Today's Learning – 5 February 2026

Topic: Geometric Progression (GP) – Basics

A Geometric Progression (GP) is a sequence where each term is multiplied by a constant number called the common ratio (r).

First term is denoted by 'a' and common ratio by 'r'.

nth term of GP: a_n = a * r^(n-1)

Sum of first n terms: S_n = a(r^n - 1) / (r - 1), where r ≠ 1

Solved Examples

Example 1: Find 5th term of GP: 3, 6, 12... Solution: a = 3, r = 2 → a_5 = 48

Example 2: Sum of first 4 terms of GP: 2, 4, 8... Solution: S_4 = 30

Example 3: Find r in GP: 5, 15, 45... Solution: r = 3

Example 4: Find 4th term of GP: 81, 27, 9... Solution: a = 81, r = 1/3 → a_4 = 3

Practice Questions with Answers

1. Find 6th term of GP: 2, 4, 8... Answer: 64

2. Sum of first 5 terms of GP: 1, 3, 9... Answer: 121

3. Find r in GP: 7, 21, 63... Answer: 3

4. Find 5th term of GP: 16, 8, 4... Answer: 1

5. If a = 5 and r = 2, find 7th term. Answer: 320