

- The number of numbers lying between 100 and 500 that are divisible by 7 but not by 21, is
(1) 57 (2) 19
(3) 38 (4) 48
- If S_n denotes the sum of n terms of A.P., then, $S_{n+3} - 3S_{n+2} + 3S_{n+1} - S_n$ is equal to
(1) $2S_n$ (2) S_{n+1}
(3) $3S_n$ (4) 0
- If $3^{2\sin 2\alpha - 1}$, 14 and $3^{4 - 2\sin 2\alpha}$ are the first three terms of an A.P. for some α , then the sixth term of this A.P. is
(1) 66 (2) 81
(3) 65 (4) 78
- If the sum and product of the first three terms in an A.P. are 33 and 1155, respectively, then a value of its 11th term is:
(1) -25 (2) -35
(3) 25 (4) -36
- Let a_1, a_2, a_3, \dots be a G.P. such that $a_1 < 0$, $a_1 + a_2 = 4$ and $a_3 + a_4 = 16$. If $\sum_{i=1}^9 a_i = 4\lambda$, then λ is equal to.
(1) -513 (2) -171
(3) 171 (4) $\frac{511}{3}$
- The sum of an infinite geometric progression is 57 and the sum of their cubes is 9747, then what will be the common ratio of the geometric progression?
(1) $\frac{1}{3}$ (2) $\frac{2}{3}$
(3) $\frac{1}{6}$ (4) None of these
- In a geometric progression, if the ratio of the sum of first 5 terms to the sum of their reciprocals is 49, and the sum of the first and the third term is 35. Then the first term of this geometric progression is
(1) 28 (2) 21
(3) 7 (4) 42
- The product $(32)(32)^{1/6}(32)^{1/36} \dots$ to ∞ is
(1) 16 (2) 32
(3) 64 (4) 0
- Three positive numbers form an increasing G.P. If the middle term in this G.P. is doubled, the new numbers are in A.P., Then the common ratio of the G.P. is :
(1) $2 - \sqrt{3}$ (2) $2 + \sqrt{3}$
(3) $\sqrt{2} + \sqrt{3}$ (4) $3 + \sqrt{2}$
- The numbers a, b, c are in A.P. and $a + b + c = 60$. The numbers $(a - 2), b, (c + 3)$ are in G.P., then which of the following is not the possible value of $a^2 + b^2 + c^2$?
(1) 1208 (2) 1218
(3) 1298 (4) None of these