Unique Paper Code: MATH/2026/EXP/7/0517

Year: 2026 Chapter: Algebraic Expressions Class: 7 S.No.: 0517

Solutions: Algebraic Expressions

1.
$$(-3x^2y) \times (2xy - 5y^2) = (-3x^2y \times 2xy) + (-3x^2y \times -5y^2)$$
$$= -6x^3y^2 + 15x^2y^3$$
The product is $\boxed{-6x^3y^2 + 15x^2y^3}$.

2.
$$(7a^2 - 3ab + b^2) + (-2a^2 + ab - 4b^2) + (a^2 + 2ab + 3b^2)$$
$$= (7a^2 - 2a^2 + a^2) + (-3ab + ab + 2ab) + (b^2 - 4b^2 + 3b^2)$$
$$= 6a^2 + 0ab + 0b^2 = 6a^2$$
The sum is $\boxed{6a^2}$.

3. The pair $4x^2y^2$ and $4x^2y$ are unlike terms because the exponents of y are different. The correct option is $\boxed{4x^2y^2 \text{ and } 4x^2y}$.

4.
$$\text{Third side} = (15x + 12) - (4x + 5 + 5x - 3) = 6x + 10$$
The third side is $\boxed{6x + 10}$.

5.
$$4q - (5p - 6q) = 4q - 5p + 6q = -5p + 10q$$
$$3p - (-5p + 10q) = 3p + 5p - 10q = 8p - 10q$$
$$2(8p - 10q) = 16p - 20q$$
$$(16p - 20q) - (p - 2q) = 15p - 18q$$
The simplified form is $\boxed{11p - 18q}$.

6.
$$2A = 2(5x - 3y + 2) = 10x - 6y + 4$$
$$3B = 3(2x + 4y - 5) = 6x + 12y - 15$$
$$2A - 3B = (10x - 6y + 4) - (6x + 12y - 15) = 4x - 18y + 19$$
The result is $\boxed{4x - 18y + 19}$.

7. The expression $\frac{5x}{2} - \frac{3y}{4} + 7$ has three terms. The number of terms is $\boxed{3}$.

8. Let the expression to be added be E:
$$(9m^2 - 4mn + n^2) + E = 3m^2 + 2mn - 5n^2$$
$$E = (3m^2 + 2mn - 5n^2) - (9m^2 - 4mn + n^2) = -6m^2 + 6mn - 6n^2$$
The expression to be added is $\boxed{-6m^2 + 6mn - 6n^2}$.

9. The coefficient of xy is $-\frac{2}{5}$. The coefficient is $\boxed{-\frac{2}{5}}$.

10. $$(15x + 40) - (7x - 15 + 3x + 10) = 15x + 40 - 10x - 5 = 5x + 35$$
    The money left is $\boxed{\text{Rs.}(5x + 35)}$.

11. $$(0.2a^2b + 0.8a^2b) + (-0.5ab^2 + 0.3ab^2) = 1.0a^2b - 0.2ab^2$$
    The simplified form is $\boxed{1.0a^2b - 0.2ab^2}$.

12. The expression $a^2 + ab + b^2$ is a trinomial with no constant term. The correct option is $\boxed{a^2 + ab + b^2}$.

13. $$(5p^2q + 2pq^2) - (p^2q - pq^2) = 4p^2q + 3pq^2$$
    $$(8p^2q - 3pq^2) + (4p^2q + 3pq^2) = 12p^2q + 0pq^2 = 12p^2q$$
    The sum is $\boxed{12p^2q}$.

14. $$\text{Perimeter} = 4 \times (3x - 4) = 12x - 16$$
    The perimeter is $\boxed{12x - 16}$ units.

15. The incorrect statement is: $-2x^2$ and $\frac{3x}{5}$ are like terms. The correct option is $\boxed{-2x^2 \text{ and } \frac{3x}{5} \text{ are like terms}}$.