

# Maharashtra Board Class VII Mathematics Board Paper – 1

**Time: 2 hr 30 min**

**Total Marks: 60**

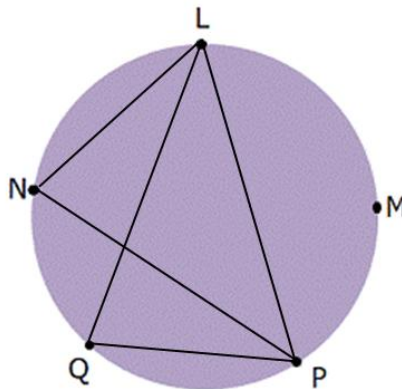
**Note:**

1. All questions are compulsory.
2. Use of calculator is not allowed.

**Q1. Solve the following:**

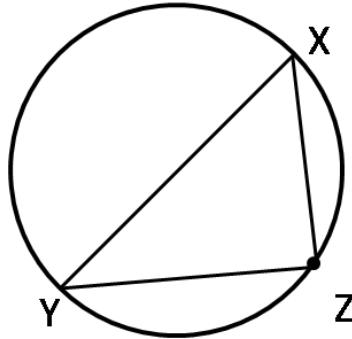
**[12 × 1 = 12]**

1. Calculate the volume of a cuboid whose dimensions are 2.5 m × 2 m × 1 m.
2. Rohan bought 8 calculators for Rs. 1200 from a shopkeeper. The shopkeeper made a profit of Rs. 500 on the sale. Find the cost price of the calculators.
3. In the circle given below,  $\angle LNP = 75^\circ$ , find the measure of  $\angle LQP$ .



4. Calculate the area of a rectangular plot whose length is 85 cm and breadth is 1 m.
5. Write the pairs of corresponding sides and corresponding angles according to the correspondence  $D \leftrightarrow B$ ,  $H \leftrightarrow S$ ,  $P \leftrightarrow C$  between their vertices.
6. The length of a rectangle is  $(x + y)$  and its breadth is  $(x - y)$ . What is its area?
7. Factorise the expression:  $12xy - 15x$
8. Name the quadrilateral whose all angles measure  $90^\circ$ .

9. In the circle given below, XY is the diameter, What is the measure of  $\angle XZY$ ?



10. In a quadrilateral ABCD,  $AB = BC = CD = AD = 5$  cm.  $\angle A = \angle C = 100^\circ$  and  $\angle B = \angle D = 80^\circ$ . Determine the type of quadrilateral ABCD?

11. What is the sum of 0 and  $\frac{-12}{13}$ ?

12. Using identity, find the square of  $(2p + 3q)$ .

**Q2. Solve the following:**

**[8 × 2 = 16]**

1. A pit 2 m long and 2 m broad is to be dug in a place which is 12.4 m long and 10.2 m broad. Find the area of the plot left after the pit is dug.

2. Use the formula to find the factors:

$$\frac{r^2}{s^2} - \frac{81}{100}$$

3. Find the square of  $10 - 3p$ .

4. Simplify using identity:

$$\left(\frac{a}{2} - \frac{b}{3}\right)\left(\frac{a}{2} + \frac{b}{3}\right)$$

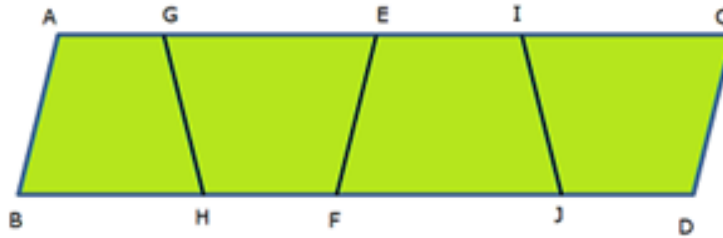
5. Simplify:

$$\frac{-7}{6} - \frac{13}{8}$$

6. A metal trunk is 1.5 m long, 1.2 m broad and 1.3 m high. What is its total surface area?

7. Two cubes of side 2 cm are joined to form a cuboid. Find the volume of the resulting cuboid.

8. Look at the figure given below and answer the following questions:



- A. How many trapeziums are there in the given picture? Name them.  
 B. How many parallelograms are there in the given picture?

**Q3. Solve the following [Any five]:**

**[5 × 3 = 15]**

- If  $\triangle MNY \cong \triangle SGK$ , write the part(s) of  $\triangle SGK$  that corresponds to:
  - $\angle M$
  - YN
  - $\angle N$
  - MY
  - $\angle Y$
  - NM
- The volume of a room is 64 cu. m, its breadth is 4 m and its height 2 m. Find the length of the room.
- Calculate the breadth of the rectangular blackboard given below when the area of both the rectangular and square blackboards is the same.

