

1) In an arithmetic sequence,  $u_1=3$  and  $u_5=21$ .

(a) find  $d$ .

(b) find  $u_{13}$

(c) find  $S_{13}$

2) In an arithmetic sequence,  $u_1=-2$  and  $u_7=16$ .

(a) find  $d$ .

(b) find  $u_9$

(c) find  $S_9$

3) In an arithmetic sequence,  $u_1=3,5$  and  $u_6=16$ .

(a) find  $d$ .

(b) find  $u_{15}$

(c) find  $S_{15}$

4) In an arithmetic sequence,  $u_1=2$  and  $u_5=8$ .

(a) find  $d$ .

(b) find  $u_{20}$

(c) find  $S_{20}$

5) In an arithmetic sequence,  $u_1=4$ ,  $u_{14}=69$  and  $u_n=779$ .

(a) find the value of common difference

(b) find the value of  $n$

6) In an arithmetic sequence,  $u_1=-12$ ,  $u_{19}=114$  and  $u_n=233$ .

(a) find the value of common difference

(b) find the value of n

7) In an arithmetic sequence,  $u_4=-35$ ,  $u_{21}=16$  and  $u_n=499$ .

(a) find the value of common difference

(b) find the value of n

8) In an arithmetic sequence,  $u_1=7$ ,  $u_{20}=64$  and  $u_n=3709$ .

(a) find the value of common difference

(b) find the value of n

9) Consider the arithmetic sequence 4, 11, 18, ..., 879

(a) Write down the common difference.

(b) Find the number of terms in the sequence.

(c) Find the sum of sequence.

10) Consider the arithmetic sequence  $-12, -7, -2, \dots, 503$

(a) Write down the common difference.

(b) Find the number of terms in the sequence.

(c) Find the sum of sequence.

11) Consider the arithmetic sequence  $3, 9, 15, \dots, 1353$

(a) Write down the common difference.

(b) Find the number of terms in the sequence.

(c) Find the sum of sequence.

12) An arithmetic sequence,  $u_1, u_2, u_3, \dots$ , has  $d=9$  and  $u_{32}=281$

(a) find  $u_1$ .

(b) (i) Given that  $u_n=362$ , find the value of  $n$ .

(ii) For this value of  $n$ , find  $S_n$ .

13) An arithmetic sequence,  $u_1, u_2, u_3, \dots$ , has  $d=-5$  and  $u_{16}=6$

(a) find  $u_1$ .

(b) (i) Given that  $u_n=-39$ , find the value of  $n$ .

(ii) For this value of  $n$ , find  $S_n$ .

14) An arithmetic sequence,  $u_1, u_2, u_3, \dots$ , has  $d=11$  and  $u_{32}=263$

(a) find  $u_1$ .

(b) (i) Given that  $u_n=516$ , find the value of  $n$ .

(ii) For this value of  $n$ , find  $S_n$ .

15) The  $n^{\text{th}}$  term of arithmetic sequence is given by  $u_n=3n-1$ .

(a) Write down the common difference.

(b) (i) Given that  $n^{\text{th}}$  term of this sequence is 50, find the value of  $n$ .

(ii) For this value of  $n$ , find the sum of sequence.

16) The  $n^{\text{th}}$  term of arithmetic sequence is given by  $u_n=12+3n$ .

(a) Write down the common difference.

(b) (i) Given that  $n^{\text{th}}$  term of this sequence is 69, find the value of  $n$ .

(ii) For this value of  $n$ , find the sum of sequence.

17) The  $n^{\text{th}}$  term of arithmetic sequence is given by  $u_n=5+2n$ .

(a) Write down the common difference.

(b) (i) Given that  $n^{\text{th}}$  term of this sequence is 115, find the value of  $n$ .

(ii) For this value of  $n$ , find the sum of sequence.

18) In an arithmetic series, the first term is 9 and the sum of first 10 terms is 225.

(a) Find the common difference.

(b) Find the value of the 14<sup>th</sup> term.

19) In an arithmetic series, the first term is -11 and the sum of first 28 terms is 1204.

(a) Find the common difference.

(b) Find the value of the 27<sup>th</sup> term.

20) In an arithmetic series, the first term is -7 and the sum of first 20 terms is 620.

(a) Find the common difference.

(b) Find the value of the 78<sup>th</sup> term.

21) In an arithmetic sequence  $S_{24}=1800$  and  $u_{24}=144$ . Find the value of  $u_1$  and  $d$ .

22) In an arithmetic sequence  $S_{30}=2160$  and  $u_{30}=130$ . Find the value of  $u_1$  and  $d$ .

23) In an arithmetic sequence  $S_{40}=1900$  and  $u_{40}=106$ . Find the value of  $u_1$  and  $d$ .