

ICSE
Class VII
Mathematics
Sample Paper 1

Time: 2hour 30 mins

Total Marks: 80

General instructions:

1. Answers to this paper must be written on the paper provided separately.
2. You will not be allowed to write during the first **15 minutes**.
3. This time is to be spent in reading the question paper.
4. The time given at the head of this paper is the time allowed for writing the answers.
5. Attempt **all** questions from **Section A**. Solve any **four** questions from **Section B**.
6. **All working, including rough work, must be clearly shown and must be done on the same sheet as the rest of the answer.**
7. **Omission of essential working will result in loss of marks.**
8. The intended marks for questions or parts of questions are given in brackets [].

Section A (40 marks)

Question 1

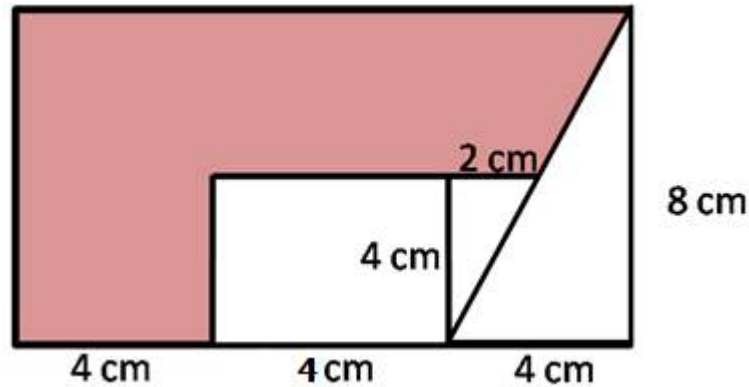
- a) If the marks of Rohit, Ajay and Vipul are in ratio of 4 : 5 : 6, and Ajay got 75 marks, then find the marks of Rohit and Vipul? [2]
- b) A train 270 m long is running at 40.5 km/hr. How much time will it take to cross the tree? [3]
- c) Express the following as a rational number:
$$\left[\frac{(2)^2}{(3)} \right] \times \left[\frac{(1)^{-2}}{(3)} \right] \times 3^{-1} \times \frac{1}{6}$$
 [3]
- d) State whether True or False: [2]
 - i. If an object looks exactly the same after a rotation, then it has a rotational symmetry.
 - ii. If a transversal cuts a pair of parallel lines, then the alternate angles formed are congruent.

Question 2

- a) The given data shows the marks obtained by 20 students of a class in a Math test.
31, 9, 8, 20, 8, 7, 30, 31, 24, 20, 13, 13, 28, 26, 19, 27, 13, 12, 25, 21
Represent the data in a frequency distribution table and find the mean. [4]
- b) Add : i) $4x^2 + 3x + y$ and $5x - 3y$

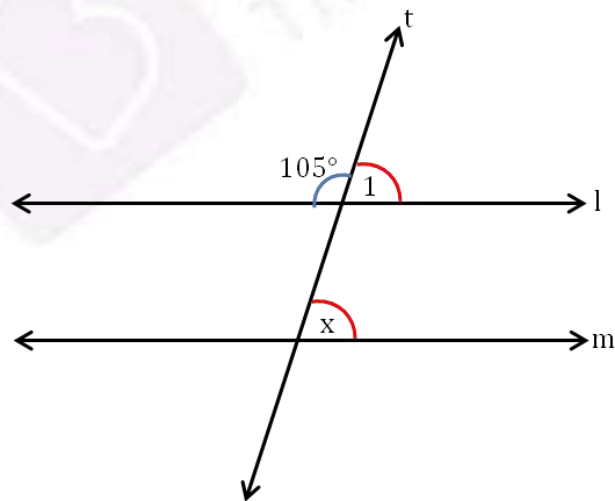
ii) $9a^2 + 4b - 4c$ and $-5a^2 - 5b$ [3]

c) Find the area of the shaded region? [3]