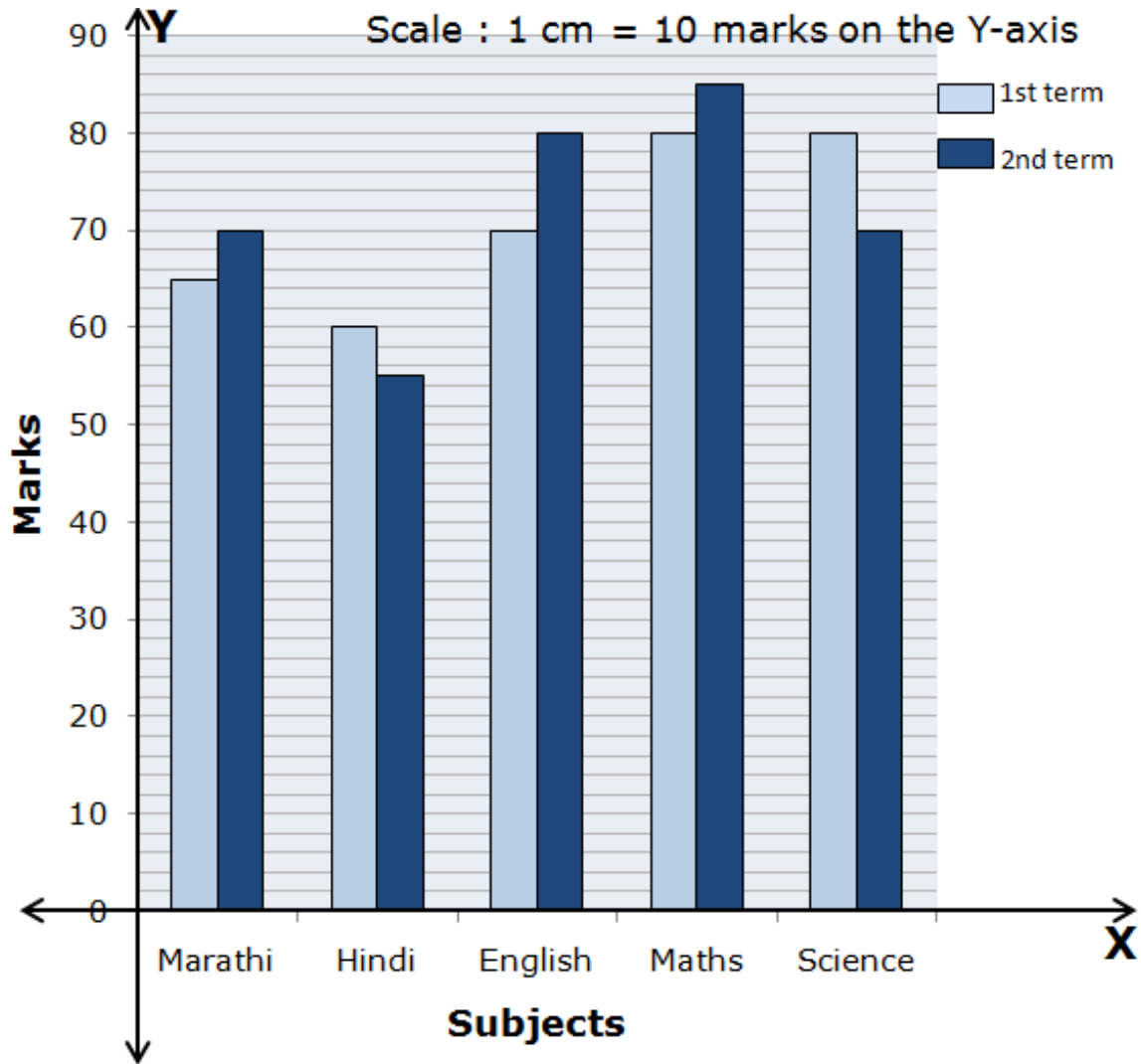


- Factorise  $16m^2 - 40mn + 25n^2$
- Equalize the denominators to determine which number is bigger and which is smaller.  
 $\frac{-15}{8}, \frac{-9}{4}$
- Shriraj bought a TV set for Rs. 10,000 and sold it to Suresh for Rs. 8000. What loss percent did Shriraj incur?
- Factorise:  
 $4x^2 + \frac{1}{9x^2} - \frac{4}{3}$

**Q4. Solve the following [Any three]:**

**[3 × 4 =12]**

1. In the joint graph below, Govinda's first term and second term marks in some subjects are shown.



Questions:

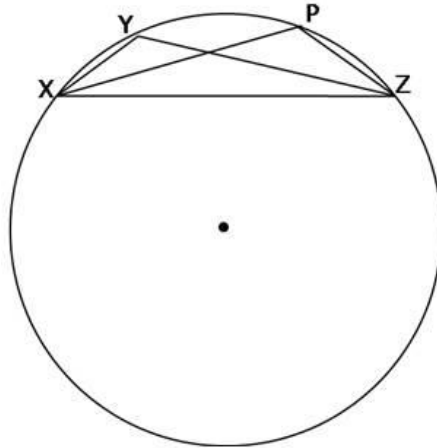
- (i) Write Govinda's marks in Marathi in the two examinations.
  - (ii) In which subjects did his marks fall in the second term exam?
  - (iii) What was the increase in the maths marks in the second term?
  - (iv) In which subject were his marks more than 80 in the second term exam?
2. Draw a rectangle LMNP such that  $LM = 5.5$  cm and  $MN = 3.5$  cm.
3. Find the factors of the following expressions:
- (i)  $y - 1 + y^3 - y^2$
  - (ii)  $m^3 + m^2 + m + 1$

