Arithmetic Series

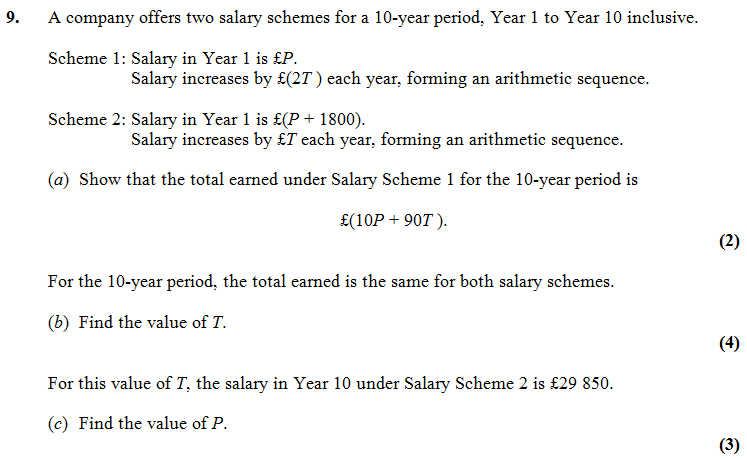
Proof of summation (required for exam):

Examples

1. Find the sum of the first 30 terms of the following arithmetic sequences

2. Find the greatest number of terms for the sum of to exceed 2000

Test Your Understanding



Extension

[MAT 2007 1J]

The inequality

Is true for all . It follows that



[AEA 2010 Q2]

The sum of the first terms of an arithmetic series is and the sum of the first terms of the same arithmetic series is , where and are positive integers and .

Giving simplified answers in terms of and , find

1. The common difference of the terms in this series,
2. The first term of the series,
3. The sum of the first terms of the series.

[MAT 2008 1I]

The function is defined for positive integers by

sum of digits of

For example, .

The sum

equals what?

Ex 3B Pg 64