



**CBSE Board
Class VIII Mathematics
Term I
Sample Paper 1**

Time: 2 ½ hours

Total Marks: 80

General Instructions:

1. All questions are **compulsory**.
2. **Section A** comprises of **12** questions carrying 1 mark each.
3. **Section B** comprises of **12** questions carrying 2 marks each.
4. **Section C** comprises of **8** questions carrying 3 marks each.
5. **Section D** comprises of **5** questions carrying 4 marks each.

Section A

(Questions 1 to 12 carry 1 mark each)

1. On a number line, 2.5 will lie
 - A. to the left of 2
 - B. in between 2.6 and 2.7
 - C. in between 2.4 and 2.7
 - D. to the left of 0
2. 20% of x stands for _____.
 - A. $\frac{x}{3}$
 - B. $\frac{x}{5}$
 - C. $\frac{x}{6}$
 - D. 0.02x
3. A pentagon has _____ vertices.
 - A. 5
 - B. 6
 - C. 7
 - D. 8
4. The tally mark $\overline{\text{||||}}\overline{\text{||||}}\overline{\text{||||}}\overline{\text{||||}}$ represents the frequency
 - A. 10
 - B. 11
 - C. 13
 - D. 14



5. Which of the following numbers is a square as well as a triangular number?
- A. 1
 - B. 6
 - C. 10
 - D. 28
6. Cube root of $(-8) \times (-343) \times (125)$ is
- A. -70
 - B. 70
 - C. -35
 - D. 35
7. Multiplicative inverse of $2\frac{2}{3}$ is ____ .
- A. $\frac{8}{3}$
 - B. $-\frac{8}{3}$
 - C. $\frac{3}{8}$
 - D. 1
8. The equation $\frac{4}{x-1} = \frac{3}{x+7}$ can also be written as ____ .
- A. $x + 30 = 0$
 - B. $x - 31 = 0$
 - C. $x + 31 = 0$
 - D. $x - 30 = 0$
9. In a rhombus, if one angle is 70° , then its opposite angle will be ____ .
- A. 70°
 - B. 110°
 - C. 90°
 - D. 180°
10. A sector is drawn as $\frac{1}{4}$ th part of a circle. The central angle made by it is
- A. 90°
 - B. 55°
 - C. 45°
 - D. 40°

11. The square root of a number whose prime factorisation is $2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 5 \times 5$ is
- A. 80
B. 45
C. 90
D. 180
12. If C.P. of an article is Rs. 900, overhead expenses are Rs. 200 and S.P. is Rs. 1200, then profit percent is
- A. $9\frac{3}{11}\%$
B. $9\frac{4}{11}\%$
C. $9\frac{2}{11}\%$
D. $9\frac{1}{11}\%$

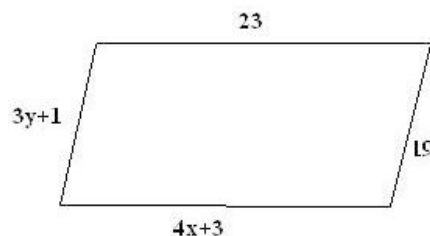
Section B

(Questions 13 to 24 carry 2 marks each)

13. Solve the following expression using properties of rational numbers:

$$\frac{2}{5} \times \frac{-3}{7} - \frac{1}{14} - \frac{3}{7} \times \frac{3}{5}$$

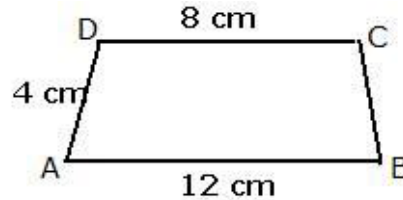
14. Divide 64 into two parts such that three times the greater part will be equal to five times the smaller one.
15. Find x and y in the given parallelogram.



16. In an auditorium, the number of rows is equal to the number of chairs in each row. If the capacity of the auditorium is to accommodate 1764 chairs, find the number of chairs in each row.

