

**X****MIND CURVE** Mid Term Maths Test Series 2026-27**Test 01**

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S no	Syllabus Covered	Chapters(In Half Yearly)	Marking Scheme
1.	Chapter 1	Real Numbers	25
2.	Chapter 2	Polynomials	15

Note: Students/Teachers can refer to this Sample Paper for practice purpose. However, students may find or experience different exam pattern as syllabus or marking scheme may vary school to school.

MM:40

GENERAL INSTRUCTIONS

Time 1.5Hrs

READ CAREFULLY ALL INSTRUCTIONS

1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 10 MCQs carrying 1 mark each
3. Section B has 3 questions carrying 02 marks each.
4. Section C has 2 questions carrying 03 marks each.
5. Section D has 5 questions carrying 05 marks each.
6. Section E has 2 case based integrated units of assessment (04 marks each) with sub parts of the values of 1, 1 and 2 marks each respectively.
7. All Questions are compulsory. However, an internal choice in 1 Qs of 5 marks, 2 Qs of 3 marks and 2 Questions of 2 marks has been provided. An internal choice has been provided in the 2marks questions of Section E
8. This paper consists of 19 questions.
 - a. Write your answers neatly and legibly.
 - b. Ensure you have not left any question unanswered

SECTION – A

Questions 1 to 10 carry 1 mark each.

1. The smallest number by which $\sqrt{27}$ should be multiplied so as to get a rational number , is
 (a) $\sqrt{27}$ (b) $3\sqrt{3}$ (c) $\sqrt{3}$ (d) 3
2. If the HCF of 65 and 117 is expressible in the form $65m - 117$, then the value of m is
 (a) 4 (b) 2 (c) 1 (d) 3
3. The largest number which divides 70 and 125 , leaving remainders 5 and 8 , respectively , is
 (a) 13 (b) 65 (c) 875 (d) 1750
4. If α and β are the zero of a polynomial $f(x)=px^2-2x+3p$ and $\alpha + \beta = \alpha\beta$ then p is
 (a) -2/3 (b) 2/3 (c) 1/3 (d) -1/3

5. Find the least positive integer divisible by 20 and 24 .
 (a) 24 (b) 15 (c) 12 (d) 120
6. Find the least number which when divided by 12 , leaves a remainder of 7 , when divided by 15 , leaves a remainder of 10 and when divided by 16 , leaves a remainder of 11 .
 (a) 115 (b) 235 (c) 247 (d) 475
7. Three numbers are in the ratio 1 : 2 : 3 and their HCF is 12 . Then the positive square root of largest number is
 (a) 3 (b) 2 (c) 6 (d) 4
8. Let a and b be two positive integers such that $a = p^3q^4$ and $b = p^2q^3$, where p and q are prime numbers. If $\text{HCF}(a,b) = p^m q^n$ and $\text{LCM}(a,b) = p^r q^s$, then $(m+n)(r+s) =$
 (a) 15 (b) 30 (c) 35 (d) 72

9. **Assertion(A):** The polynomial $p(x)=x^2+3x+3$ has two non – real zeroes.

Reason(R): A quadratic polynomial can have at least two real zeroes

- (a) Both A and R true and R is the correct explanation of A
 (b) Both A and R are true but R is NOT the correct explanation of A
 (c) A is true but r is False
 (d) A is false and R is True.

10. **Assertion (A):** 8^n ends with digit zero , where n is natural number .

Reason (R): Any number ends with zero , if its prime factors is of the form $2^m \times 5^n$, where m , n are natural number

- (a) Both A and R true and R is the correct explanation of A
 (b) Both A and R are true but R is NOT the correct explanation of A
 (c) A is true but r is False
 (d) A is false and R is True.

SECTION – B

Questions 11 to 13 carry 2 mark each.

11(A). Find the smallest number which when divided by 28 and 32 leaves remainders 8 and 12 respectively.

Or

11(B). Find the greatest number of four digits which is exactly divisible by 15, 24 and 36.

12. Find the value of k for which the quadratic equation $kx(x-2)+6=0$ has zeroes that are reciprocals of each other.

13(A). If sum of the square of zeroes of the quadratic polynomial $f(x) = x^2 - 8x + k$ is 40, find the value of k

Or

13(B). Find the zeroes of the quadratic polynomial $5x^2+8x-4$ and verify the relationship between the zeroes and the coefficients of the polynomial.

SECTION – C

Questions 14 to 15 carry 3 mark each

14. If α and β are the zeroes of a quadratic polynomial $x^2 - x - 2$ then find the value of $\left(\frac{1}{\alpha} - \frac{1}{\beta}\right)$.

15(A). Find the largest number which on dividing 1251 , 9377 and 15628 leaves remainders 1, 2 and 3 respectively.

Or

- 15(B).** If the sum of LCM and HCF of two numbers is 1260 and their LCM is 900 more than their HCF then, find the product of two numbers.

SECTION – D

Questions 16 to 17 carry 4 mark each.

- 16.** Flipkart is an Indian e-commerce company, headquartered in Bangalore, Karnataka and incorporated in Singapore as a private limited company. The company initially focussed on online book sales before expanding into other product categories such as consumer electronics fashion, home essentials groceries and lifestyle products. Flipkart sells 10 types of items which are packed into various sizes of cartons which are packed into various size of cartons which are given below

Carton type	Inner dimensions ($l \times b$) cm^2
Small	6×8
medium	12×24
Large	24×36
Extra large	36×48
XXL	48×96

Flipkart places supporting thermocol sheets inside every package along the edges. The company thought of buying same sized sheets for all type of cartons

- What should be the maximum size of the sheet that fits into all type of cartons?
- What should have been size of semi large (which is larger than medium carton but smaller than large carton) so that the maximum sized sheet remains same?

- 17.** The table given shows the numbers of students in school choir. The choir teacher plans to arrange the students in equal rows. Only girls or boys will be in each row. Based on the above information, answer the following questions:

- What is the greatest number of students that could be in each row?
- How many rows will be required for this arrangement.
- (A). Find LCM of boys and girls and Verify the relationship between LCM and HCF.

OR

School Choir	
Students	Numbers
Girls	480
Boys	640

- (B). If each girl sings for 45 minutes and each boy sings for 60 minutes during choir practice, after how many minutes will both finish singing together for the first time.

SECTION – E

Questions 18 to 19 carry 5 mark each.

- 18.** If α and β are the zeroes of the quadratic polynomial $f(x) = 2x^2 - 5x + 7$, then find a quadratic polynomial whose zeroes are $(2\alpha + 3\beta)$ and $(2\beta + 3\alpha)$
- 19.** Prove that $\sqrt{6}$ is irrational, hence prove $\sqrt{2} + \sqrt{3}$ is also irrational.

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