

SEMESTER-ONE

MATHEMATICS

Grade-12

Student Name:

Date:

Period-I : Topic 1

SEQUENCE AND SERIES

I. Multiple Choice Questions

Select and write one most appropriate option out of the four options given for each of the questions 1-5.

1. What is the coefficient of mean deviation 21, 34, 23, 39, 26, 37, 40, 20, 33, 27 (taken from the mean)
(a) 0.11 (b) 0.22
(c) 0.33 (d) 0.44
2. The height of a cone is 20 cm and its base radius is 16 cm. Find the curved surface area and the total surface area of the cone. (Use $\pi = 3.14$).
3. The height of a cone is 20 cm and its base radius is 16 cm. Find the curved surface area and the total surface area of the cone. (Use $\pi = 3.14$).
4. Sentences involving variable time such as 'today' 'tomorrow' or 'yesterday' are not statements. "Tomorrow is Wednesday".
5. A Senior Football Club in Liberia has thirty members. Their ages are given below. Make a frequency distribution table for it.
13, 17, 13, 13, 14, 15, 15, 14, 16, 14, 16, 17, 16, 16, 13, 15, 16, 15, 15, 14, 14, 15, 15, 13, 13, 15, 14, 13, 16, 17.

II. Fill in the Blanks Type Questions

Fill in the blanks with a suitable word for each of the questions 6–10.

6. What is the value of $2 - 2 + 2 - 2 + 2 - 2$ _____ n .
7. In a school there are 1500 boys and some are girls. If the number of boys are 75 %, calculate the number of girls _____.
8. A prism is a piece of transparent material having three rectangular surfaces and _____ triangular surfaces.
9. A cuboid has _____ rectangular faces, _____ edges and _____ vertices.
10. A sphere has a _____ Surface.

III. True or False

State whether the following statements are true or false for each of the questions 11–15.

11. Standard deviation σ is an average of all deviations of x_i ($i = 1, \dots, N$) from their mean μ .
12. Standard error σ_x is an average of all deviations of \bar{x}_i ($i = 1, \dots, K$) with sample size n from their mean $\bar{\mu}_x$.
13. The degree to which numerical data tend to spread about an average value is called the variation or dispersion of data.
14. The degree to which numerical data tend to spread about an average value is called the variation or dispersion of data.
15. The absolute measure of dispersion for range is called the coefficient of range.

IV. Very Short Answer Type Questions

Answer each of the questions 16–20.

16. Draw the graph of $y = 4 \cos 2x$.

17. Sentences involving pronouns like 'he' 'she' 'they' are not statements. 'He is an engineer'.

18. Find the median, lower quartile and upper quartile of the following numbers:

12, 10, 22, 30, 15, 36, 14, 42, 15, 53, 25

19. Find the 30th and n th term of the sequence 4, 9, 14, 19,

20. If the bearing of Y from X is 120° , find the bearing of X from Y.

V. Short Answer Type Questions

Answer each of the questions 21–25.

- 21.** If the bearing of a point Q from another point P is 090° , find the bearing of P from Q.

- 22.** A Senior Football Club in Liberia has thirty members. Their ages are given below. Make a frequency distribution table for it.

18, 17, 14, 13, 18, 15, 15, 18, 16, 14, 16, 18, 16, 16, 13, 15, 16, 15, 15, 14, 14, 15, 15, 13, 13, 18, 14, 13, 16, 18.

- 23.** The height of a cone is 40 cm and its base radius is 32 cm. Find the curved surface area and the total surface area of the cone. (Use $\pi = 3.14$).

- 24.** If the bearing of Y from X is 075° , find the bearing of X from Y.

- 25.** If the bearing of P from Q is 310° , find the bearing of Q from P.

Teacher's Signature