

**Goa Board**  
**Class VIII Mathematics**  
**Sample Paper - 4**

**Time: 3 hours**

**Total Marks: 90**

**General Instructions:**

1. All questions are **compulsory**.
2. The question paper consists of **34** questions and it is divided into **four sections: A, B, C and D**.
3. **Section A** comprises of **8** questions carrying 1 mark each.
4. **Section B** comprises of **6** questions carrying 2 marks each.
5. **Section C** comprises of **10** questions carrying 3 marks each.
6. **Section D** comprises of **10** questions carrying 4 marks each
7. Question numbers **1 to 8** in **Section A** are multiple choice questions where you are to select **one** correct option out of the given four.

**Section A**

**(Questions 1 to 8 carry 1 mark each)**

1. In a polyhedron, \_\_\_\_\_ is the intersection of two faces.
  - A. Edge
  - B. Face
  - C. Vertices
  - D. Triangle
2. 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
3. The rational number whose reciprocal is not a rational number is \_\_\_\_\_.
  - A. 1
  - B. -1
  - C.  $-\frac{1}{5}$
  - D. Zero

4. If SP = Rs. 380 and sales tax is 4%, then the amount of sales tax is given by:
- A. Rs 15.40
  - B. Rs 15.60
  - C. Rs 15.30
  - D. Rs 15.20
5. Which of the following is not a polygon?
- A. Triangle
  - B. Circle
  - C. Kite
  - D. Quadrilateral
6. The expression  $0.84 \times 0.76$  can be written as
- A.  $(0.80)^2 - (0.04)^2$
  - B.  $(0.80)^2 + (0.04)^2$
  - C.  $(0.90)^2 - (0.04)^2$
  - D.  $(0.90)^2 + (0.04)^2$
7. If the base of a triangle is  $4x(x+1)$  and its corresponding height is  $(x-3)$ , then the area of the triangle is \_\_\_\_.
- A.  $2x^3 + 4x^2 - 6x$
  - B.  $2x^3 - 4x^2 + 6x$
  - C.  $2x^3 - 4x^2 - 6$
  - D.  $2x^3 - 4x^2 - 6x$
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.  $x - 30 = 0$

**Section B**

**(Questions 9 to 14 carry 2 marks each)**

9. Write the following numbers in the expanded form.

(i) 45    (ii) 123

10. Find the multiplicative inverse of the following:

i)  $\frac{-5}{8} \times \frac{-3}{7}$

ii)  $-1 \times \frac{-2}{5}$

11. Represent  $\frac{2}{5}$  on the number line.

12. Express the following in the usual form:

(i)  $1.002 \times 10^6$

(ii)  $5.54 \times 10^7$

13. Construct a rhombus ABCD, whose diagonals are of length 6 cm and 8 cm. Also, write the steps of construction.

14. If 26% of a number is 65, find the number.

**Section C**

**(Questions 15 to 24 carry 3 marks each)**

15. A shopkeeper sells one transistor for Rs. 840 at a gain of 20% and another for Rs. 960 at a loss of 4%. What is his total gain or loss percent?

16. Find the angles of the rhombus if one of its diagonals is equal to one of its sides.

17. Raju wants to fence the garden in his house, which is in the shape of a rectangle, having dimensions 25 m × 18 m. Find the cost of fencing at the rate of Rs. 200 per meters.

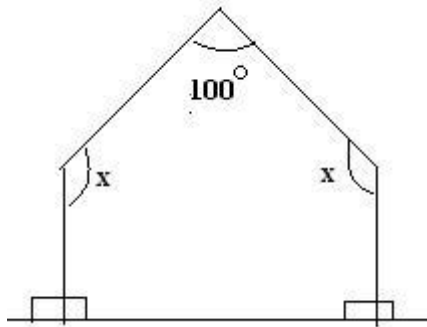
18. In the following product, find A, B and C.

$$\begin{array}{r} B \ A \\ \times \ 5 \\ \hline C \ B \ A \end{array}$$

19. Factorise:

$$4x^2 + \frac{1}{9x^2} - \frac{4}{3}$$

20. Find x in the figure?



21. Verify: Dividend = Divisor  $\times$  Quotient + Remainder for the following:

Dividend:  $4z^3 + 8z^2 + 8z + 7$

Divisor:  $2z^2 - z + 1$

22. Write the following in the product form:

(i)  $(3q)^5$

(ii)  $3q^5$

(iii)  $3^5q$

23. Divide:

$27xy^2(17x^2 - 68)$  by  $51(x + 2)$ .

24. Construct a square with each diagonal of length 3.8 cm. Write the steps of construction.

**Section D**  
**(Questions 25 to 34 carry 4 marks each)**

25. A survey was conducted in a school to determine which sport is liked by the students. The result of the survey is given in the table below.

