Class 11 Mathematics · Chapter 8: Sequences and Series

Worksheet · 20 marks · about 40 minutes · based on NCERT

Name _____ Class and section _____ Date _____

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1. For the sequence $a_n = (-1)^n(3n - 2)$, the value of $a_7 + a_8$ is [1]

(a) 3 (b) −3
(c) 41 (d) −41

2. The 2nd term of a G.P. is 6 and its 5th term is −48. The sum of its first four terms is [1]

(a) −15 (b) 45
(c) 15 (d) −45

3. The value of $\Sigma_{k=1}^{6} (-1)^k k$ is [1]

(a) −3 (b) 3
(c) 21 (d) 0

4. Three numbers are inserted between 2 and 162 so that the five numbers form a G.P. The product of the three inserted numbers is [1]

(a) 324 (b) 1944
(c) 5832 (d) 18

5. The 7th term of the G.P. 486, −162, 54, ... is [1]

(a) $-\frac{2}{3}$ (b) −2
(c) 6 (d) $\frac{2}{3}$

6. A culture of 500 cells triples every 2 hours. After how many hours will it have 40,500 cells? [2]

7. Show that the sequence $a_n = 5 \times 3^{2n-1}$ is a G.P., and write its first term and common ratio. [2]

8. The 4th term of an A.P. is 14 and its 9th term is 34. Find the sum of its first 12 terms. [2]

9. The first term of a G.P. is 1, its last term is 128 and the sum of all its terms is 255. Find the common ratio and the number of terms. [3]

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10. Meera saves ₹50 in the first week and, in every later week, ₹15 more than in the week before. How much has she saved in all at the end of 20 weeks? [3]

11. Two positive numbers are in the ratio 1 : 4, and their A.M. exceeds their G.M. by 2. Find the numbers. [3]