

Exercise 2023-12 ED-00001(1) Arithmetic Sequences

(1) Write the next three terms in each of the following sequences:

[Also indicate which of the sequences are arithmetic sequences.]

- (a) 3 ; 6 ; 12 ; 24 ; ... ..
- (b) 3 ; - 4 ; - 11 ; - 18 ; ... ..
- (c) 113 ; 115 ; 117 ; 119 ; ... ..
- (d) 0,17 ; 0,37 ; 0,57 ; 0,77 ; ... ..
- (e)  $\frac{1}{2}$  ;  $\frac{2}{3}$  ;  $\frac{3}{4}$  ;  $\frac{4}{5}$  ; .....
- (f) 2 ; 8 ; 18 ; 32 ; ... ..

(2) Write the first four terms in each of the following sequences:

[Also indicate which of the sequences are arithmetic sequences.]

- (a)  $T_n = -3n$
- (b)  $T_n = 2^n$
- (c)  $T_n = n + 10$
- (d)  $T_n = 4n + 1$
- (e)  $T_n = n^2$
- (f)  $T_n = \frac{n}{2}$

(3) Consider the sequence: 3 ; 7 ; 11 ; 15 ; ... ..

- (a) Calculate the general term of the sequence.
- (b) Calculate  $T_{25}$ .
- (c) Calculate  $n$  if  $T_n = 87$ .

(4) How many terms are there in the following sequence: 65 ; 59 ; 53 ; 47 ; .... ; -85?

(5) Place 6 terms between 8 and 29 for it to form an arithmetic sequence.