Operations with Polynomials

Emphasis on Subtracting Polynomials

Subtract each of the following:

1. $(3 + 7v^3 + 5v) - (8v + 6v^3 - 2)$

$3 + 7v^3 + 5v - 8v - 6v^3 + 2$

$v^3 - 3v + 5$

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

$6n^3 + n - 2n^2 - 5n^3 + 7n^2 - 7n$

$n^3 + 5n^2 - 6n$

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

$4 - v^2 - 5v^3 - v^3 - 5v^4 + 6$

$-5v^4 - 6v^3 - v^2 + 10$

4. $(3n^3 + 3n^2 + 6n) - (7n + 7n^3 - 2n^2)$

$3n^3 + 3n^2 + 6n - 7n - 7n^3 + 2n^2$

$-4n^3 + 5n^2 - n$

5. $(6p^3 - 6p - 3p^2) - (6p^2 - 4p^3 - 5p)$

$6p^3 - 6p - 3p^2 - 6p^2 + 4p^3 + 5p$

$10p^3 - 9p^2 - p$

6. $(3p^3 + 2p + 4p^4) - (2p^4 - 2p^3 + 2p)$

$3p^3 + 2p + 4p^4 - 2p^4 + 2p^3 - 2p$

$2p^4 + 5p^3$

7. $(6 + m - 8m^2) - (7m - 2m^2 + 2)$

$6 + m - 8m^2 - 7m + 2m^2 - 2$

$-6m^2 - 6m + 4$

8. $(2x - 3x^3 + 7x^4) - (4x^4 - 5x^3 - 2x)$

$2x - 3x^3 + 7x^4 - 4x^4 + 5x^3 + 2x$

$3x^4 + 2x^3 + 4x$

9. $(1 - 8x^4 - x^2) - (3x^2 + 7x^4 - 5)$

$1 - 8x^4 - x^2 - 3x^2 - 7x^4 + 5$

$-15x^4 - 4x^2 + 6$

10. $(a^2 - 1 + 5a^3) - (4 - 5a^2 - 7a^3)$

$a^2 - 1 + 5a^3 - 4 + 5a^2 + 7a^3$

$12a^3 + 6a^2 - 5$

11. $(7r^2 + 7r^4 - 4r) - (7r^4 - r + 3r^2)$

$7r^2 + 7r^4 - 4r - 7r^4 + r - 3r^2$

$\boxed{4r^2 - 3r}$

12. $(7p^4 + 8p - 2p^3) - (4p^3 + 8p - 2p^4)$

$7p^4 + 8p - 2p^3 - 4p^3 - 8p + 2p^4$

$\boxed{9p^4 - 6p^3}$

13. $(7n^4 + 5 - 7n) - (8 - 6n^6 - n)$

$7n^4 + 5 - 7n - 8 + 6n^6 + n$

$\boxed{6n^6 + 7n^4 - 6n - 3}$

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

$x^4 + 3 + 5x^2 - 2x^2 - 3 - 8x^4$

$\boxed{-7x^4 + 3x^2}$

15. $(4 + 7r^2 - 4r) - (5r^4 + 5 - 7r^2)$

$4 + 7r^2 - 4r - 5r^4 - 5 + 7r^2$

$\boxed{-5r^4 + 14r^2 - 4r - 1}$

16. $(6x^4 - 3 + 8x) - (3 - 4x^4 - 3x^2)$

$6x^4 - 3 + 8x - 3 + 4x^4 + 3x^2$

$\boxed{10x^4 + 3x^2 + 8x - 6}$

17. $(n - 2 - 5n^2) - (4n^4 - 1 - 4n^2)$

$n - 2 - 5n^2 - 4n^4 + 1 + 4n^2$

$\boxed{-4n^4 - n^2 + n - 1}$

18. $(7b^3 - 5b^2 - 5b^4) - (2b^4 + 7b^3 + 5b^2)$

$7b^3 - 5b^2 - 5b^4 - 2b^4 - 7b^3 - 5b^2$

$\boxed{-7b^4 - 10b^2}$

19. $(8 + 2x^3 + 3x) - (3 + 7x^3 - 2x)$

$8 + 2x^3 + 3x - 3 - 7x^3 + 2x$

$\boxed{-5x^3 + 5x + 5}$

20. $(5a^2 - 7 + 3a^4) - (7a^2 - 2 + 4a)$

$5a^2 - 7 + 3a^4 - 7a^2 + 2 - 4a$

$\boxed{3a^4 - 2a^2 - 4a - 5}$