

MATHEMATICS

GEOMETRIC PROGRESSION

Total Marks: 26

Duration: 0 hours, 25 minutes

Instructions to test takers

1. Answer all the questions in this paper
2. All the answers for the questions in this paper will be found on **Study Star** (www.studystar.me)
3. Using the answers on the website, mark yourself truthfully and carefully.

Turn this page, time yourself and begin the test

Section A

1. For the series 64, 16, 4, ... Calculate the common ratio. [1]

2. Find the 6th term in Q1. [1]

3. The n^{th} term of a GP is given by $T_n = 3^{4-n}$. Find the first term. [1]

4. Calculate the common ratio in Q3. [1]

5. Calculate the 9th term of the GP in Q3 above. [1]

6. The sum to infinity of a certain GP is 27. If the first term is 36, find r. [1]

7. Find the 8th term of $\frac{729}{4}, \frac{243}{2}, 81, \dots$ [2]

8. Calculate the sum to infinity of the GP $\frac{1}{64}, \frac{1}{32}, \frac{1}{16}, \dots$ [1]

9. The following is a GP of three consecutive terms 1, x, 16. Find the value of x. [2]

10. Find the sum to infinity of the GP 20, 12, $\frac{36}{5}, \dots$ [1]

Section B

11. Given that $x + 2, x + 3, x + 6$ are three consecutive terms of a GP. Find the value of x . [3]
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12. Calculate the 5th term of the GP in Q11. [3]
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13. If $x - 2, x - 1, 3x - 5$ are three consecutive terms of a GP, find the positive value of x . [3]
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14. For the GP 3, 12, 48, ... Find the sum of the first 10 terms. [2]
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15. The first three terms of a GP are $2x - 1, x + 1, x - 1$ ($x \neq 0$). Find the value of x . [3]
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