

ARITHMETIC PROGRESSIONS

An **arithmetic progression** (AP) is a list of numbers in which each term is obtained by adding a fixed number d to the preceding term, except the first term. The fixed number d is called the **common difference**

For examples :

- | | |
|-------------------------------|-------------------|
| 1) 1,2,3,4,5, | $d = 2 - 1 = 1$ |
| 2) 1,5,9,13,17, | $d = 5 - 1 = 4$ |
| 3) 10,7,4,1, -2, | $d = 7 - 10 = -3$ |
| 4) 8,4,0, -4, -8, -12, | $d = 4 - 8 = -4$ |
| 5) 3,3,3,3,3 | $d = 3 - 3 = 0$ |

For an AP ,if the common difference is :

- **Positive** ,the AP is
- **Zero** , the AP is
- **Negative** the AP is

For the following APs, write the common difference:

- | | |
|-------------------------------|-------|
| 1) 1, 4, 7, 10, | $d =$ |
| 2) 2, 6, 10, 14, | $d =$ |
| 3) 10, 8, 6, 4, | $d =$ |
| 4) 3, 1, -1, -3, | $d =$ |
| 5) 5, 5, 5, 5, | $d =$ |
| 6) 1, 1.5, 2, 2.5, | $d =$ |
| 7) 0.6, 1.7, 2.8, 3.9, | $d =$ |