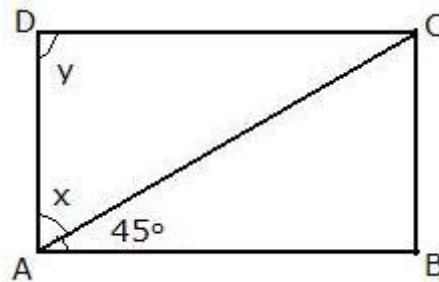
17. In a collection of 35 lotteries, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?

18. The following quadrilateral is an isosceles trapezoidal. Find its perimeter.



19. Three candidates contested in an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?

20. In the given rectangle, find the value of x and y.



21. Observe the following pattern and write the missing numbers.

$$1^2 = 1$$

$$11^2 = 121$$

$$111^2 = 12321$$

$$1111^2 = \underline{\hspace{2cm}}$$

$$11111^2 = \underline{\hspace{2cm}}$$

22. Solve for x:

$$\frac{3x-1}{4} = \frac{2x+5}{3}$$

23. $\frac{-2}{3} + \left[\frac{5}{6} + \left(\frac{-4}{7} \right) \right] = \underline{\hspace{2cm}}$.

24. The sum of two numbers is 80 and their ratio is 3 : 5. Find the greatest amongst the two numbers.

Section C

(Questions 25 to 32 carry 3 marks each)

25. The following data shows the number of adult visitors and child visitors to a park. Construct a double bar graph for the given data.

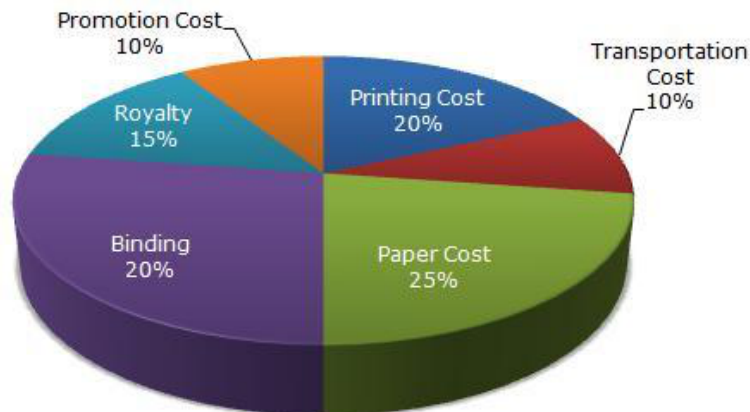
Month	April	May	June
Number of adult visitors	300	500	700
Number of child visitors	200	600	600

26. What is the smallest number by which 3087 must be multiplied so that the product is a perfect cube?

27. Represent $\frac{1}{2}$ and $-\frac{1}{2}$ on the number line.

28. In a two-digit number, unit's digit is 3 more than the ten's digit. The number formed by interchanging the digits and the original number are in the ratio 7 : 4. Find the number.

29. The following pie-chart shows the percentage distribution of the expenditure incurred in publishing a book. Study the pie-chart and the answer the questions based on it.



- i) If for a certain quantity of books, the publisher has to pay Rs. 30,600 as printing cost, than what will be amount of royalty to be paid for these books?
- ii) What is the central angle of the sector corresponding to the expenditure incurred on Royalty?
30. Construct a rectangle PQRS in which QR = 3.5 cm and diagonal is 5.5 cm. Write the steps of construction.

31. The population of a town 2 years ago was 62500. Due to migration to cities it decreases every year at the rate of 4% per annum. Find its present population.
32. Find 5 rational numbers between $-\frac{1}{3}$ and $\frac{1}{2}$.

Section D

(Questions 33 to 37 carry 4 marks each)

33. Construct a quadrilateral ABCD in which AB = 5.5 cm, BC = 3.5 cm, CD = 4 cm, AD = 5 cm, and $\angle A = 45^\circ$.
34. The table below shows the grades achieved by 30 pupils in their end-of-year exam.

Grade	A	B	C	D	E
Frequency	7	11	6	4	2

Represent above data by a pie chart.

35. The measures of two adjacent angles of a parallelogram are in the ratio 3:2. Find the measure of each of the angles of the parallelogram.
36. In what time will Rs. 1000 amount to Rs. 1331 at 10% per annum, compounded annually?
37. 36562 plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. How many plants would be left out in this arrangement?