

Adding and Subtracting Polynomials

Simplify each expression.

1) $(8a - 4a^2) - (7a^3 - a)$

2) $(6a - 3a^2) + (2a^2 - 3a)$

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

4) $(2a^2 + 4a^3) - (3a^3 + 8)$

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

6) $(8n^2 - 2n^3) + (6n^3 - 8n^2)$

7) $(8b^3 + 8) - (6 - 7b^3)$

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

9) $(10p^4 + 11) - (11p^4 + 13 + 16p^2)$

10) $(20v^2 - 9v^3) - (7v^3 - 10v^4 - 14v^2)$

11) $(10x^4 - 16) + (12 - 6x^3 + 11x^4)$

12) $(14 + 12a^3) + (17a^4 + 15 - 5a^3)$

13) $(17v^2 - 8) + (17v^2 + 10 + v^3)$

14) $(20n + 11n^4) - (15n + 16n^2 - 17n^4)$

15) $(10k^4 + 17k^3) - (14k^3 - 2k + 9k^4)$

16) $(9r + 6r^4) + (12r - 2r^4 - 17)$

$$17) (11n + 7n^5 + 5) - (7n - 11n^5 + 6n^3) - (4 + 4n^5)$$

$$18) (9a^4 + 1 - 11a^2) - (a + 8a^2 + 2) - (6a^2 - 9)$$

$$19) (6k^5 - 6k^3 - 6k) + (4k + 11k^4 - 11) + (k^2 - 12)$$

$$20) (12x^4 + 3x^5 + 3x^2) - (6x - 5x^2 + 4) + (5x^5 + 7x)$$

$$21) (10v^2 - 1 - v^3) + (10v^5 - 5v^3 + 5) - (4v^3 - 11v^5)$$

$$22) (7x^2 - 4x^4 - 12) + (4x^5 - 7x^4 - 5x^2) + (4x^2 - 3x^4)$$

$$23) (10 + 9v^5 - 8v^2) + (4v^4 + 3v^5 + 10) - (6 - 7v^4)$$

$$24) (8r - 7r^5 + 6r^3) + (10r^5 + r + 4r^3) + (2r + 12r^5)$$

Adding and Subtracting Polynomials

Simplify each expression.

1) $(8a - 4a^2) - (7a^3 - a)$

$$-7a^3 - 4a^2 + 9a$$

2) $(6a - 3a^2) + (2a^2 - 3a)$

$$-a^2 + 3a$$

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

$$-x^2 + 7x$$

4) $(2a^2 + 4a^3) - (3a^3 + 8)$

$$a^3 + 2a^2 - 8$$

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

$$-5x^3 + 5x^2 - 1$$

6) $(8n^2 - 2n^3) + (6n^3 - 8n^2)$

$$4n^3$$

7) $(8b^3 + 8) - (6 - 7b^3)$

$$15b^3 + 2$$

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

$$9x^3 - 3$$

9) $(10p^4 + 11) - (11p^4 + 13 + 16p^2)$

$$-p^4 - 16p^2 - 2$$

10) $(20v^2 - 9v^3) - (7v^3 - 10v^4 - 14v^2)$

$$10v^4 - 16v^3 + 34v^2$$

11) $(10x^4 - 16) + (12 - 6x^3 + 11x^4)$

$$21x^4 - 6x^3 - 4$$

12) $(14 + 12a^3) + (17a^4 + 15 - 5a^3)$

$$17a^4 + 7a^3 + 29$$

13) $(17v^2 - 8) + (17v^2 + 10 + v^3)$

$$v^3 + 34v^2 + 2$$

14) $(20n + 11n^4) - (15n + 16n^2 - 17n^4)$

$$28n^4 - 16n^2 + 5n$$

15) $(10k^4 + 17k^3) - (14k^3 - 2k + 9k^4)$

$$k^4 + 3k^3 + 2k$$

16) $(9r + 6r^4) + (12r - 2r^4 - 17)$

$$4r^4 + 21r - 17$$

$$17) (11n + 7n^5 + 5) - (7n - 11n^5 + 6n^3) - (4 + 4n^5)$$

$$14n^5 - 6n^3 + 4n + 1$$

$$18) (9a^4 + 1 - 11a^2) - (a + 8a^2 + 2) - (6a^2 - 9)$$

$$9a^4 - 25a^2 - a + 8$$

$$19) (6k^5 - 6k^3 - 6k) + (4k + 11k^4 - 11) + (k^2 - 12)$$

$$6k^5 + 11k^4 - 6k^3 + k^2 - 2k - 23$$

$$20) (12x^4 + 3x^5 + 3x^2) - (6x - 5x^2 + 4) + (5x^5 + 7x)$$

$$8x^5 + 12x^4 + 8x^2 + x - 4$$

$$21) (10v^2 - 1 - v^3) + (10v^5 - 5v^3 + 5) - (4v^3 - 11v^5)$$

$$21v^5 - 10v^3 + 10v^2 + 4$$

$$22) (7x^2 - 4x^4 - 12) + (4x^5 - 7x^4 - 5x^2) + (4x^2 - 3x^4)$$

$$4x^5 - 14x^4 + 6x^2 - 12$$

$$23) (10 + 9v^5 - 8v^2) + (4v^4 + 3v^5 + 10) - (6 - 7v^4)$$

$$12v^5 + 11v^4 - 8v^2 + 14$$

$$24) (8r - 7r^5 + 6r^3) + (10r^5 + r + 4r^3) + (2r + 12r^5)$$

$$15r^5 + 10r^3 + 11r$$