

Subject: - Mathematics

**PRACTICE PAPER**

**CBSE-8<sup>th</sup>**

Topic: - Algebraic Expressions

**Q.1 Add the following algebraic expressions: -**

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

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

$$\text{Ans. } -1 - \frac{5}{6}x - \frac{4}{5}x^2 - \frac{7}{4}x^3$$

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

$$\text{Ans. } l + 4m + 12n^2$$

**Q.4 Multiply each of the following monomials**

(i)  $20x^{10}y^{20}z^{30}, (10xyz)^2$

$$\text{Ans. } 2000x^{12}y^{22}z^{32}$$

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

$$\text{Ans. } \frac{48}{5}x^4y^5z^4$$

**Q.5 Express the following product as a monomial.**

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

**Q.6 Find the following products: -**

(i)  $0.1a \times (0.01a \times 0.001b)$

$$\text{Ans. } 0.001a^2 + 0.0001ab$$

Q.7 Subtract:  $3l(l - 4m + 5n)$  from  $4l(10n - 3m + 2l)$

$$\text{Ans. } 25ln + 5l^2$$

Q.8 Multiply :  $(\frac{1}{5}x - \frac{1}{4}y)$  and  $(5x^2 - 4y^2)$

$$\text{Ans. } x^3 - \frac{4}{5}xy^2 - \frac{5}{4}x^2y + y^3$$

Q.9 Multiply:  $(3x^2 + y^2)$  by  $(x^2 + 2y^2)$  by column method.

$$\text{Ans. } 3x^4 + 7x^2y^2 + 2y^4$$

Q.10 Simplify:

(i)  $(x^3 - 2x^2 + 3x - 4)(x - 1) - (2x - 3)(x^2 - x + 1)$

$$\text{Ans. } x^4 - 5x^3 + 10x^2 - 12x + 7$$

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)  $(67 \times 73)$

Ans. 4891

iii)  $107 \times 103$

Ans. 11021