

Sequence and Series - Class XI

Past Year JEE Questions

Questions

Question: 01

The first two terms of a geometric progression add up to 12. the sum of the third and the fourth terms is 48. If the terms of the geometric progression are alternately positive and negative, then the first term is

- A. - 4
- B. - 12
- C. 12
- D. 4

Solutions

Solution: 01

Explanation

As per question,

$$a + ar = 12 \quad \dots (1)$$

$$ar^2 + ar^3 = 48 \quad \dots (2)$$

$$\Rightarrow \frac{ar^2(1+r)}{a(1+r)} = \frac{48}{12}$$

$$\Rightarrow r^2 = 4, \Rightarrow r = -2$$

(As terms are = +ve and -ve alternately)

$$\Rightarrow a = -12$$