

**CBSE Board**  
**Class VIII Mathematics**  
**Term II**  
**Sample Paper 2**

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. The expression  $(t^2 + 3)(t + \sqrt{3})(t - \sqrt{3})$  can be written as

- A.  $t^4 + 3$
- B.  $t^4 - 3$
- C.  $t^4 + 9$
- D.  $t^4 - 9$

2. Count the vertices in the following shape:



- A. 4
  - B. 5
  - C. 6
  - D. 3
3. If the cost of painting  $1 \text{ m}^2$  of wooden board is Rs. 5, then the cost of painting a wooden rectangular prism of sides 4 m, 3 m, and 5 m is:
- A. Rs. 300
  - B. Rs. 340
  - C. Rs. 470
  - D. Rs. 530

4. 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
5. The exponential expression  $\left\{\left(\frac{1}{5}\right)^{-2} - \left(\frac{1}{4}\right)^{-3}\right\} \times \left(\frac{-1}{2}\right)^{-4}$  is equal to
- A. -624  
B. 624  
C. 642  
D. -264
- 6.
- |   |   |   |
|---|---|---|
| x | 3 | 6 |
| y | 4 | a |
- If x and y are inversely proportional then find the value of a.
- A. 4  
B. 1  
C. 3  
D. 2
7. By joining the points (0, 0), (1, 1), (2, 2) and (3, 3) we get
- A. A curved line  
B. A straight line  
C. A parallelogram  
D. A square
8. The rational number whose reciprocal is not a rational number is \_\_\_\_.
- A. 1  
B. -1  
C.  $-\frac{1}{5}$   
D. 0
9. Which of the following is a polyhedron?
- A. Cylinder  
B. Cone  
C. Cuboid  
D. Sphere

10. Which natural number is equal to its cube?

A. 1  
B. 2  
C. 3  
D. 4

11. If S.P. = 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

12. 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 13 to 24 carry 2 marks each)

13. Express the following product as monomial:

$$(a^{50}b^{51})(b^{49}c^{67})(c^{33}d)(c^{99}a^{50})$$

14. Find the square of the number 82 using the property  $(a + b)^2 = a^2 + b^2 + 2ab$

15. Write the following numbers in usual form:

i)  $100 \times 7 + 10 \times 9 + 1 \times 8$   
ii)  $1000 \times 3 + 100 \times 1 + 10 \times 5 + 1 \times 9$

16. The perimeter of the floor of a room is 50 m and its height is 2.5 m. Find the area of four walls of the room.

17. Factorise  $3x^2 + 7x + 14 + 6x$

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

19. In the following addition, find A.

$$\begin{array}{r} 31A \\ + 1A3 \\ \hline 501 \end{array}$$

20. Convert the following into power notation:

i)  $\frac{1}{27}$

ii)  $\frac{-1}{32}$

21. Which of the following numbers are divisible by 4?

(i) 45748

(ii) 21404

22. Can a polyhedron have 10 faces, 20 edges and 15 vertices?

23. The distance between Sun and Saturn is 1,433,500,000,000 m. Express this distance in standard form.

24. Construct a rectangle whose adjacent sides are 6 cm and 4.2 cm.

### Section C

(Questions 25 to 32 carry 3 marks each)

25. A village has a population of 5000. It requires 120 liters of water per head per day. It has a tank measuring 20 m by 20 m by 3 m. For how many days the water of this tank will last?

26. Quantities u and v vary directly and when u = 12 and v = 16. Which of the following is not a possible pair of corresponding values of u and v?

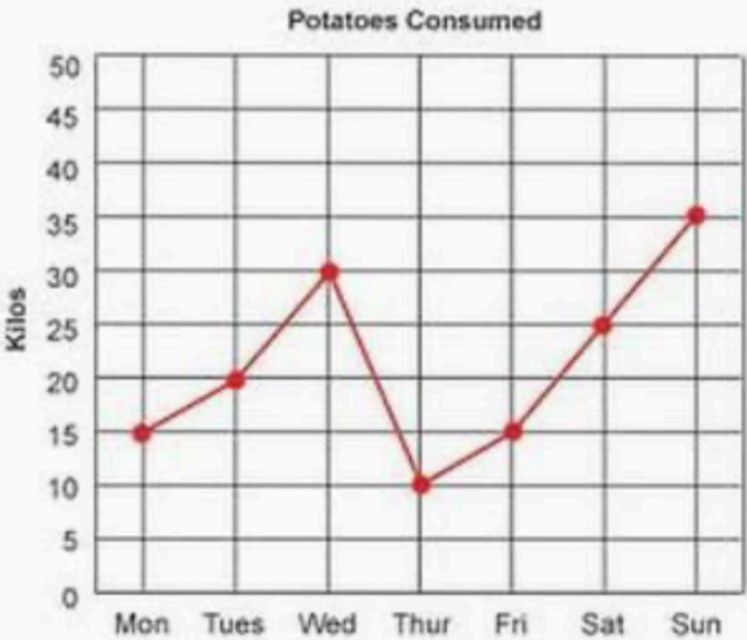
(i) 6 and 8

(ii) 15 and 20

(iii) 18 and 22.

27. What will be the value of a, if y + 2 is a factor of  $4y^4 + 2y^3 - 3y^2 + 8y + 5a$ .

28. The following graph shows the amount of potatoes consumed in kg.



Read the graph and answer the following questions.

- On which day did maximum amount of potatoes consumed?
- On which day the consumption of potatoes went down?
- What is the combine consumption of potatoes on Monday, Tuesday and Wednesday?

29. The edge of a cube is 2 cm. Find the total surface area of the cuboid formed by three such cubes joined edge to edge.

30. 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.

31. Find the Pythagorean triplet whose smallest member is 10.

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

## Section D

(Questions 33 to 37 carry 4 marks each)

33. A bank gives 10% simple interest on the deposits. Draw a graph to show the relation between the sum deposited and the simple interest earned.

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.

35. 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.

36. Write the following numbers in expanded form.

i) 548

ii) 6985

iii) 85

iv) 356

37. Solve for x:

i)  $\frac{x+0.25}{3} - x = 0.5$

ii)  $\frac{(5x+1)}{12} - 2 = \frac{(3x-1)}{9}$