Question 3

- a) $\frac{5}{6}$ of the cake was eaten by 5 friends. The next day 3 other friends ate $\frac{1}{2}$ of what was left. How much of the cake is left? [3]
- b) Sanket's monthly expenditure is Rs. 15000. He spends 25% on house rent, 40% on food and groceries, 5% each on travelling and entertainment and the rest on education. Calculate the amount he spends on each. [4]
- c) In the given figure, $l \parallel m$ find x . [3]



Question 4

- a) The population of a town increases by 6% annually. If the present population is 17490, what was it a year ago? [4]

b) Simplify: $\left(\frac{a^3}{b^4}\right)^2 \times \left(\frac{b^2}{a^3}\right)^3$ [3]

c) The angles of a triangle are in the ratio 2 : 3 : 5. Find the angles. [3]

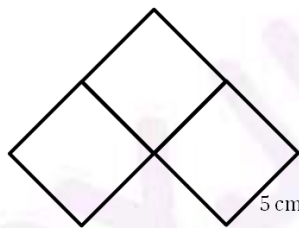
Section B (40 marks)

Question 5

a) Write the following sets in the roster method. [2]

- i. M is a set of first 5 multiples of 3.
- ii. V is a set of the vowels in 'DISJOINT'.

b) The figure below is made of 3 squares with sides 5 cm. What is the perimeter of the figure? [2]



c) The score of 8 members of a team is 360 and that of 7 members of another team is 322. Which team scored better? [3]

d) The cost of 1 L milk is Rs. 22.50. What is the cost of 40.3 L of milk? [3]

Question 6

a) Solve: i) $(-48) \times 24 \times (-10) + 100$
ii) $(-56) + 27 - 45 - 17 + 19$ [4]

b) If $5x - \frac{3}{4} = 2x - \frac{2}{3}$, then find the value of x. [3]

c) Simplify: $\frac{m}{5} - \frac{m-2}{3} + m$ [3]

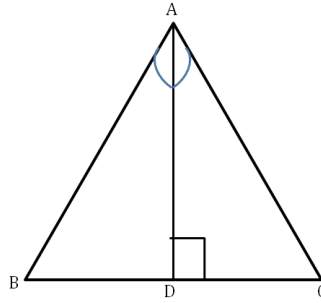
Question 7

a) Find x: $x + z - 15 = 65$ [2]

b) What is the square root of i) 1.44 and ii) 289 [3]

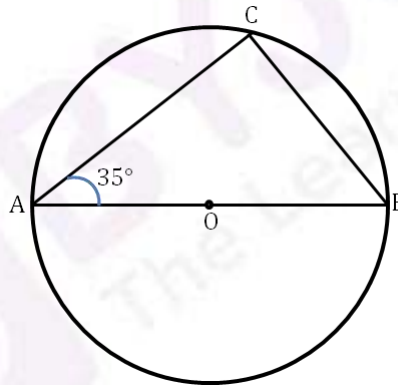
c) Solve the in equation: $-14 - 5x \geq 3x + 2$, $x \in \text{integers}$ [2]

d) In the figure, AD bisects $\angle A$ and $AD \perp BC$. Show that $\triangle ADB \cong \triangle ADC$. [3]



Question 8

- a) A person weighing 60 kg on the Earth weighs 9.9 kg on the Moon and 141.8 kg on Jupiter. How much will another person weighing 75 kg weigh on the Moon and on Jupiter? [4]
- b) What is the sum of the interior angles of a polygon with:
 - i) 12 sides and ii) 25 sides [3]
- c) In the given figure, O is the centre of the circle and $m\angle CAB = 35^\circ$. Calculate the measure of $\angle ABC$. [3]



Question 9

- a) Find the supplementary and complementary angle for an angle measuring 39° . [3]
- b) The ratio of the ages of two brothers is 3 : 2. If the elder brother's age is 21 years, how old is the younger brother? Find the ratio of their ages after 7 years. [4]
- c) Write the co-ordinates for the following points when reflected on the y-axis
 - i) A(3, 6) ii) B(-4, 8) iii) C(4, -7) [3]