

**INTERNATIONAL INDIAN SCHOOL BURAIDAH**

**STD VII -- MATHS WORKSHEET(II TERM)**

**L-12 Algebraic Expression**

- Write the terms and factor of the following expressions :  
(i)  $5a + 7b - 6$  (ii)  $3x - 10$  (iii)  $5x^2 - 2xy + z^2 - 4$
- Classify the expressions based on the number of terms :  
(i)  $ab + bc$  (ii)  $abc$  (iii)  $a^2 + b^2 + c^2$  (iv)  $a + b$  (v)  $3x + 4y$
- Identify the terms other than constants and write the numerical coefficients :  
(i)  $x - 14$  (ii)  $4x^3 - 3y^2 + 9$  (iii)  $8xy + 12x^2y^2$
- Write the coefficient of  $x$  in the following expressions :  
(i)  $10x + 7y$  (ii)  $y - 18x$  (iii)  $3x^2y + 3xy^2 + y^3$
- Write down the like terms from the following :  
 $-5zy, 3x, 4zx, -7x, -11x^2y^2z, -8x^2yz, 9zy^2x^2, 7yz, 8xz, 10yzx^2$
- Simplify the following expressions :  
(i)  $3ab + 7ba - 8ab - 6ab$  (ii)  $13xy - 9xy + 8xy - 12xy$   
(iii)  $99xy + 3xy - 2xy$  (iv)  $-3x^2 + 7xy - 10 + 6x^2 - xy + 8$   
(v)  $3a^2 - 4ab + 7b^2 + 15 - 6b^2 + 5$  (vi)  $a^2 - 3a + 4a - 5 + 8a^2 + 2$
- Subtract the following expressions :  
(i)  $13x^2$  **from**  $7x^2$  (ii)  $(2a - 7b)$  **from**  $(a + 10b)$  (iii)  $(a^3 + 3a^2b - b^3)$  **from**  $(3a^3 - 4a^2b - 7b^3)$   
(v)  $(11x^2 + 16xy - 19y^2)$  **from**  $(15x^2 - 6xy + 3y^2)$
- From the sum of  $a^2 - 7a + 10$  and  $3a^2 + 4a - 15$  **subtract**  $2a^2 + a - 9$ .
- From the sum of  $3a^2 + 5ab - 7b^2$  and  $11a^2 - 6ab + 2b^2$  **subtract the sum of**  $a^2 - 2ab - 3b^2$  and  $a^2 + 2ab + 5b^2$ .
- What should be added to  $7x^2 + 3xy - y^2$  **to get**  $-x^2 + 2xy + y^2$ .

contd.....

11. What must be subtracted from  $3x + 8xy + 9y$  to get  $7x - xy + 8y$ .

12. Find the value of the expressions if  $a = 1$ ,  $b = -1$ ,  $c = 0$

(i)  $a^2 + b^2 + c^2$  (ii)  $a^2 - bc + ab - b^2$

13. If  $x = 1$ ,  $y = -2$  find the value of the expressions :

(i)  $x^2 + y^2$  (ii)  $x - y - 3$  (iii)  $x^2 - 2xy + y^2$

(iv)  $4x - 7$  (v)  $2x^2 - 3x - 4$  (vi)  $2y^2 - 2y - 2$

14. Simplify the expressions and find the value if  $x = 2$ ,  $y = -2$  :

i.  $4x - 3 + 8 - 5x$

ii.  $2(x + 3) + 5(x - 1)$

iii.  $7 - 2x + 3(x + 1)$

iv.  $3(x + 2) - 5(1 - x)$

v.  $3(x - y) + 4x - y$

vi.  $2(1 - y) + 3(x - 1) - 10$

vii.  $(-2 + x) - 4(2 + y)$

15. Write the expressions for the following :

i.  $a$  taken away from  $4b$ .

ii. The product of  $x$  and  $2y$  divided by  $7$ .

iii. The sum of  $x$ ,  $y$ ,  $z$  subtracted from the product of  $x$  and  $y$ .

iv. One third the sum of  $x$  and  $y$ .

v.  $10$  added to two times the product of  $p$  and  $q$ .

vi. The sum of  $a$  and four times  $x$ .

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