Subject: - Mathematics **PRACTICE PAPER** **CBSE-8th**

Topic: - Algebraic Expressions - 2

Q.1 Add the following algebraic expressions: -

$2, \frac{2y}{3} - \frac{5y^2}{3} + \frac{5y^3}{2}, \frac{4}{3} + \frac{2y^2}{3} - \frac{y}{2}, \frac{5y^3}{3} + 3y^2 + 3y + \frac{6}{5}$ **Ans.** $\frac{28}{15} + \frac{19}{6}y + 2y^2 + \frac{25}{6}y^3$

Q.2 Simplify: - $Take\ away\ \frac{9}{2} + \frac{x}{2} + \frac{3}{5}x^2 + \frac{7}{4}x^3\ from\ \frac{7}{2} - \frac{x}{3} - \frac{x^2}{5}$ **Ans.** $-1 - \frac{5}{6}x - \frac{4}{5}x^2 - \frac{7}{4}x^3$

Q.3 Subtract the sum of $3l - 4m - 7n^2\ and\ 2l + 3m - 4n^2$ from the sum of $9l + 2m - 3n^2\ and\ -3l + m + 4n^2$. **Ans.** $l + 4m + 12n^2$

Q.4 Multiply each of the following monomials

(i) $20x^{10}y^{20}z^{30}, (10xyz)^2$ **Ans.** $2000x^{12}y^{22}z^{32}$

(ii) $(-3x^2y), (4xy^2z), (-xy^2z^2) and\ (\frac{4}{5}z)$ **Ans.** $\frac{48}{5}x^4y^5z^4$

Q.5 Express the following product as a monomial.

$(x^3) \times (7x^5) \times (\frac{1}{5}x^2) \times (-6x^4)$ verify the product for $x = 1$. **Ans.** $-\frac{42}{5}x^{14}$

Q.6 Find the following products: -

(i) $0.1a \times (0.01a \times 0.001b)$ **Ans.** $0.001a^2 + 0.0001ab$

Q.7 Subtract: $3l(l - 4m + 5n)\ from\ 4l(10n - 3m + 2l)$ **Ans.** $25ln + 5l^2$

Q.8 Multiply : $\left(\frac{1}{5}x - \frac{1}{4}y\right)\ and\ (5x^2 - 4y^2)$ **Ans.** $x^3 - \frac{4}{5}xy^2 - \frac{5}{4}x^2y + y^3$

Q.9 Multiply: $(3x^2 + y^2)\ by\ (x^2 + 2y^2)$ by column method. **Ans.** $3x^4 + 7x^2y^2 + 2y^4$

Q.10 Simplify:

(i) $(x^3 - 2x^2 + 3x - 4)(x - 1) - (2x - 3)(x^2 - x + 1)$ **Ans.** $x^4 - 5x^3 + 10x^2 - 12x + 7)$

Q.11 If $x - \frac{1}{x} = 9$ find $x + \frac{1}{x}$ **Ans.** $\pm\sqrt{85}$

Q.12 If $(x + y) = 12\ and\ xy = 14$ find the value of $x^2 + y^2$ **Ans. 116**

Q.13 Find the continued product:- (i) $(x + 2)(x - 2)(x^2 + 4)$ **Ans.** $(x^4 - 16)$

Q.14 Prove that: - $2a^2 + 2b^2 + 2c^2 - 2ab - 2bc - 2ca = (a - b)^2 + (b - c)^2 + (c - a)^2$

Q.15 Evaluate: - i) $(101)^2$ **Ans.** (10201) ii) (67×73) **Ans. 4891** iii) 107×103 **Ans. 11021**