

ESERCIZI IN PIÙ**LA SCOMPOSIZIONE MEDIANTE
RACCOGLIMENTO E PRODOTTI NOTEVOLI**

Scomponi in fattori i seguenti polinomi.

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|-----------|---|---|
| 1 | $(x^2 + 2y^2)^2 - 12y^2(x^2 + 2y^2) + 36y^4$ | $[(x - 2y)^2 (x + 2y)^2]$ |
| 2 | $4(a - b)^2 - 4(a - b) + 1 - (2a - b)^2$ | $[(b + 1)(3b - 4a + 1)]$ |
| 3 | $(2x - 1)^3 - (3x + 1)^3$ | $[-(x + 2)(19x^2 + x + 1)]$ |
| 4 | $27x^5 - 27x^3 - x^2 + 1$ | $[(x - 1)(x + 1)(3x - 1)(9x^2 + 3x + 1)]$ |
| 5 | $\frac{28}{25}a^2b + \frac{7}{4}b^3 + \frac{175}{9}b + \frac{14}{5}ab^2 + \frac{28}{3}ab + \frac{35}{3}b^2$ | $\left[7b\left(\frac{2}{5}a + \frac{1}{2}b + \frac{5}{3}\right)^2\right]$ |
| 6 | $64x^6 - 16x^3 + 1$ | $[(2x - 1)^2(4x^2 + 2x + 1)^2]$ |
| 7 | $3x - 4 - 3x^3 + 4x^2$ | $[(4 - 3x)(x - 1)(x + 1)]$ |
| 8 | $2x^7 - 24x^5y^2 + 96x^3y^4 - 128xy^6$ | $[2x(x - 2y)^3(x + 2y)^3]$ |
| 9 | $3(x + 2y)^2 - 12(x + 2y) + 12 - 12y^2$ | $[3(x - 2)(x + 4y - 2)]$ |
| 10 | $32x^5 + 4x^2y^3 - 8x^3y^2 - y^5$ | $[(2x - y)(2x + y)^2(4x^2 - 2xy + y^2)]$ |
| 11 | $a^8 - 2a^4b^2 + b^4$ | $[(a^2 - b)^2(a^2 + b)^2]$ |
| 12 | $4x^3y + 2x^2y^2 + \frac{1}{4}xy^3$ | $\left[xy\left(2x + \frac{1}{2}y\right)^2\right]$ |
| 13 | $x^4 - x^3yz + \frac{1}{3}x^2y^2z^2 - \frac{1}{27}xy^3z^3$ | $\left[x\left(x - \frac{1}{3}yz\right)^3\right]$ |
| 14 | $x^4 + 4y^2 - 4x^2 - x^2y^2$ | $[(x - 2)(x + 2)(x - y)(x + y)]$ |
| 15 | $x^4 + 4ax^3 + (4a^2 + 4)x^2 + 8ax + 4$ | $[(x^2 + 2ax + 2)^2]$ |