

## Arithmetic Sequence

1. Given arithmetic sequences, find the common difference and find the next two terms using these formula:  $u_{n+1} - u_n = d$  for all positive integers  $n$  where  $d$  is a constant called the common difference.

\*Write your answer as a whole number\*

Given Sequence	Common difference	Next two terms
1) 14, 21, 28, 35, ...	$d = 7$	42, 49
2) 8, 2, -4, -10, ...	$d =$	,
3) -5, 0, 5, 10, ...	$d =$	,

2. Find the 10th term of each of the following arithmetic sequences:

- A. 3, 5, 7, ...
- B. 5, 9, 13, ...
- C. -7, -2, 3, ...

\*Use the general term formula:  $u_n = u_1 + (n - 1)d$ ,  $u_1$  – first term,  $d$  – common difference.  
Write your answer as a whole number.\*

3. Join with arrows between the arithmetic progressions ( $a_n$ ) (1–4) given by the two terms and the formulas of the  $n$ th term (A–D).

- 1.  $a_1 = 2$ ,  $a_3 = 12$
- 2.  $a_2 = -11$ ,  $a_5 = -20$
- 3.  $a_3 = 18$ ,  $a_7 = 38$
- 4.  $a_4 = -23$ ,  $a_6 = -33$

- A.  $a_n = 5 + 3n$
- Б.  $a_n = 3 + 5n$
- В.  $a_n = -5 - 3n$
- Г.  $a_n = -3 - 5n$
- Д.  $a_n = -3 + 5n$