

**Goa Board**  
**Class VIII Mathematics**  
**Sample Paper - 3**

**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. 20% of x stands for \_\_\_\_\_.
  - A.  $\frac{x}{3}$
  - B.  $\frac{x}{5}$
  - C.  $\frac{x}{6}$
  - D.  $0.02x$
2. A pentagon has \_\_\_\_\_ vertices.
  - A. 5
  - B. 6
  - C. 7
  - D. 8
3. Which natural number is equal to its cube?
  - A. 1
  - B. 2
  - C. 3
  - D. 4

4. The rational number whose reciprocal is not a rational number is \_\_\_\_.
- A. 1
  - B. -1
  - C.  $-\frac{1}{5}$
  - D. 0
5. If (P + Q + R) can finish  $\frac{97}{11}$  part of work in 1 day, then (P + Q + R) can together finish the work in
- A.  $8\frac{9}{11}$
  - B.  $9\frac{8}{11}$
  - C.  $7\frac{9}{11}$
  - D.  $9\frac{9}{11}$
6. A linear graph is given by the relation 'y = 2x + 5'. Find the value of y if the value of x is 3.
- A. 9
  - B. 10
  - C. 11
  - D. 14
7. The sum of two numbers is 80 and their ratio is 3:5. Find the greatest amongst the two numbers.
- A. 20
  - B. 30
  - C. 40
  - D. 50
8. The probability of an event always lies between \_\_\_\_.
- A. 0 and 2
  - B. 0 and 1
  - C. 0 and  $\frac{1}{2}$
  - D. -1 and 1

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

9. Find the square of the number 82 using the property  $(a + b)^2 = a^2 + b^2 + 2ab$
10. 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?
11. Factorise the following expression:  
 $20a^2b + 30abc$
12. The side of a square is  $(5a - 2b)$ . Find its area.
13. Construct a rectangle whose adjacent sides are 6 cm and 4.2 cm.
14. If 26% of a number is 65, then find the number.

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

15. Find the cube root of 42875.
16. Find whether the number 3948 is divisible by 6 or not.
17. The diameter of road roller is 77 cm and its length is 110 cm. If it takes 400 revolutions to level a ground, then find the area of the ground in  $m^2$ .
18. The smallest side of a triangle is 5 cm less than one-third of the biggest side. The smallest side is also 3 cm less than half of the third side. If the perimeter of the triangle is 39 cm, then find the three sides of the triangle.
19. Simplify:  
$$20x - \left[ 15x^3 + 5x^2 - \left\{ 8x^2 - (4 - 2x - x^3) - 5x^3 \right\} - 2x \right].$$
20. Construct a square whose side measures 4.7 cm. Write the steps of construction.
21. Divide:  
 $27xy^2 (17x^2 - 68)$  by  $51(x + 2)$ .

22. Find the Pythagorean triplet whose smallest member is 10.
23. A rectangle sheet of paper  $55 \text{ cm} \times 14 \text{ cm}$  is rolled along its length to form a cylinder. Find the curved surface area of this cylinder.
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. Marks obtained by student in an examination are given below. Draw a pie diagram representing this information:

Subjects	English	Hindi	Science	Mathematics
Marks	100	95	82	83

26. Construct a rectangle ABCD in which  $AB = 4 \text{ cm}$  and  $AC = 5.0 \text{ cm}$ .
27. The following table shows various modes of transport used by 1500 students of a school.

Mode of transport	Bicycle	Bus	Walk	Train	Car
Number of students	800	300	160	100	140

Draw the bar graph to represent the above data.

28. 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.
29. Kavitha goes to purchase a bike which is priced at Rs. 35,640 including 10% sales tax. However, the actual rate of sales tax at the time of purchase is 7%. Find the extra profit made by the shopkeeper if he still charges the original listed price.

30. A rectangular park is 38 m long and 15 m wide. A path 3.5 m wide is constructed outside the park. Find the perimeter of the path.
31. A solid iron pole consists of a cylinder of height 220 cm and base diameter 24 cm, which is surmounted by another cylinder of height 60 cm and radius 8 cm. Find the mass of the pole, given that  $1 \text{ cm}^3$  of iron has approximately 8 g mass. (Use  $\pi = 3.14$ )
32. Write the following numbers in expanded form.
- 548
  - 6985
  - 85
  - 356
33. Simplify:
- $(-8)^2$
  - $(-7)^2$
  - $(15)^3$
  - $-(12^2)$
34. I) Define prisms and draw a rough diagram of a triangular prism. Also, verify the Euler's formula for the same.
- II) Define cylinder. Draw its rough diagram and write the number of faces and edges of it.