



# INDIAN SCHOOL NIZWA - WORKSHEET

## Chapter 9 Algebraic Expressions and Identities

Name:

Class :VIII Sec:

Answer the following questions

- Find the area of the rectangle whose length is  $10p + 7q$  and breadth is  $3r$ .
- What is the volume of a rectangular box of sides  $x^2y$ ,  $xy^2$  and  $3xy$ .
- What will be the product if we multiply double of  $\frac{(x-2)}{x}$  by triple of  $\frac{(x+2)}{x}$
- What should be subtracted from  $3a + 7b - 10$  to get  $-2a - 7b + 9$ ?
- Subtract  $5xy(x + y - 5)$  from  $x(6x^2 - 7y + 5) + xy(x + y)$ .
- Simplify  $x^3(2x^2 - 3) - 3x^2(4x - x^3) - 7x^5$  and find its value at  $x = -1$ .
- If  $A = (\frac{1}{3}x^2 - \frac{4}{7}x + 11)$ ,  $B = (\frac{1}{7}x - 3 + 2x^2)$ ,  $C = (\frac{2}{7}x - \frac{2}{3}x^2 + 2)$ . Find  $A + B - C$ .
- Find the product of the following expressions:
  - $(3x^2y) \times (\frac{-1}{5}xyz) (\frac{3}{5}y^2z)$
  - $(\frac{1}{8}ab) \times (\frac{-8}{11}bc) \times (\frac{-22}{3}ca)$
  - $(\frac{3}{8}x^2y) \times (\frac{-4}{7}y^2z) \times (\frac{-7}{11}z^2x)$
  - $(\frac{1}{5}ab) \times (\frac{-3}{5}a^2b) \times (\frac{5}{22}b^2c)$
- Find the area of a field whose length is  $3x^2y + y^2$  and breadth is  $\frac{5}{8}x^2$
- Find the products of the following expressions:
  - $(2x - 1)(x + 2)$
  - $(p^2 + q^2)(p + q)$
  - $(\frac{2}{3}x + y)(x^2 - y^2)$
  - $(2x - 1)(x^2 + x + 1)$
  - $(3a + 1)(\frac{a^3}{5} - a + 1)$
  - $(x + xy)(\frac{x^2}{2} + xy + y^2)$
- Find the following products:
  - $(x + 2)(3x + 1)(x - 3)$
  - $(5x + 1)(2x - 3)(x + 5)$
  - $(2x + y)(x - y)(x + y)$
  - $(3a + b)(2a + b)(a - b)$

## 12. Case Study Based Questions



The perimeter of square shaped playground is 256 m with each side  $(x + 2)$  m. Three friends Ajay, Aman and Sooraj cycle along the boundary of the playground. One day, Sooraj's cycle got damaged and other two friends decided to gift Sooraj a cycle as a surprise gift on his birthday. Ajay and Aman contributed ₹ $(4a + 60)$  and ₹ $(6a + 10)$  respectively, to buy the gift. The cost of the gift was ₹4200.

**Answer the following questions based on the above information:**

- Find the value of  $x$ .
- Find the side of square-shaped ground?
- What is the value of  $a$ ?
- What was the amount given by Ajay and Aman to Sooraj?
- What is the perimeter and area of the playground?