## Chapter- 9 (Algebraic Expressions & Identities)

1) Add : $7xy + 5yx - 3x^2$, $4yz + 9zx - 4y$, $-3x^2 + 5x - 2xy$

2) Subtract : $5x^2 - 4y^2 + 6y - 3$ from $7x^2 - 4xy + 8y^2 + 5x - 3y$

3) Find the area of a rectangle with given length $4ab$ and breadth $5b$.

4) Find the volume of a rectangular box with given length, breadth & height $2ax$, $3by$ & $5cz$.

5) Simplify the expression (i) $x(x-3) + 2$ for $x = 1$
(ii) $3y(2y-7) - 3(y-4) - 63$ for $y = 2$

6) Add: (i) $5m(3-m)$ and $6m^2 - 13m$
(ii) $4y(3y^2 + 5y - 7)$ and $2(y^3 - 4y^2 + 5)$

7) Subtract $3pq(p-q)$ from $2pq(p+q)$

8) Multiply (i) $(x-4)$ and $(2x+3)$ (ii) $(x-4)$ & $(3x+5y)$

9) Multiply (i) $(a+7)(b-5)$ (ii) $(a^2 + 2b^2)$ and $(5a - 3b)$

10) Simplify : $(a+b)(2a - 3b + c) - (2a - 3b)c$

11) Find (i) $(2x + 3y)^2$ (ii) $(103)^2$

12) Find (i) $(4p - 3q)^2$ (ii) $(4.9)^2$

13) Find : $\left(\frac{3}{2}m + \frac{2}{3}n\right)\left(\frac{3}{2}m - \frac{2}{3}n\right)$ (ii) $(983)^2 - (17)^2$ (iii) $194 \times 206$

14) Find (i) $501 \times 502$ (ii) $95 \times 103$

15) Find the sum of $5x^2 - xy$; $2xy - x^2 + 8$ and $-2(y^2 - 3xy + 5)$

16) Find p using identity if $10p = 49^2 - 39^2$

17) Simplify: $(2m^2 - 3n)(m^2 + 5n) + (7n^2 - 30)$ and evaluate for $m = 2$ and $n = -1$.

18) ∴ ∴ Evaluate using identity

(a) $x^2 + \frac{1}{x^2}$, if $x + \frac{1}{x} = 8$

(b) $106 \times 108$

19) Evaluate using identity : $98 \times 97$

20) Simplify : $\frac{4}{3}a(9a^2 - 12a + 45) - 12a^3$ and find its value for $a = 2$.

21) Subtract $(a - 3b)^2 + 49a^2$ from $(5a - 3b)^2 + (5a + 3b)^2$

22) Find the product of $(-2mn)(5m^2n^2)(-4mn^3)$