

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

(a) Find the value of the common difference.

(3)

(b) Find the value of n .

(2)

(Total 5 marks)

2. In an arithmetic sequence, the first term is 5 and the fourth term is 40. Find the second term.

Working:

Answer:

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(Total 4 marks)

3. Consider the arithmetic sequence 2, 5, 8, 11,

(a) Find u_{101} .

(3)

(b) Find the value of n so that $u_n = 152$.

(3)

(Total 6 marks)

4. In an arithmetic sequence, the first term is -2 , the fourth term is 16 , and the n^{th} term is $11\,998$.
- (a) Find the common difference d .
- (b) Find the value of n .

Working:

Answers:

- (a)
- (b)

(Total 6 marks)

5. The first term of an arithmetic sequence is 3 and the sum of the first two terms is 11 .

- (a) Write down the second term of this sequence. (1)
- (b) Write down the common difference of this sequence. (1)
- (c) Write down the fourth term of this sequence. (1)
- (d) The n^{th} term is the first term in this sequence greater than 1000 .
Find the value of n . (3)

(Total 6 marks)

6. The fourth term of an arithmetic sequence is 12 and the tenth term is 42 .

- (a) Given that the first term is u_1 and the common difference is d , write down two equations in u_1 and d that satisfy this information.
- (b) Solve the equations to find the values of u_1 and d .

(Total 8 marks)