

Tutorial 15

(Level 1)

1. Write down the common difference of the AP 4, 7, 10, 13 and the AP 10, -1, -12, -23.
2. Find the number of terms in the AP 82, 73, 64, 55, ..., 1
3. Find the arithmetic mean of -15 and -12
4. Insert three arithmetic means between 3 and 27
5. Find the sum of the following APs:
 - a) $1 + 4 + 7 + \dots$ to 30 terms
 - b) $80 + 76 + 72 + \dots + 40$

(Level 2)

6. For the arithmetic sequence $x - 8, x - 3, x + 2, x + 7, \dots$, find
 - a) the common difference.
 - b) the general term
 - c) the 11th term
7. For the arithmetic series $2 + 8 + 14 + \dots$, find
 - a) the 10th term
 - b) the 20th term
 - c) the sum of the series from the 10th term to the 20th term.

(Level 3)

8. In a pile of sticks, there are 32 sticks in the bottom layer, 29 sticks in the second bottom layer, 26 sticks in the third bottom layer, and so on. There are ten layers in the pile. The uppermost 6 layers are used to make a fence. Find
 - a) the number sticks in the pile.
 - b) the number of sticks used to make the fence

Solution

1. 3, -11

2. 10

3. -8.5

4. 9, 15, 21

5. a) 1335 b) 660

6. a) 5 b) $T(n) = x + 5n - 13$ c) $x + 42$

7. a) 56 b) 116 c) 946

8. a) 185 b) 75