

# Maharashtra Board

## Class VIII Mathematics

### Sample Paper 1

Time: 2 hrs

Total Marks: 60

#### General Instructions:

1. All questions are **compulsory**.
2. The question paper consists of **29** questions divided into **five sections** A, B, C, D and E. **Section A** comprises **12** questions of 1 mark each, **Section B** comprises 8 questions of 2 marks each, **Section C** comprises 5 questions of 3 marks each, **Section D** comprises 3 questions of 4 marks each and **Section E** comprises 1 question of 5 marks.
3. Question numbers **1 to 12** in **Section A** are multiple choice questions where you are to select **one** correct option out of the given four.
4. There is no overall choice. However, internal choice has been provided in **2** questions of **three marks** each, **1 question** of **four marks** and **1 question** of **five marks**. You have to attempt only one of the alternatives in all such questions.
5. Use of a calculator is **not** permitted.

#### SECTION - A

1. A quadrilateral with opposite sides parallel is called a\_\_\_\_\_.  
(A) parallelogram  
(B) square  
(C) rectangle  
(D) rhombus
2. Area of a rhombus is  
(A) area of a rhombus =  $\frac{1}{2} \times \text{base} \times \text{height}$   
(B) area of a rhombus =  $\frac{1}{2} \times \text{Product of lengths of diagonals}$   
(C) area of a rhombus =  $\frac{\sqrt{3}}{4} (\text{side})^2$   
(D) area of a rhombus =  $\frac{1}{2} \times \text{Sum of lengths of parallel sides} \times \text{height}$
3. Circumference of the circle is  
(A)  $c = 2r$   
(B)  $c = 4\pi r$   
(C)  $c = \pi r$   
(D)  $c = 2\pi r$

4. The numerical information collected for a specific purpose is called\_\_\_\_
- (A) tally mark  
 (B) unique data  
 (C) score  
 (D) raw data
5. Which of the following statements is correct?
- (A) If  $y \propto x$  then  $\frac{y}{x} = k$  (a constant)  
 (B) If  $y \propto x$  then  $x + y = k$  (a constant)  
 (C) If  $y \propto \frac{1}{x}$  then  $y \times x = 1$  (a constant)  
 (D) If  $y \propto \frac{1}{x}$  then  $y - x = k$  (a constant)
6. A quadrilateral in which only one pair of opposite sides is parallel is called a \_\_\_\_.
- (A) trapezium  
 (B) rhombus  
 (C) rectangle  
 (D) parallelogram
7. Area of a trapezium is
- (A) area of a trapezium =  $\frac{1}{2} \times \text{base} \times \text{height}$   
 (B) area of a trapezium =  $\frac{1}{2} \times \text{Product of lengths of diagonals}$   
 (C) area of a trapezium =  $\frac{\sqrt{3}}{4} (\text{side})^2$   
 (D) area of a trapezium =  $\frac{1}{2} \times \text{Sum of lengths of parallel sides} \times \text{height}$
8. Amount = \_\_\_\_
- (A) Amount = Principal - Simple interest  
 (B) Amount = Simple interest - Principal  
 (C) Amount = Principal + Simple interest  
 (D) Amount = Simple interest  $\times$  Principal
9. Compound interest = \_\_\_\_
- (A) Compound interest = Amount - Principal  
 (B) Compound interest = Amount + Principal  
 (C) Compound interest = Principal + Simple interest  
 (D) Compound interest = Principal - Amount

10. A shopkeeper may sell an article for less than the marked price for some reason. The difference between the marked price and the lowered selling price is called the \_\_\_\_.
- (A) commission
  - (B) discount
  - (C) selling price
  - (D) cost
11. Volume of the cylinder is
- (A) Volume of the cylinder =  $\pi r^2 h$
  - (B) Volume of the cylinder =  $2\pi r h$
  - (C) Volume of the cylinder =  $2\pi r(h+r)$
  - (D) Volume of the cylinder =  $\frac{1}{3}\pi r^2 h$

