1. $0{,}001\,a^3 + 1 = \mathbf{(0,1\,a + 1)(0,01\,a^2 - 0,1\,a + 1)}$

2. $2x^3 + x^{n+3} + x^{4+n} = \mathbf{x^3\,(2 + x^n + x^{n+1})}$

3. $a^{10} + a^6 + \dfrac{1}{4} + 2a^8 + a^5 + a^3 = \mathbf{\left(a^5 + a^3 + \dfrac{1}{2}\right)^2}$

4. $a^3x^2 - b^6x^2 - a^3y^2 + b^6y^2 = a^3(x^2 - y^2) - b^6(x^2 - y^2) = (x^2 - y^2)(a^3 - b^6) =$
   $= \mathbf{(x - y)(x + y)(a - b^2)(a^2 + ab^2 + b^4)}$

5. $2x^3 - 4x^2 - 3x + 6 = 2x^2(x - 2) - 3(x - 2) = \mathbf{(x - 2)(2x^2 - 3)}$

6. $\dfrac{1}{9}x^2 - \dfrac{4}{3}x + 4 = \mathbf{\left(\dfrac{1}{3}x - 2\right)^2}$

7. $abx^2 - bx^2 - ax^2 + x^2 = x^2(ab - b - a + 1) = x^2\big(b\,(a - 1) - (a - 1)\big) = \mathbf{x^2(a - 1)(b - 1)}$

8. $x^6 - y^6 = (x^3 - y^3)(x^3 + y^3) = \mathbf{(x - y)(x^2 + xy + y^2)(x + y)(x^2 - xy + y^2)}$

9. $\dfrac{4}{9}x^3y - \dfrac{2}{27} = \mathbf{\dfrac{2}{9}\left(2x^3y - \dfrac{1}{3}\right)}$

10. $8a^6 + 12\,a^4b^5 + 6a^2b^{10} + b^{15} = \mathbf{(2a^2 + b^5)^3}$

11. $(2x + 3y)^2 + (5x - 3y)^2 + 2\,(2x + 3y)(5x - 3y) = [(2x + 3y) + (5x - 3y)]^2 = (7x)^2 = \mathbf{49\,x^2}$

12. $0{,}25\,x^6 - y^{18} = \mathbf{(0,5\,x^3 - y^9)(0,5\,x^3 + y^9)}$

13. $ax^2 + 2axy + ay^2 - x^2 - 2xy - y^2 = a\,(x^2 + 2xy + y^2) - 1\,(x^2 + 2xy + y^2) =$
    $= (x^2 + 2xy + y^2)(a - 1) = \mathbf{(x + y)^2(a - 1)}$

14. $a^5 - 16a = a(a^4 - 16) = a(a^2 + 4)(a^2 - 4) = \mathbf{a\,(a^2 + 4)(a - 2)(a + 2)}$

15. $a^7 - 8\,ab^3 = a\,(a^6 - 8b^3) = \mathbf{a\,(a^2 - 2b)(a^4 + 2a^2b + 4b^2)}$