

- 4 An arithmetic series has first term p and common difference p where $p \neq 0$.
A geometric series also has first term p . The common ratio of this geometric series is r .
The sum of the first three terms of the arithmetic series is equal to the sum of the first three terms of the geometric series.

Given that $r > 0$

show that $r = \frac{-1 + \sqrt{21}}{2}$

(5)

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Question 4 continued

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(Total for Question 4 is 5 marks)

