x^7 \cdot [x^2(x+1) + 1(x+1)] =$$

$$= x^7 \cdot [(x+1)(x^2+1)] = x^7 (x+1)(x^2+1)$$

$m^2 - (n+6m)^2 =$

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

DIFF. OF SQUARES
$A^2 - B^2 = (A-B)(A+B)$

$= [m - (n+6m)][m + (n+6m)]$

$A - B \qquad A + B$

$= (m - n - 6m)(m + n + 6m)$