4. Simplify:

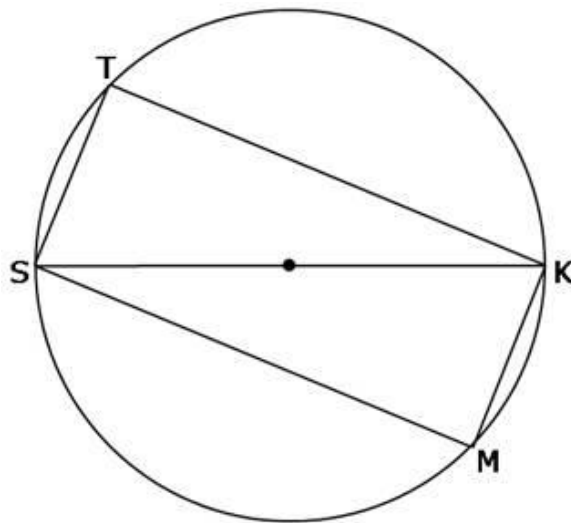
(i)  $\frac{-20}{9} \div \frac{-10}{3}$       (ii)  $\frac{-15}{8} \times \frac{-16}{25}$

5.

(i) In the figure,  $m\angle XYZ = 100^\circ$  Then  $m\angle XPZ = ?$



(ii) In the figure, seg SK is a diameter. Hence, write the measures of the angles  $\angle STK$  and  $\angle SMK$ .

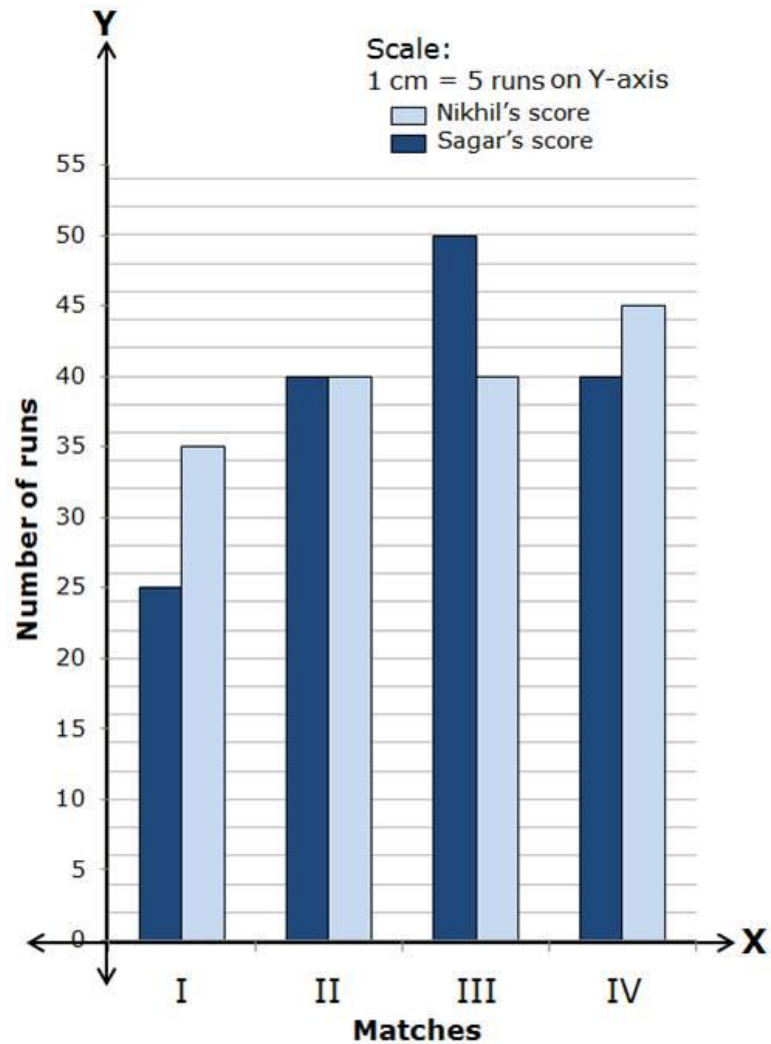


**Q5. Solve the following [Any one]:**

**[1 × 5 = 5]**

1. A tank with a lid has length 2.5 m, breadth 2 m and height 2.4 m. How much metal sheet is required for the tank? What is the cost of constructing it at Rs. 10 per sq. m. How many cu. m of water can the tank hold?

2. The runs scored by Sagar and Nikhil in four cricket matches are shown in the joint bar graph below.



Questions:

- (i) In which match were their scores the same?
- (ii) Who scored more in the third match?
- (iii) In the first match, how many more runs did Nikhil score than Sagar?
- (iv) In which matches did Sagar have equal scores?
- (v) In which matches did Nikhil have equal scores?