

QUESTION 1 (MAP112 - Dec 2015)

The monthly amount of money donated by Ahmad to Yayasan Budiman can be described in the form of geometric sequence as follows:

RM1000, RM1100, RM1210, ...

Find the total amount of money donated for 2 years.

(5 marks)

Solution:

$$a = 1,000 \quad r = 1.1 \quad n = 24$$

$$S_{24} = \frac{a(r^{24} - 1)}{r - 1} = \frac{1,000(1.1^{24} - 1)}{1.1 - 1} = \text{RM } 88,497.33 \quad \text{**ANS}$$

QUESTION 1 (MAT112 - DEC 2016)

The seats in a hall are arranged in a sequence such that the first row has 10 seats, the second row has 14 seats, the third row has 18 seats and so on. How many seats are there in the hall if there are 30 rows of seats.

(5 marks)

Solution:

Arithmetic Sequence: 10, 14, 18, ... $n = 30$

$$a = 10 \quad \text{and} \quad d = 4$$

$$S_{30} = \frac{30}{2}(2a + 29d)$$

$$= 15(20 + 29(4)) = 15(136) = 2,040 \text{ seats} \quad \text{**ANS}$$

QUESTION 1 (MAT112 - OCT 2016)

The fifth term of an arithmetic sequence is 24 and the sum of the first ten terms is 265. Find the common difference of the sequence.

(5 marks)

Solution:

$$\begin{aligned} T_5 &= 24 \\ a + 4d &= 24 \quad \text{--- (1)} \end{aligned}$$

$$\begin{aligned} S_{10} &= 265 \\ 5(2a + 9d) &= 265 \\ 2a + 9d &= 53 \quad \text{--- (2)} \end{aligned}$$

$$\text{From (1), } a = 24 - 4d \quad \text{--- (3)}$$

Substitute (3) in (2)

$$2(24 - 4d) + 9d = 53$$

$$48 - 8d + 9d = 53$$

$$d = 5 \quad \text{**ANS.}$$

QUESTION 1 (MAP112 - JULY 2017)

Lucy bought a sewing machine and settled the price by making a series of monthly payments for twelve months; RM88, RM85, RM82 and so on. What is the total payment for the sewing machine?

(5 marks)

Solution:

$$88, 85, 82, \dots \quad n = 12$$

$$a = 88 \quad d = 85 - 88 = -3$$

$$S = \frac{12}{2}(2a + 11d)$$

$$= 6(2(88) + 11(-3)) = \text{RM } 858 \quad \text{**ANS}$$