## Weekly School Grade 9 1<sup>st</sup> Week (January) (01) <u>Number patterns</u>

1. Write the next two terms of the number pattern 3,6,9,12,.....

In the above pattern It's clear that, every term which comes after the first term is obtained by adding the constant value of 3 to the previous term.

Therefore next two terms are,

12 + 3 = 15 15 + 3 = 18 3, 6, 9, 12, 15, 18,.....

2. The general term of a number pattern is 2n + 1. Find the  $1^{st}$ ,  $2^{nd}$ ,  $3^{rd}$  and  $10^{th}$  term of it.

## 3. The common term of a number pattern is 20 – 5n

i. Which term is equal to 5?

let's make n the subject of this equation 20-5n = 5 20-5 = 5n 15 = 5n  $\frac{15}{5} = \frac{5n}{5}$ 3 = n

It 12 a term of this pattern ?.

Let's make n the subject of the equation.

20 - 5n = 12 5n = 20 - 12 5n = 8  $\frac{8}{5} = \frac{5n}{5}$ 1.6 = n

The value of n is not a whole number. Therefore 12 is not a term of this pattern.

## Do the exercise 1.1 in your text book

4. Find the multiples which are joined to build up the following sequences.

4, 7, 10, 13,	7 – 3 = 3	multiples of 3
15, 20, 25, 30,	.20 - 15 = 5	multiples of 5.

It's clear that through the common difference the relevant multiple can find.

5. Find the general term of the number sequence 4, 6, 8, 10, ......

As the common difference is two, The multiple of 2 is joined with the general term

pattern of multiples of 2

2, 4, 6, 8, 10,....

It is clear that the given number pattern is obtained by adding 2 to each multiple of 2

: The general term is,

 $T_n = 2n + 2$ 

## Do the exercise 1.2 in your text book.

- 6. Saman opened a savings account by depositing Rs 100 in first month. Then in an every month he deposited Rs 10 more than the previous month.
  - i. Write the deposited amount in first three months.
  - ii. Find the amount deposited in 10<sup>th</sup> month.

1<sup>st</sup> month : Rs 100 2<sup>nd</sup> month : Rs 110 3<sup>rd</sup> month : Rs 120

100, 110, 120,...... The multiples of 10 is joined with this pattern.

Pattern of multiples of 10.

10, 20, 30, 40, 50,....

It's clear that the given number pattern is obtained by adding 90 to each multiples of 10.

∴ The general term is

Tn = 10n +90