MATHS

Polynomials Worksheet

For students preparing for MAH-B.BCA/BBA/BMS/BBM CET 2024 for admission to BCA, BBA, BMS, BBM

NOTE: This worksheet consists of subjective questions:

1. Add the following polynomials.

    (i) $7x^4 - 2x^3 + x + 10$; $3x^4 + 15x^3 + 9x^2 - 8x + 2$
    (ii) $3p^3q + 2p^2q + 7$; $2p^2q + 4pq - 2p^3q$

2. Subtract the second polynomial from the first.

    (i) $5x^2 - 2y + 9$; $3x^2 + 5y - 7$
    (ii) $2x^2 + 3x + 5$; $x^2 - 2x + 3$

3. Multiply the following polynomials.
    (i) $(m^3 - 2m + 3)(m^4 - 2m^2 + 3m + 2)$

    (ii) $(5m^3 - 2)(m^2 - m + 3)$

4. Simplify. $(8m^2 + 3m - 6) - (9m - 7) + (3m^2 - 2m + 4)$
5. Which polynomial is to be subtracted from $x^2 + 13x + 7$ to get the polynomial $3x^2 + 5x - 4$?
6. Which polynomial is to be added to $4m + 2n + 3$ to get the polynomial $6m + 3n + 10$?
7. Add the given polynomials:

    (i) $x^3 - 2x^2 - 9$; $5x^3 + 2x + 9$
    (ii) $- 7m^4 + 5m^3 + \sqrt{2}$; $5m^4 - 3m^3 + 2m^2 + 3m - 6$
    (iii) $2y^2 + 7y + 5$; $3y + 9$; $3y^2 - 4y - 3$

8. Subtract the second polynomial from the first.

(i) $x^2 - 9x + \sqrt{3}$; $-19x + \sqrt{3} + 7x^2$

(ii) $2ab^2 + 3a^2b - 4ab$; $3ab - 8ab^2 + 2a^2b$

9. Multiply the given polynomials.

    a. $2x$; $x^2 - 2x - 1$

    b. $x^5 - 1$; $x^3 + 2x^2 + 2$

    c. $2y + 1$; $y^2 - 2y^3 + 3y$

ANSWERS:

1. (i) $10x^4 + 13x^3 + 9x^2 - 7x + 12$

   (ii) $p^3q + 4p^2q + 4pq + 7$

2. (i) $2x^2 - 7y + 16$

   (ii) $x^2 + 5x + 2$

3. (i) $m^7 - 4m^5 + 6m^4 + 6m^3 - 12m^2 + 5m + 6$

   (ii) $5m^5 - 5m^4 + 15m^3 - 2m^2 + 2m - 6$

4. $11m^2 - 8m + 5$
5. $-2x^2 + 8x + 11$
6. $2m + n + 7$
7. (i) $6x^3 - 2x^2 + 2x$ (ii) $-2m^4 + 2m^3 + 2m^2 + 3m - 6 + 2$ (iii) $5y^2 + 6y + 11$
8. (i) $-6x^2 + 10x$ (ii) $10ab^2 + a^2b - 7ab$
9. (i) $2x^3 - 4x^2 - 2x$ (ii) $x^8 + 2x^7 + 2x^5 - x^3 - 2x^2 - 2$ (iii) $-4y^4 + 7y^2 + 3y$