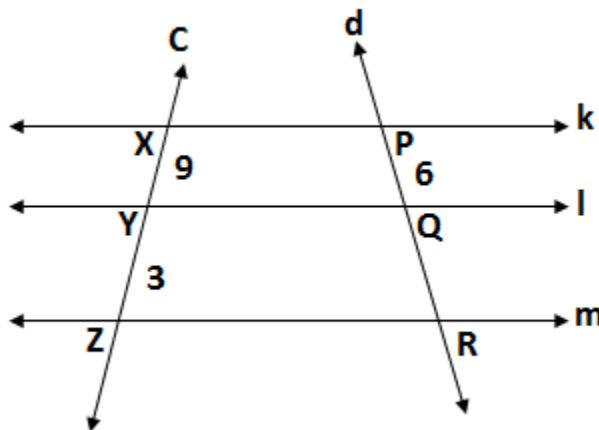
12. Volume of the sphere is
- (A) Volume of the sphere =  $\frac{4}{3}\pi r^3$
  - (B) Volume of the sphere =  $4\pi r^2$
  - (C) Volume of the sphere =  $\frac{1}{3}\pi r^3$
  - (D) Volume of the sphere =  $\frac{4}{3}\pi r^2$

### SECTION - B

13. Find the length of diagonal QS of the square PQRS if the length of the diagonal PR is 8 cm.
14. In a circle with centre O, chord  $PQ \cong$  chord RS and  $m\angle POQ = 40^\circ$ . Find measure of  $\angle ROS$ .
15. What is the area of a triangle whose base is 18.2 cm and height is 9 cm?
16. The marked price of a carpet is Rs 650. If the shopkeeper gives 8% discount on the marked price, then what is its selling price?
17. A cylinder has a base of radius 5 cm and a height of 42 cm. What is its volume?
18. Factorise:  $12x^2 + 7x - 10$
19. Solve the following equation:  $\frac{x+5}{2} = 1 - x$
20. Find the square root of 3721 by the division method.

### SECTION - C

21. In the figure, line  $k \parallel$  line  $l \parallel$  line  $m$ . Their transversals, line  $c$  and line  $d$ , cut them at points  $X, Y, Z$  and  $P, Q, R$ , respectively.  
If  $l(XY) = 9, l(YZ) = 3, l(PQ) = 6$ , find  $l(QR)$ .



22. In quadrilateral PQRS,  $l(PQ) = 8$  cm and  $l(PS) = 10$  cm. Find  $l(QR)$  and  $l(SR)$ .

**OR**

In  $\square ABCD$ ,  $m\angle A = m\angle B = m\angle C = 90^\circ$ . Find  $m\angle D$ . What type of quadrilateral is  $\square ABCD$ ?

23. What is the cost of fencing a circular place of radius 7.7 m with three rounds of wire if the cost of the wire is Rs 50 per metre?

24. Some peas were shelled and the number of peas in each pod was recorded.

2 3 2 4 5 6 3 3 4 4 5 2  
3 4 4 5 5 6 4 4 5 5 3 3  
6 6 3 3 4 2 3 4 2 6 5 2

Prepare a frequency table of the above data.

**OR**

The ages (in years) of 40 children in a class are given below. Prepare a frequency table for this data:

12 13 11 12 14 13 12 12 13 11 14 13 13 12  
12 13 12 12 11 14 12 13 13 12 12 14 11 13  
12 13 11 12 13 12 13 12 13 12 11 12

25. A wholesale trader sold Rs 20 lakh worth of cloth this year. If the sale of cloth increases at a rate of 2% per year, how much will the sale be after three years?

### SECTION - D

26. The denominator of a fraction is greater than the numerator by 5. If 2 is added to both the numerator and the denominator, then the value of the fraction obtained is  $\frac{1}{2}$ . Find the original fraction.

**OR**

The cost of a notebook is Rs 5 more than that of a pen. The cost of 4 pens and 5 notebooks is Rs 88. Find the cost of one pen and one notebook.

27. Ice cream is filled to the brim in a cylindrical container of radius 20 cm and height 60 cm. How many cones of radius 3 cm and height 10 cm can hold this ice cream?
28. Sixty crates, each of which can hold 36 mangoes, are required to pack a certain number of mangoes. How many crates, each of which can hold 48 mangoes, will be required for the same number of mangoes? What kind of proportion is there between the number of crates and the number of mangoes in each crate?

### SECTION - E

29. Divide seg XY of length 7.5 cm into 4 congruent parts.

**OR**

Divide seg XY of length 6.5 cm into 3 congruent parts.