# Cosmo School

Vacation Work Sheet
Class-6
Subject-Math

1. Monika has 4 times more chocolates than konika. They have 25 chocolates together.

   a.If konika have x chocolates then how many chocolates does monika have in term of x?

   b. How many chocolates does monika and konika have?

   c. If monika gave to her younger sister from her chocolates, then 12 cholates were left with her, how many chocolates did monika give her sister?

2. Sum of three consecutive odd natural number is 45.

   a. Find the three numbers in term of x.

   b. Determine the three numbers.

   c. If twice times of y is 4 more than the sum of the obtained first and third number. Find the value of y.

**3**

If $5x^2$ + xy + $3y^2$, $x^2$ – 8xy, $y^2$ - $x^2$ + 10xy are three algebraic expressions.

   a) How many terms are there in the first expression and what are they ?

   b) Add three expressions. What is the coefficient of xy in the sum ?

   c) Simplify ( $5x^2$ + xy + $3y^2$ ) $-$ ($x^2 - 8xy$ )$-$ ( $y^2 - x^2$ + 10xy ) and find out the  value, when x = 2 and y = 1.

4.

If $a^2$, $b^2$,$c^2$ are three algebraic expressions, then-

   a) What is the numerical coefficient of $b^2$?

   b) Add three times of $c^2$ with two times of $a^2$.

   c) Add four times of $c^2$ with the difference of two times of $b^2$ from three times of $a^2$

5. If the price of a notebook is Tk. x, the price of a pen is Tk. y and the price of a pencil is Tk. z, then –

   a) What is the total price of 2 pencils and three pens?

   b) What will be the price of 10 pens deducted from the total price of 5 notebooks and 8 pencils? Express it into algebraic expression.

c) What is meant by 3x-2y+5z? What is the numerical coefficient of y and z? What is the product of numerical coefficient of x, y and z?

6.

If $x = 5a + 7b + 9c$, $y = b - 3a - 4c$, $z = c - 2b + a$ , (Ex-4.3,Q-20)

a. Determine the value of $(x + y)$ when $a = 4, b = 1, c = 3$,

b. If the value of $a, b, c$ are 1 then find the value of $(y - z)(x - z)$.

c. Show that , $x + y + z = 3(a + 2b + 2c)$.

7.

$A = 5x^3 - 3a^2x^2 + 4a^3$, $B = 4x^3 - 3a^2x^2 + 3a^3$ and $C = x^3 + 3x^2y - 2y^3$ (Ex-4.3.Ref Q-37)

a. Find the sum of A and B .

b. Simplify & find the value of $\{C - (9x^3 + x^2y + 4y^3)\}$, when $x = 1, y = 2$

c. Prove that , $A - B = x^3 + a^3$ .

8. Rana is 4 years older than kartik and shaon is 6 years younger than kartik. The summation of ages of three persons is 58 years.
a) Express the age of Rana and Shaon in terms of x.
b) Form an equation in the view of above information.
c) Determine the age of each person.

9. The sum of present ages of father and son is 97 years. The age of father is 5 years more than the 3 times of the age of son.
a) Form an equation in the view of above information.
b) Determine the present age of father and son.
c) Find what will be the age of father and son after 5 years.