

Exercises — Adding and multiplying polynomials

Simplify:

1. $(5x^2 + 3x^3 - 3) + (3x^3 - 5x^2 + 4x + 2)$

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

3. $(2a^3 + 6a^2 + 8a + 5) - (5a^3 - 7a^2 + 5a + 6)$

4. $(2x^2y^3 + 5x^3z + 8xy) - (3x^3 - 4x^2y^3 + 3xy + 6)$

5. $(3x^{99} + 99y^3) + (99x^3 + 3y^{99})$

6. $(2x^2 + 5)(3x^2 - 6)$

7. $(4x^2 - 6y^2)(5x^2 - 3y^2)$

8. $(x^2 - 6x + 6)(x^2 + 3x + 3)$

9. $(x - 12)(x + 12)$

10. $(x - 9)(x^2 + 9x + 81)$

11. $(2a - 3)(4a^2 + 6a + 9)$

12. $(x^2 + 3y)(x^4 - 3x^2y + 9y^2)$

13. $(5x^3 + 3x^2 - 3) + (3x^3 - 5x^2 + 4x + 2) - (2x^3 + 3x - 3)$

14. $4x^2(x^6 + 3y^4)(x^6 - 3y^4)$

15. $(x - 12)(x + 12)(x + 3)$