CBSE Worksheet-1

CLASS -VII Mathematics (Algebraic Expressions)

Choose correct option in questions 1 to 4.

1. Multiply 2a and 3a.

   a. $6a^2$ b. $5a^2$

   c. a^2 d. $12a^2$
2. Get the algebraic expressions for subtraction of z from y.

   a. y + z b. y - z

   c. y × z d. $\frac{y}{z}$
3. Find the value of x + 4 for x = 2.

   a. 2 b. 4

   c. 6 d. 8
4. Find the product of (2x + 3y) (2x + 3y).

   a. $5x^2 + 9y^2 + 12xy$ b. $4x^2 + 7y^2 + 12xy$

   c. $4x^2 + 9y^2 + 13xy$ d. $4x^2 + 9y^2 + 12xy$

Fill in the blanks:

5. When terms have the same algebraic factor, they are called _____.
6. An expression which contains two unlike terms is called _____.
7. A _____ can take various values.
8. Find the product:$\left(\frac{2}{3}xyz\right)\left(\frac{3}{4}x^2y^2z^2\right)\left(\frac{4}{5}x^3y^3z^3\right)$.
9. Simplify these expressions and find their values,if x= 3,a= - 1,b= - 2.

   a. $3x - 5a - x^2 + 9b$

   b. $2b - 8x + 4x^2 + 4a$
10. Simplify combining like terms:

    a. $3a - 2b - ab - (a - b + ab) + 3ab + b - a$

    b. $5x^2y - 5x^2 + 3yx^2 - 3y^2 + x^2 - y^2 + 8xy^2 - 3y^2$
11. What should be taken away from $3x^2 - 4y^2 + 5xy + 20$ to obtain $-x^2 - y^2 + 6xy + 20$?

CBSE Worksheet-1

CLASS -VII Mathematics (Perimeter and Area)

Answer key

1. a
2. b
3. c
4. d

   Explanation: (2x + 3y) (2x + 3y) = 2x(2x + 3y) +3y(2x + 3y)

   = $4x^2$ + 6xy + 6xy +$9y^2$ = $4x^2$ + $9y^2$ + 12xy
5. like terms
6. binomial
7. variable
8. $\frac{2}{5}x^6y^6z^6$
9. a. -13

   Explanation: when x = 3,a= - 1,b = - 2.

   3x- 5a -x^2+ 9b = 3x3 - 5 x(-1) - $(3)^2$ + 9 (-2)= 9 + 5 -9 -18 = -13

   b. 4

   Explanation: when x = 3,a= - 1,b = - 2.

   2b - 8x+ $4x^2$+ 4a = 2(-2) - 8(3) + 4$(3)^2$ + 4(-1) = -4 - 24 + 36 - 4 = 4
10. a. $a + ab$

    Explanation: $3a - 2b - ab - (a - b + ab) + 3ab + b - a$

    = $3a - 2b - ab - a + b - ab + 3ab + b - a = a + ab$

    b. $8x^2y + 8xy^2 - 4x^2 - 7y^2$

    Explanation: $5x^2y - 5x^2 + 3yx^2 - 3y^2 + x^2 - y^2 + 8xy^2 - 3y^2$

    = $8x^2y - 4x^2 - 7y^2 + 8xy^2$
11. $4x^2 - 3y^2 - xy$

    Explanation: $3x^2 - 4y^2 + 5xy + 20 - (- x^2 - y^2 + 6xy + 20)$

    = $3x^2 - 4y^2 + 5xy + 20 + x^2 + y^2 - 6xy - 20$

    = $4x^2 - 3y^2 - xy$