

**ICSE**  
**Class VII**  
**Mathematics**  
**Sample Paper 2**

**Time: 2hour 30mins**

**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 [ ].

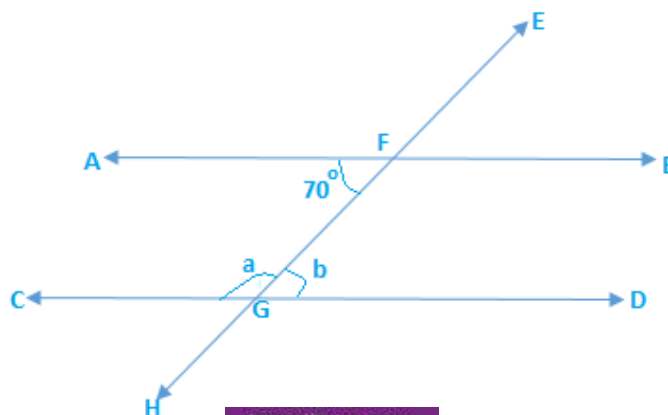
**Section A (40 marks)**

**Question 1**

- a) Three metallic cubes with edges 3 cm, 4 cm and 5 cm were melted and recast into a new cube. What will be the length of the edge of the new cube? [3]
- b) Draw a Venn-Diagram to represent  $A = \{2, 4, 6, 8, 10\}$  and  $B = \{4, 8, 12, 16, 20\}$ . Find  $A \cup B$  and  $A \cap B$ . [4]
- c) Simplify:  $\left(\frac{y + 2y}{6 + 3}\right) \div \left(2y - \frac{3y - 2}{2}\right)$  [3]

**Question 2**

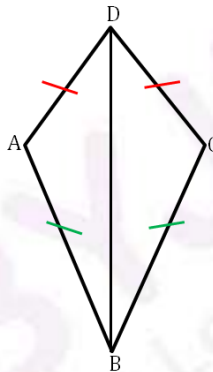
- a) In the given figure, find  $m\angle CGF$  and  $m\angle DGF$ . [3]



- b) Represent the inequation on a number line:  $3x + 14 \geq 8$ ,  $x \in I$  [3]  
 c) Solve for a:  $a + b + 27 = 45$  [2]  
 d) Calculate the interest earned on a sum of Rs. 18,000, lent for 3 years at 6% per annum. [2]

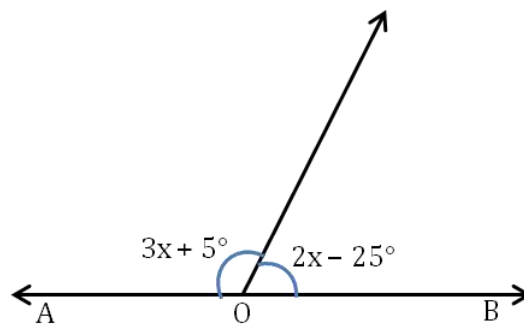
**Question 3**

- a) Convert as instructed:  
 i. 36 km/hr to m/sec                      ii. 75 cm/sec to m/ sec [3]  
 b) Solve:    i.  $\{5 + (5 \times 8) \div 2 - 3\} \div (-11)$   
                  ii.  $\{63 \div (-15 + 8)\} - (-3 \times 7)$  [4]  
 c) In the figure,  $AD = DC$  and  $AB = BC$ . Prove that  $\triangle ABD \cong \triangle CBD$ . [3]



**Question 4**

- a) By selling a dress for Rs. 729, a shopkeeper experienced a loss of 10%. Find the cost price of the dress? [3]  
 b) Aryan has a rectangular garden whose length is double its width. The area of the garden is 450 square cm. What is the length of the garden? [2]  
 c) Find the value of x in the given figure if AOB is a straight line. [2]



- d) Each interior angle of a polygon is  $140^\circ$ . Find the number of sides. [3]

**Section B (40 marks)**

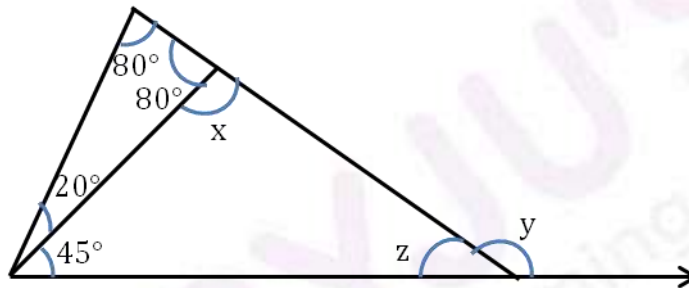
**Question 5**

a) Subtract the sum of  $(8a^3 + 4a + 5c^2)$  and  $(4a^2 + 8b - 4c^2)$  from  $(-2a^3 + 9a - 5c^2 + 8a^2 + 6)$  [3]

b) Solve:  $(2^{-1} \times 3^{-1})^2 \times \left(\frac{-3}{8}\right)^{-1}$  [2]

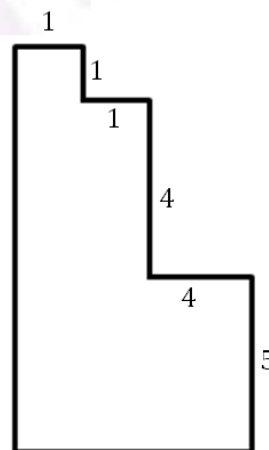
c) Simplify:  $\frac{\frac{1}{3}\left(\frac{1}{2} + \frac{1}{5}\right)}{\frac{1}{5}\left(\frac{1}{2} + \frac{1}{5}\right)}$  [2]

d) Find  $x$ ,  $y$  and  $z$  in the following triangle. [3]



**Question 6**

a) Find the perimeter of the following plot (all measures are in m). [3]



b) Divide 104 pens between 3 friends in the ratio  $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$  [4]

c) Factorise:  $49(2x + y)^2 - 64(x - 3y)^2$  [3]

**Question 7**

- a) The average of 6 numbers is 36.5. If 5 of the six numbers are 25, 29, 33, 37 and 51, find the 6<sup>th</sup> number. [3]
- b) Find x:  $4x + 3 - x + 3 = 60$  [2]
- c) Divide 0.00945 by 0.315. [2]
- d) Find the co-ordinates of the image of the following points under reflection in the origin: [3]
- i. A(2, -3)      ii. B(-3, -6)      iii. C(0, 9)

**Question 8**

- a) Find the square and cube of: i. 15      and      ii. 1.5 [3]
- b) In a poultry farm, 300 eggs are produced every day. If 100 birds produce an average of 75 eggs each day, how many birds are there in the poultry farm? Also find how many more birds should be bought if 375 eggs are needed every day. [4]
- c) Construct  $\Delta XYZ$  in which  $XZ = 5$  cm,  $YZ = 3.6$  cm and  $XY = 5.4$  cm. [3]

**Question 9**

- a) The temperatures of 10 days in a city are given below. Plot a line graph to represent the data. [4]

Days	Temperature (in °C)
Day 1	41
Day 2	40.5
Day 3	42
Day 4	39
Day 5	40
Day 6	43
Day 7	44
Day 8	41.5
Day 9	38
Day 10	40

- b) The H.C.F. of two numbers is 18 and their L.C.M. is 108. One of the numbers is 54. Find the other number. [3]
- c) Multiply:  $57 \times 63$  [3]