

Mid Term Examination 2025– 26

Subject: Mathematics

Solutions and Marking Key

Set C1/C2

Time allowed :2.5 hours

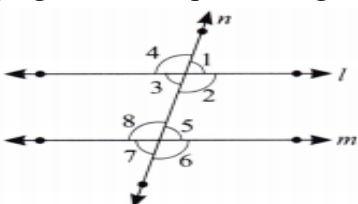
Maximum Marks: 60

GENERAL INSTRUCTIONS:

Read the following instructions carefully and follow them:

- (i) This question paper contains **16** questions. All questions are compulsory.
- (ii) Question paper is divided into **FIVE** sections—**Section A, B, C, D** and **E**.
- (iii) In **section A** – question number **1** has 12 multiple choice questions (MCQs) of **1** Mark each.
- (iv) In **section B** – question number **2** to **7** are Objective type questions of **2** marks each.
- (v) In **section C** – question number **8** to **10** are Short Answer (SA) type questions carrying **3** marks each.
- (vi) In **section D** – question number **11** to **13** are Long Answer (LA) type questions carrying **5** marks each.
- (vii) In **section E** – question number **14** to **16** are **source based/case study** questions carrying **4** marks each. Internal choice is provided in **2** marks question in each **source based/case study** question.

SECTION-A			
Question 1 consists of Multiple - Choice questions (i -xii) of 1 mark each.			
Q. No. C1	Q. No. C 2		Marks
1.(xii)	1.(i)	The difference between two numbers is 6. If one of them is (-13), which of these could be the other number ? (i) -7 (ii) -19 (iii) 19 (a) only (i) and (ii) (c) 0 (b) -19 (d) number itself	1
(xi)	(ii)	p and t are two integers such that $(-p) \times (-t) < 0$. Which of the following is true ? (a) both $p > 0$ and $t > 0$ (b) either $p < 0$ or $t < 0$ (c) both $p < 0$ and $t < 0$ (d) product of $(-p)$ and $(-t)$ can never be less than zero	1
(x)	(iii)	The value of $(0.0005) \times (0.5)$ is (a) 0.00025 (b) 25 (c) 0.25 (d) 0.0025	1

(ix)	(iv)	The average of 0.3, 3 ,0.03 and 0.002 is (a) 0.833 (b)0.803 (c)83.3 (d)833	1
(viii)	(v)	(5672 – 2345) estimated to the nearest hundreds is (a) 3000 (b) 3400 (c) 2000 (d) 1000	1
(vii)	(vi)	How many thousands make a million? (a) 10 (b) 100 (c) 1000 (d) 10000	1
(vi)	(vii)	Which expression correctly compares as greater: $10 + 2$ or $7 + 1$? (a) $10 + 2 < 7 + 1$ (b) $10 + 2 > 7 + 1$ (c) $10 + 2 = 7 + 1$ (d) Cannot be determined	1
(v)	(viii)	What is the total cost if 4 dosas at ₹23 each and a ₹5 tip is given? (a) 97 (b) 92 (c) 100 (d) 88	1
(iv)	(ix)	What is the simplified form of $500 - (250 - 100)$? (a) $500 - 250 - 100$ (b) $500 - 150$ (c) $500 - 250 + 100$ (d) $500 + 250 - 100$ C1 Which of the following is not true? (a) $(7 + 8) + 9 = 7 + (8 + 9)$ (b) $(7 \times 8) \times 9 = 7 \times (8 \times 9)$ (c) $7 + 8 \times 9 = (7 + 8) \times (7 + 9)$ (d) $7 \times (8 + 9) = (7 \times 8) + (7 \times 9)$	1
(iii)	(x)	If two lines are parallel , then they (a) intersect at a right angle . (b) intersect at any angle (c) never intersect (d) always form an angle of 180°	1
(ii)	(xi)	In the following figure, which pair of angles are not corresponding angles?  (a) $\angle 1, \angle 5$ (b) $\angle 2, \angle 6$ (c) $\angle 3, \angle 7$ (d) $\angle 3, \angle 5$	1

