Maharshi Patanjali Viday Mandir, Prayagraj
Annual Examination 2018-19 Set-4
Class 8 Mathematics

[Time : 3Hrs.][MM: 80]

Note:

1. The paper contains 30 questions with three sections A, B & C. Section A contains 10 questions of 1 mark each, Section B contains 10 questions of 3 marks each and Section C contains 10 questions of 4 marks each.
2. All questions are compulsory.

Section : A

1. Express 3 : 8 as a percentage.
2. If y varies inversely as x, and if y=4 when x=72, find the constant of variation.
3. Find the area of the trapezium if height is 7 cm and two parallel sides are 8 cm and 10 cm.
4. Find the surface area of a cube whose edge is 11 cm.
5. A die is rolled once. What is the probability of rolling

   a. 3

   b. an even number?
6. Using the divisibility rule, write which of the following numbers are divisible by 9?

   719, 936
7. Solve : 4(x+2)-2(x-1)=3x-3
8. What number should be added to $\frac{-4}{7}$ to get $\frac{5}{9}$?
9. Write 0.000543 in scientific notation.
10. Name the solids that have

    i. 4 faces

    ii. 6 faces

Section : B

11. A shopkeeper sold two pairs of jeans for Rs. 720 each, gaining 20% on one and losing 20%

on the other. Find his gain or loss %.

12. How much will Rs 256 amount to in one year at $12\frac{1}{2}$ % per annum, when the interest is compounded half-yearly?

13. A stock of food grains is enough for 400 persons for 9 days. How long will the same stock last for 300 persons?

14. A, B and C can do a piece of work in 10 days; A alone can do it in 40 days and B alone can do it in 30 days. In how many days will C alone do the same work?

15. Construct a quadrilateral ABCD in which BC = 6 cm, CD = 6 cm, DA = 4 cm, $\angle C = 60°$ and $\angle D = 75°$

16. In a shower, 5 cm of rain falls. Find the volume of water that falls on 2 hectares of land.

17. The following are the monthly rents in rupees of 30 shop:

    42, 49, 37, 82, 37, 75, 62, 54, 79, 84, 75, 63, 44, 74, 36,

    69, 54, 48, 74, 39, 48, 45, 61, 71, 47, 38, 80, 51, 31, 43

    Using the class intervals of equal width in which one class interval being 40-50(exclusively 50), construct a frequency table for the above data.

18. Draw a histogram for the following frequency distribution:

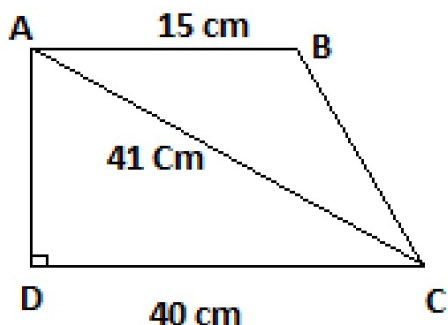| Size	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	5	10	20	25	20	10

19. The sum of the digits of a two-digit number is 9. The number is 6 times the unit digit. Find the number.

20. Sanjay is now $\frac{1}{2}$ as old as his brother. In 6 more years, he will be $\frac{3}{5}$ as old as his brother then. What is the present age of each boy?

Section : C

21. Naseem runs a readymade garments shop. He marks the garments at such a price that even after allowing a discount of 12.5%, he makes a profit of 10%. Find the marked priced of a suit which costs him Rs.1470.

22. Rs 8000 became Rs 9261 in a certain interval of time at the rate of 5% per annum, C.I. Find the time.

23. In how many days of working 8 hours each day, can 12 men do the same work as 10 men working 9 hours a days do in 16 days?

24. Pipes A and B can fill a tank in 5 and 6 hours respectively. Pipe C can empty it is 12 hours.

The tank is half full. All the three pipes are in operation simultaneously. After how much time will the tank be full?

25. In the figure, AB and DC are parallel sides of a trapezium ABCD and $\angle ADC = 90°$. Given AB=15 cm, CD=40 cm, and diagonal AC = 41 cm, calculate the area of the trapezium ABCD.

26. The circumference of the base of a cylindrical vessel is 132 cm and its height is 25 cm. How many litres of water can it hold?

27. Construct a rhombus ABCD in which AC=7 cm and BD = 5 cm. Also, write the steps of construction.

28. A card is chosen at random from an ordinary deck of playing cards. What is the probability that
    a. A diamond is chosen?
    b. A king is chosen?
    c. A black 4 is chosen?
    d. A 7 of hearts is chosen?

29. Divide the sum of $\frac{3}{8}$ and $\frac{-5}{12}$ by the reciprocal of $\frac{-15}{8} \times \frac{16}{27}$.

30. The number of students in a hostel speaking different languages is given below. Present the data in a pie chart.

Language	Hindi	English	Marathi	Tamil	Bengali	Total
Number of students	40	10	8	8	6	72