

ICSE Board
Class VI
Mathematics
Sample Paper – 1

Time: 2 hrs 30 min

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) Find the sum of the following: -146, -78, 124, 69 [2]
- (b) Find the area of a rectangle with length 4.5 cm and breadth 3.0 cm. [2]
- (c) Use the divisibility tests to determine whether the number 378 is divisible by 2, 3, 4, 5, 6, 9 and 11. [3]
- (d) State whether true or false: [3]
 - i. $n(\emptyset) = 1$
 - ii. If two angles of a triangle are obtuse, then it is called an obtuse angled triangle.
 - iii. $2x - 3y + 5z^2$ is a trinomial.

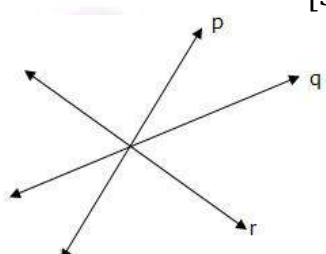
Question 2

- (a) If two angles are supplementary and one angle is 5° more than four times the other, find the angles. [2]
- (b) The monthly income of Sanjeet and Manjeet are Rs. 18000 and Rs. 27000 respectively. What is the ratio of the income of Manjeet to that of Sanjeet in its simplest form? [2]
- (c) Find the L.C.M. of 120, 210, 225 by the division method. [3]
- (d) Simplify: $1\frac{2}{3} + \frac{5}{8} - \frac{7}{12} + 4\frac{4}{15}$ [3]

Question 3

- (a) Write the greatest and the smallest 4-digit numbers using four different digits with the given conditions: [3]
- Digit 3 is always at tens place
 - Digit 8 is always at hundreds place
 - Digit 5 is always at thousands place
- (b) Find the value of $2a^3 - b^4 + 3a^2b^3 - 3ab^2$ when $a = 2, b = -1$ [3]
- (c) Construct an angle of 60° , using a ruler and compass. [4]

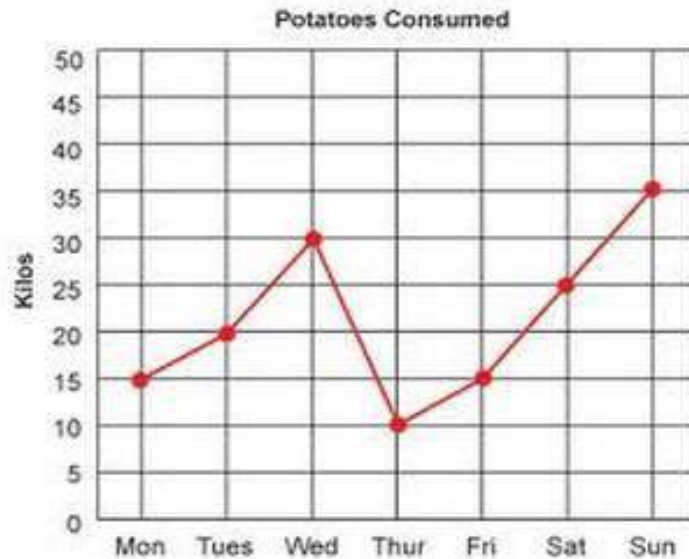
Question 4

- (a) Answer the following questions for the given figure. [3]
- What are lines p, q, and r called?
 - What is the point at which they meet called? Label it on the figure.
 - How many lines can pass through the labeled point?
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- (b) Simplify: $8(a^2 - a - 1) + 5(2a - 2) - 3(a^2 + a - 1)$ [3]
- (c) Alisha along with her 2 friends ordered one sandwich each at their favorite restaurant. They left a tip of 7 rupees for the waiter. If they spent a total of hundred rupees, find the cost of each sandwich. [4]
- Frame an equation for the given situation and then solve the same.

Section B (40 marks)

Question 5

- (a) Simplify: $53.5 - 34.68 + 64.75 - 28.9$ [2]
- (b) There are 1,300,000 people in a town. 786,324 of them are women, 8642 children and the rest are men. Find out the population of men in the town. [2]
- (c) If the H.C.F. of two numbers is 24 and their product is 5760, find their L.C.M. [3]
- (d) The following graph shows the amount of potatoes consumed in kg. [3]



Read the graph and answer the following questions.

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

Question 6

- A painter can paint a wall of area 20 m^2 in 10 hours. If he works at a constant speed, how much time will he take to paint a wall of area 30 m^2 ? [3]
- Simplify: $15a^2 - 6a(a - 2) + a(3 + 7a)$ [3]
- Let $A = \{x: x \text{ is a letter in the word CHANDIGARH}\}$ and $B = \{x: x \text{ is a letter in the word RAJASTHAN}\}$ [4]
 - Find $A \cap B$ and $A \cup B$
 - Find $n(A)$, $n(B)$, $n(A \cap B)$ and $n(A \cup B)$
 - Verify: $n(A \cup B) = n(A) + n(B) - n(A \cap B)$

Question 7

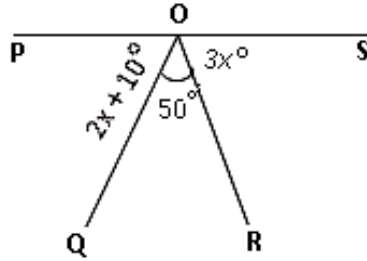
- Express $\frac{1095}{1168}$ in the simplest form. [3]
- Find the fourth term of a proportion if the first, second and third terms are 21, 7 and 9, respectively. [3]
- If the area of a rectangular plot is 144 sq. m. and its length is 16 m , find the breadth of the plot. Also find the cost of painting a blue border around the plot if the cost is Rs. 3 per metre. [4]

Question 8

(a) Simplify: $16 - [5 - 2 + \{7 \text{ of } 2 - (6 \div 3 \times 2 - 1 + 3)\}]$ [3]

(b) In the adjoining diagram, POS is a straight line. Find the value of x and hence complete the following: [3]

- i) $\angle POQ$ ii) $\angle ROS$



(c) Let $P = \{1, 2, 3, 5, 7, 11\}$, $Q = \{\text{first five even natural numbers}\}$. Find $P \cup Q$, $P \cap Q$ and represent them by a Venn-Diagram. [4]

Question 9

(a) The table represents the number of books sold in a store during four months of a year. Make a bar graph to represent the data. [3]

Months	January	February	March	April
No. of books	140	120	110	130

(b) Altay is a breed of a fat-tailed sheep from China. An Altay's tail weighs 8.5% of the weight of the whole sheep. The sheep weighs 82 kg in total. How much does the sheep's tail weigh? [3]

(c) In the given figure, all the adjacent sides are at right angles. [4]

Find:

- The perimeter of the figure
- Area of the figure.