(i)	(xii) Rohan has Rs.480 in his saving account .He plans to use it as follows : $\frac{3}{8}$ goes into her savings account $\frac{2}{5}$ is for new clothes $\frac{1}{12}$ is for school The rest is for entertainment How much does he spend on clothes ? (a) Rs.190 (b) Rs. 192 (c) Rs.200 (d) Rs.240	1
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SECTION-B Q2 to Q7 is Objective type questions of 2 marks each.		
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7.	2. Use the sign of >, < or = in the box to make the statements true. $39 + (-24) - (15)$ [] $36 + (-52) - (-36)$ Solution:- Let us take Left Hand Side (LHS) = $39 + (-24) - 15$ = $39 - 24 - 15$ = $39 - 39$ = 0 Now, Right Hand Side (RHS) = $36 + (-52) - (-36)$ = $36 - 52 + 36$ = $72 - 52$ = 20 By comparing LHS and RHS, LHS < RHS $0 < 20$ $\therefore 39 + (-24) - (15) [<] 36 + (-52) - (-36)$	1 1
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10.	8.	If $\frac{1}{4}$ of flour is used to make 12 rotis, how much flour is used to make 6 rotis? Solution: If $\frac{1}{4}$ kg of flour is required to make 12 rotis, then the amount of flour required to make 6 rotis will be half of $\frac{1}{4}$ kg, i.e., $\frac{1}{4} \div 2 = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ Hence, $\frac{1}{8}$ kg of flour is required to make 6 rotis. OR Amritpal decides on a destination for his vacation. If he takes a train, it will take him $5\frac{1}{6}$ hours to get there. If he takes a plane, it will take him $\frac{1}{2}$ hour. How many hours does the plane save? Solution: The difference between the two durations $= 5\frac{1}{6} - \frac{1}{2} = \frac{31}{6} - \frac{1}{2} \quad \left(\because 5\frac{1}{6} = \frac{31}{6} \right)$ $= \frac{31}{6} - \frac{3}{6} = \frac{31-3}{6} = \frac{28}{6} = 4\frac{4}{6} = 4\frac{2}{3} \text{ hours}$	1 1 1
9.	9.	Write the expression describing the situation, identify its terms, and find the value of the expression. Queen Alia gave 100 gold coins to Princess Elsa and 100 gold coins to Princess Anna last year. Princess Elsa used the coins to start a business and doubled her coins. Princess Anna bought jewellery and has only half of the coins left. How many gold coins Princess Elsa and Princess Anna together have. Ans Number of gold coins Princess Elsa got = 100 Number of gold coins Princess Anna got = 100 Princess Elsa used the coins to start the business and doubled her coins. So, the number of coins Princess Elsa has = 2×100 Princess Anna bought jewellery and has only half of the coins left. So, the number of coins Princess Anna has = $100/2$ Therefore, the total number of gold coins Princess Elsa and Princess Anna have together = $2 \times 100 + 100/2$ Thus, the expression describing the above situation is $2 \times 100 + 100/2$ Terms: 2×100, $100/2$ Now, $2 \times 100 + 100/2 = 200 + 50 = 250$ OR Find two different ways of evaluating the following expressions: $1 - 2 + 3 - 4 + 5 - 6 + 7 - 8 + 9 - 10$. Ans First way	1 1 1 1

		Mode = 15 $n = 11$ (odd) $\therefore$ Median = $(11+1/2)th$ term = 6th term = 15 Thus mean = 39, mode = 15 and median = 15 No, they are not same. C2 The weights (in kg) of 15 students of a class are: 38, 42, 35, 37, 45, 50, 32, 43, 43, 40, 36, 38, 43, 38, 47 (i) Find the mode and median of this data. (ii) Is there more than one mode? Solution: Given data: 38, 42, 35, 37, 45, 50, 32, 43, 43, 40, 36, 38, 43, 38, 47 Arranging in increasing order, we get 32, 35, 36, 37, 38, 38, 38, 40, 42, 43, 43, 43, 45, 47, 50 (i) Here, 38 and 42 occur 3 times (highest) Thus mode = 38 and 43 $n = 15$ (odd) Median = $(n+1)/2$th term = $(15+1)/2$th term = 8th term = 40 Thus mode 38 and 43 and median = 40 (ii) Yes, the given data has two modes i.e. 38 and 43.	1 1
12.	12.	If $a = -35$, $b = 10$ cm and $c = -5$, verify that: $a \times (b + c) = a \times b + a \times c$ Ans $a \times (b + c) = a \times b + a \times c$ LHS = $a \times (b + c) = (-35) \times [10 + (-5)] = (-35) \times 5 = -175$ RHS = $a \times b + a \times c = (-35) \times 10 + (-35) \times (-5) = -350 + (-) \times (-) \times (35 \times 5) = -350 + 175 = -175$ LHS = RHS Hence, verified. OR A test has 20 questions . 4 marks are given for each correct answer and – 2 marks are given for each incorrect answer . A student attempts all 20 questions and gets 12 correct answers . What is the students final score ? Ans Score for correct answers = 48 Student gets 8 incorrect answers Score for incorrect answers = –16 Total score = $48 + (-16) = 32$	2 2 1
11.	13.	Bald eagles are known to fly as high as 4500 – 6000 m above the ground level. Mount Everest is about 8850 m high. Aeroplanes can fly as high as 10,000 – 12,800 m. How many times bigger are these heights compared to Somu’s building which is 44 m tall ? Solution: Let’s compare these heights to Somu’s building: Bald eagle: 4500 – 6000 m; Mount Everest: 8850 m; Aeroplanes: 10,000 – 12,800 m Somu’s building is 44 m tall. Ratios compared to Somu’s building: Bald eagle: $(4500 \div 44 \sim 100)$ to $(6000 \div 44 \sim 150)$	1 1 1 1

