## **Chapter 7: Number Patterns**

## Ex-7(B)-Page 171

Q1. Find a formula for the general term for each of the following number sequences:

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b) -4, -1, 2, 5, 8, ...

Ans: We have, T_n = T_1 + (n-1) d

T_1 = -4

d = -4, -1, 2, 5, 8, ...

+3 + 3 + 3 + 3 + 3

= +3

Therefore, T_n = T_1 + (n-1) d

= -4 + (n - 1) 3

= -4 + 3n - 3

= 3n - 7
```

c) 60, 67, 74, 81, 88, ...

<u>Ans:</u> We have,  $T_n = T_1 + (n-1) d$  $T_1 = 60$ 

$$d = 60, 67, 74, 81, 88, ...$$

$$= +7$$
Therefore,  $T_n = T_1 + (n-1) d$ 

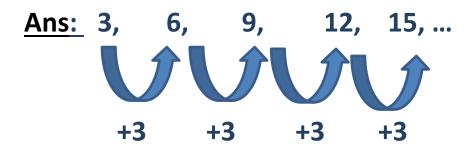
$$= 60 + (n-1) 7$$

$$= 60 + 7n - 7$$

$$= 7n + 53$$

Q3. Consider the sequence 3, 6, 9, 12, 15, ...

i) Write down the next two terms of the sequence.



Next two terms are 18 and 21.

ii) Find, in terms of n, a formula for the nth term of the sequence.

$$d = 3, 6, 9, 12, 15, ...$$
  
+3 +3 +3 +3  
= +3  
Therefore,  $T_n = T_1 + (n-1) d$   
= 3 + (n - 1) 3  
= 3 + 3n - 3  
= 3n

iii) Hence, find the 105<sup>th</sup> term.

Ans: We have,  $T_n = 3n$ Therefore,  $T_{105} = 3 \times 105$ 

= 315