PERL EDUCATION

DPP

DAILY PRACTICE PAPER

GEOMETRIC PROGRESSION

MATHEMATICS

10TH ICSE

1. Find which of the following is a G.P. :

   i. $2,\ 2\sqrt{2},\ 4,\ 4\sqrt{2},\ \dots\dots\dots\dots$

   ii. $\frac{1}{3},\ \frac{2}{3},\ 1,\ \frac{4}{3},\ \dots\dots\dots\dots$

   iii. $4, 8, 16, \dots\dots\dots$

   iv. $xy,\ x^2y,\ x^3y,\ \dots\dots\dots$

2. Find the 8th term of the geometric progression : 5, 10, 20, ……………… .

3. Find the 19th term of the series : $\sqrt{3} + \frac{1}{\sqrt{3}} + \frac{1}{3\sqrt{3}} + \dots\dots\dots\dots$.

4. If the first two consecutive terms of a G.P. are 125 and 25, find its 6th term.

5. Find the next three terms of the sequence : 36, 12, 4, …………… .

6. Find which term of G.P. 3 – 6 + 12 – 24 + …………., is -384 ?

7. Find the G.P. whose 5th term is 48 and 8th term is 384.

8. If the 3rd term of a G.P. is 4, find the product of its first five terms.

9. The first term of a G.P is 1. The sum of its third and fifth terms is 90. Find the common ratio of the G.P.

10. If the 4th, 7th and 10th terms of a G.P. are a, b and c respectively; prove that : $b^2 = ac$.

11. If for a G.P., its pth, q^{th} and r^{th} terms are a, b and c respectively; prove that:
    $a^{q-r} \cdot b^{r-p} \cdot c^{p-q} = 1$.

12. If a, b and c are in A.P. whereas x, y and z are in G.P. : Prove that : $x^{b-c} \cdot y^{c-a} \cdot z^{a-b} = 1$.

13. Find the sum of 10 terms of the series : 96 – 48 + 24 ………………… .

14. Find the sum of 8 terms of the G.P. : 3 + 6 + 12 + 24 + …………… .

15. Find the sum of the geometric series : $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \dots\dots$ upto 12 terms.

16. Find the sum of 10 terms of the geometric progression :
    $1 + \sqrt{3} + 3 + 3\sqrt{3} + \dots\dots\dots$.

17. How many terms of the G.P.
    $\frac{2}{9}, -\frac{1}{3}, \frac{1}{2}, \dots\dots$ must be added to get the sum equal to $\frac{55}{72}$?

18. Find the sum of the G.P. : 2 + 6 + 18 + 54 + ……………… + 4374.

19. A.G.P. has first term a = 3, last term l = 96 and sum of n terms S = 189. Find the number of terms in it.

20. Find the geometric mean between

    i. 3 and 12

    ii. 3 and 243