Soluzioni test autovalutazione

INFOMAAT
CENTRO RIPETIZIONI
SINCE 2011

1. $x^3y^3 - 1 = (xy - 1)(x^2y^2 + xy + 1)$

2. $x^3 - 4ax^2 + 3a^2x = x(x^2 - 4ax + 3a^2) = x(x - 3a)(x - a)$

3. $x^6 - 5x^3 - 24 = (x^3 - 8)(x^3 + 3) = (x - 2)(x^2 + 2x + 4)(x^3 + 3)$

4. $-2y^2 + 2xz - yz + 4xy = -y(2y + z) + 2x(z + 2y) = (2x - y)(2y + z)$

5. $$\begin{aligned} 2xy - x^2 - y^2 + 9 &= -(-2xy + x^2 + y^2) + 9 = 9 - (-2xy + x^2 + y^2) \\ &= 9 - (x - y)^2 = (3 - x + y)(3 + x - y) \end{aligned}$$

6. $x^6 + y^6 = (x^2 + y^2)(x^4 + x^2y^2 + y^4)$

7. $$\begin{aligned} x^4 - x^3yz + \frac{1}{3}x^2y^2z^2 - \frac{1}{27}xy^3z^3 &= x\left(x^3 - x^2yz + \frac{1}{3}xy^2z^2 - \frac{1}{27}y^3z^3\right) \\ &= x\left(x - \frac{1}{3}yz\right)^3 \end{aligned}$$

8. $25m^2 + 20mn + 4n^2 = (5m + 2n)^2$

9. $a^5y^2 + 6a^3y + 9a = a(a^4y^2 + 6a^2y + 9) = a(a^2y + 3)^2$

10. $a^2b^2 + 1 + a^2 + b^2 = b^2(a^2 + 1) + (a^2 + 1) = (a^2 + 1)(b^2 + 1)$