The bald eagle's flying height is 100 – 150 times higher.
 Mount Everest: $8850 \div 44 = 201$
 Mount Everest is 201 times bigger.
 Aeroplanes: $(10,000 \div 44 \sim 230)$ to $(12,800 \div 44 \sim 290)$
 An aeroplane's flying height is 230 – 290 times higher.
 OR

1

A bar-tailed godwit holds the record for the longest recorded non-stop flight. It travelled 13,560 km from Alaska to Australia without stopping. Its journey started on 13 October 2022 and continued for about 11 days. Find out the approximate distance it covered every day. Find out the approximate distance it covered every hour.

Solution:

Total distance = 13,560 km and duration = 11 days

Distance covered every day = $13,560 \div 11 \sim 1,233$ km/day.

Thus, the godwit covers approximately 1,233 km per day.

One day = 24 hours

Distance covered every hour = $1,233 \div 24 \sim 51$ km/hour.

Thus, the godwit covers approximately 51 km per hour.

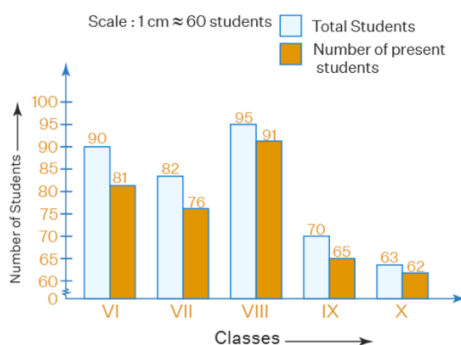
SECTION– E

Q14 to Q16 is Case study-based questions of 4 marks each.

16.

14.

Observe the following data:



(a) What do you infer from the bar graph?

(b) Which class has the maximum number of students?

(c) In which class, the difference of total students and number of students present is minimum?

OR

In which class, the difference of total students and number of students present is maximum?

Ans 1. The double bar graph depicts the information about total number of students and number of students present from Class VI to Class X.

2. Class VIII has the maximum number of students.

3. Class X has the minimum difference of total students and number of students present

OR

Class VI

1
1
2

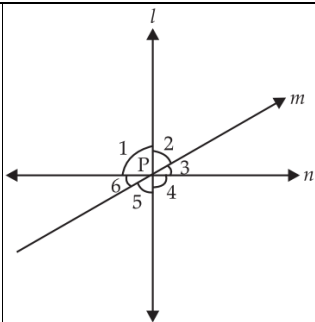
15.

Q15.

Three lines shown in the figures intersect each other at point P.

Line l is perpendicular to line n.

The measure of $\angle 2$ is 65° .



Q1. Name a pair of vertically opposite angles .

1

Q2. What is the measure of $\angle 6 + \angle 5$?

1

Q3. What is the sum of the measure of $\angle 2$, $\angle 3$ and $\angle 4$?

2

OR

What is the measure of $\angle 6$?

Ans 1. $\angle 1$ and $\angle 4$

2. 90°

3. 180°

OR

25°

14.

Q16. Aaron's pet tortoise walks only $\frac{1}{4}$ km in 1 hour.



One day, Aaron recorded its movement to calculate how far it could go in fractional hours. He noted:

- In 3 hours: $\frac{1}{4} \times 3 = ?$
- In $\frac{1}{2}$ hour: $\frac{1}{2} \times \frac{1}{4} = ?$
- In $\frac{3}{4}$ hour: $\frac{3}{4} \times \frac{1}{4} = ?$
-

Q1. What distance does the tortoise walk in 3 hours?

Q2. What is the result of $\frac{1}{2} \times \frac{1}{4}$?

Q3. The tortoise walks $\frac{3}{4}$ km in 3 hours. What is its speed per hour?

1

OR

The tortoise walks $\frac{3}{4}$ km in 3 hours. What is the total distance travelled in 24 hours ?

1

Answer:

1. $\frac{3}{4}$ km.

2. $\frac{1}{8}$

3. $\frac{3}{4} \text{ km} \div 3 = \frac{1}{4} \text{ km/hr.}$ OR
6 km

2