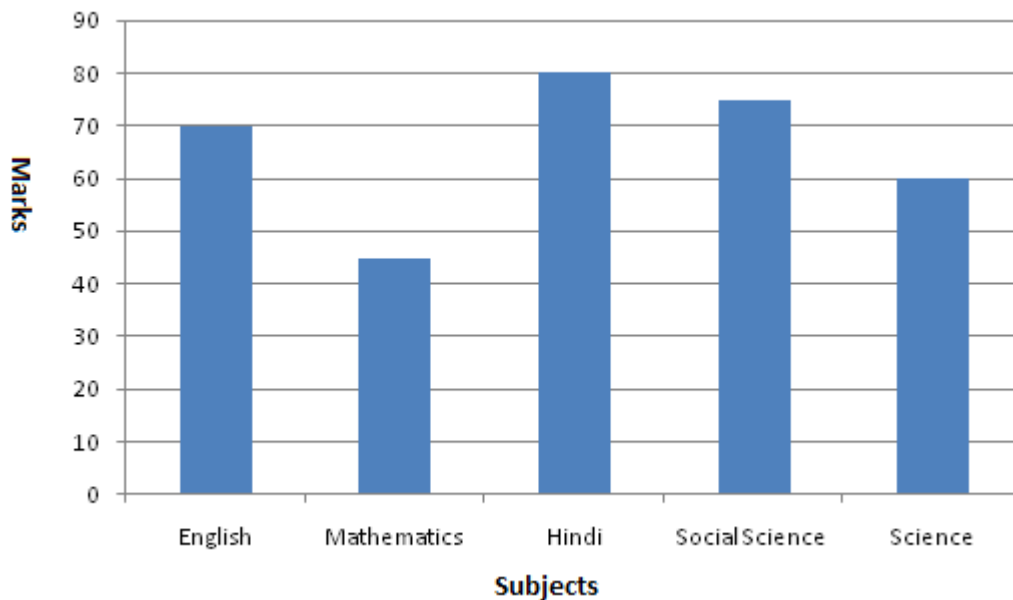
Sport	% of students
Football	15
Basketball	20
Baseball	10
Tennis	40
Soccer	15

Represent the given data by a pie chart.

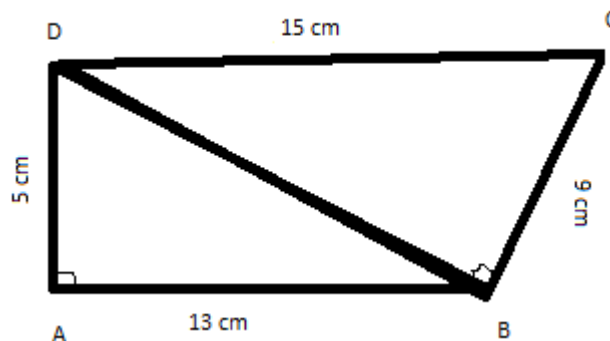
26. Construct a rectangle ABCD in which  $AB = 4$  cm and  $AC = 5.0$  cm.

27. Read the bar graph given below and answer the following questions:

- I) In which subject is the student poor?
- II) What is the average of his marks?
- III) In which subject is he very good?
- IV) What information does the bar graph give?



28. Arashi's punch recipe calls for 9 liters of lemon-lime soda and 6 liters of pineapple juice. Rheanna's punch recipe requires 8 liters of lemon-lime soda and 9 liters of pineapple juice. Which recipe has a lower ratio of lemon-lime soda to pineapple juice?
29. Construct a rhombus KLMN with side KL = 5.2cm and  $\angle L = 70^\circ$ . Also, write the steps of construction.
30. Simplify:
- $\frac{5^3 \times 3^5 \times 6}{3^3 \times 25}$
  - $\frac{2^8 \times 3^4}{8 \times 2^5 \times 27}$
  - $\frac{a^2 \times a^3 \times b^3 \times b^4}{a^5 \times b^2}$
  - $\left(\frac{a^3}{b^4}\right)^2 \times \left(\frac{b^2}{a^3}\right)^3$
31. Solve for x:
- $\frac{x+0.25}{3} - x = 0.5$
  - $\frac{(5x+1)}{12} - 2 = \frac{(3x-1)}{9}$
32. Find the area of quadrilateral ABCD in which  $\angle DAB = \angle CBD = 90^\circ$ , AB = 13 cm, AD = 5 cm, BC = 9 cm and CD = 15 cm.



33. A well of diameter 3 m is dug 14 m deep. Earth dug out of it has been spread evenly all around it in the shape of a circular ring of width 4 m to form an embankment. Find the height of the embankment.
34. The regular selling price of an item at Shop A is Rs. 32.25. The shop offers a discount of 20%. The regular selling price of the same item at shop B is Rs. 43.35 and the discount is 40%. Which shop offers the lowest sale price? Also find the difference in the sale prices.