Unique Paper Code: MATH/2026/EXP/7/0147
Year: 2026 Chapter: Algebraic Expressions Class: 7 S.No.: 0147

Instructions:

1. This test contains 15 multiple-choice questions.
2. Each question has 4 choices. Choose the correct one.
3. Marks will be awarded for correct answers only.

Algebraic Expressions

1. If the expression $5x^2y - 3xy^2 + 7$ is subtracted from $8xy^2 + 2x^2y - 4$, what is the coefficient of xy^2 in the result?

   (a) 5
   (b) 11
   (c) -11
   (d) -5

2. The perimeter of an isosceles triangle is represented by the expression $7a + 5b$. If the two equal sides are each $2a + b$, what is the expression for the base?

   (a) $3a + 3b$
   (b) $5a + 4b$
   (c) $4a + 2b$
   (d) $3a + 4b$

3. Which of the following pairs are unlike terms?

   (a) $5x^2y^3$ and $-2y^3x^2$
   (b) $7pq$ and $-3qp$
   (c) $4m^2n$ and $4mn^2$
   (d) $-8abc$ and $10bac$

4. Simplify: $0.5(4x^2 - 6x + 8) - 2(1.5x - x^2 + 1)$

   (a) $4x^2 - 9x + 2$
   (b) $4x^2 - 9x + 6$
   (c) $2x^2 - 3x + 2$
   (d) $4x^2 - 3x + 2$

5. If $P = 3x^2 - 4xy + 9$ and $Q = -2x^2 + 6xy - 5$, what is the value of $2P - 3Q$?

   (a) $12x^2 - 26xy + 33$
   (b) $12x^2 - 26xy + 3$

(c) $12x^2 + 10xy + 33$

(d) $0x^2 - 26xy + 33$

6. An algebraic expression has terms with coefficients that are consecutive integers starting from 2. If the terms are $2a, 3b, 4c, 5d$, and the constant is 10, what is the sum of the coefficients of the terms containing variables?

   (a) 10

   (b) 14

   (c) 24

   (d) 34

7. What must be added to $7p^2 - 8pq + 4q^2$ to get $10pq - 3p^2 + 2q^2$?

   (a) $-10p^2 + 18pq - 2q^2$

   (b) $10p^2 + 18pq - 2q^2$

   (c) $-10p^2 + 2pq - 2q^2$

   (d) $-10p^2 + 18pq + 6q^2$

8. When the expression $5m - 3n + 8$ is subtracted from the sum of $2m + 7n - 4$ and $4m - 2n + 1$, the result is:

   (a) $m + 6n - 13$

   (b) $m + 12n - 13$

   (c) $m + 6n - 5$

   (d) $m + 12n - 5$

9. The formula for the area of a trapezium is $\frac{1}{2}h(a + b)$. If $h = 3x$, $a = (2x + 5)$, and $b = (x - 2)$, what is the simplified algebraic expression for the area?

   (a) $\frac{9x^2+9x}{2}$

   (b) $\frac{9x^2+9x}{2}$ sq. units

   (c) $4.5x^2 + 4.5x$

   (d) $9x^2 + 9x$

10. Identify the statement that is **false** about the expression $8 - 3x^2y + 7xy^2$.

    (a) The constant term is 8.

    (b) The coefficient of x^2y is -3.

    (c) There are three terms.

    (d) $3x^2y$ and $7xy^2$ are like terms.

11. Simplify by combining like terms: $0.2a^2b - 1.5ab^2 + 3.4a^2b + 2.1ab^2 - 0.8a^2b$.

    (a) $2.8a^2b + 0.6ab^2$

    (b) $2.8a^2b - 0.6ab^2$

(c) $3.6a^2b + 0.6ab^2$

(d) $3.6a^2b - 3.6ab^2$

12. If the sum of two expressions is $9l^2 - 4lm + 2m^2$ and one of them is $3l^2 + 5lm - 6m^2$, what is the other expression?

(a) $6l^2 - 9lm + 8m^2$

(b) $6l^2 + 9lm - 8m^2$

(c) $6l^2 - 9lm - 8m^2$

(d) $12l^2 - 9lm + 8m^2$

13. The cost of a book is $Rs.(3x + 10)$ and the cost of a pen is $Rs.(x - 4)$. What is the total cost of 5 books and 3 pens?

(a) $Rs.(18x + 38)$

(b) $Rs.(18x + 62)$

(c) $Rs.(15x + 50)$

(d) $Rs.(18x + 50)$

14. Which expression is equivalent to $-\{2p - [3q - (4r - p)] + 5r\}$?

(a) $-3p + 3q - r$

(b) $-3p - 3q + r$

(c) $-p + 3q - 9r$

(d) $-p - 3q + 9r$

15. In the expression $\frac{5x^2}{2} - \frac{3y}{4} + 8$, what is the sum of the numerical coefficients of the terms containing variables?

(a) 2.5

(b) 2.5 and -0.75

(c) 3.25

(d) 1.75