

Grade
7

M-CAT Assessment Round Sample Question Paper

Return the answer sheet along with question paper to the invigilator at the end of the exam.



TOTAL MARKS
100



QUESTIONS
50



DURATION
60 mins



Instructions for Student:

- Read the question carefully before answering.
- Each question has 4 options (A, B, C & D).
- Choose one correct option as your answer, from the 4 options.
- Every question carries 2 marks.
- On the answer sheet blacken the correct option against the corresponding question number,

The Correct Method

Q.	Answer
1	(A) (B) ● (D)

The Wrong Methods

Q.	Answer
1	(A) ● ● (D)
1	(A) (B) ● (D)
1	(A) (B) ✓ (D)
1	(A) (B) ✗ (D)

- Use pencil to mark your answer.
- If you wish to change your answer, erase the previous mark completely.

1. Which of the following pairs of integers add up to -30 ?

- a. 20, 10
- b. -20 , 10
- c. -17 , -13
- d. 17, 13

2. Solve: $3225 \times 1.5 \div 1000$

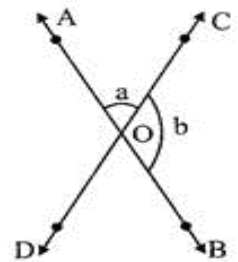
- a. 4.8375
- b. 48.375
- c. 483.75
- d. 4837.5

3. What is the statement form of the equation: $2(x + 7) = 13$?

- a. 2 times the sum of the numbers x and 7 is 13.
- b. The sum of 2 times the number and 7 is 13.
- c. The sum of 2 times 7 and the number is 13.
- d. None of the above

4. In the given figure, lines AB and CD intersect at point O.
If $a : b = 2 : 3$, then what is the measure of $\angle BOD$?

- a. 54°
- b. 72°
- c. 100°
- d. 105°



5. Which of the following statements is INCORRECT?

- a. The sum of the lengths of any two sides of a triangle is greater than the length of the third side.
- b. If the Pythagoras property holds true for a triangle, then that triangle must be obtuse-angled.
- c. The difference between the lengths of any two sides of a triangle is smaller than the length of the third side.
- d. The altitude of a triangle is a perpendicular line drawn from a vertex of the triangle to the opposite side.

6. How can the rational numbers $\frac{11}{15}$, $\frac{-11}{12}$, $\frac{-4}{9}$, $\frac{7}{12}$ be written in descending order?

- a. $\frac{-11}{12} > \frac{11}{15} > \frac{7}{12} > \frac{-4}{9}$
- b. $\frac{11}{15} > \frac{7}{12} > \frac{-11}{12} > \frac{-4}{9}$
- c. $\frac{11}{15} > \frac{7}{12} > \frac{-4}{9} > \frac{-11}{12}$
- d. $\frac{11}{15} > \frac{-11}{12} > \frac{-4}{9} > \frac{7}{12}$

7. What is the value of $(-5) \times (-4) \times (-3) \times (-2) \times (-1) \times 0 + 0 \times (1) \times (2) \times (3) \times (4) \times (5)$?

- a. 120
- b. -120
- c. 240
- d. 0

8. If 25 men can do some work in 36 hours, find the number of men required to do the same work in 100 hours.

- a. 75
- b. 18
- c. 9
- d. 25

9. A shopkeeper sells bananas in two types of boxes, one small and one large. A large box contains as many as 6 small boxes plus 2 loose bananas. If 1 large box contains 50 bananas then how many bananas are there in 1 small box?

- a. 48
- b. 8
- c. 50
- d. 10

10. Which of the following is an INCORRECT statement?

- a. To multiply fractions, multiply the numerators together and the denominators together.
- b. To multiply a mixed fraction to a whole number, first convert the mixed fraction to a proper fraction and then multiply.
- c. To divide a whole number by a fraction, multiply the whole number by the fraction's reciprocal.
- d. To divide a decimal number by 100, move the decimal point two places to the left.

11. If two lines are parallel, what happens to the distance between them?

- a. The distance remains constant
- b. The distance is zero
- c. The distance increases to the right
- d. The distance decreases to the right

12. In my accounts book, if I make profits, I note positive numbers. If I make losses, I note negative numbers. These are the entries in the book for the last seven days: 21, -19, 11, -20, 17, 25, and -13. What is the net profit made in the last week?

- a. 32
- b. 22
- c. 34
- d. 24

13. Which of the following alphabets has no line of symmetry?

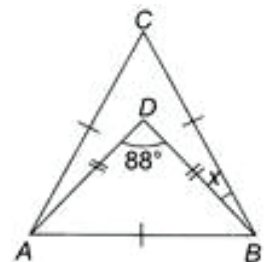
- a. A
- b. B
- c. P
- d. O

14. Reena is travelling from her village to another town. The distance between the village & the town is $45\frac{3}{4}$ km. She stops to rest after covering a distance of $34\frac{1}{3}$ km. How much distance does she further need to cover to reach the town?

- a. $11\frac{3}{4}$ km
- b. $9\frac{3}{4}$ km
- c. $9\frac{5}{12}$ km
- d. $11\frac{5}{12}$ km

15. In the figure (not drawn to scale), ABC is an equilateral triangle and ABD is an isosceles triangle with $DA = DB$, find x .

- a. 14°
- b. 16°
- c. 12°
- d. 32°

**16. Ram lives in a society which is in the shape of a square with an area of 36 square kilometres. The residents want to build an electric fence around their society. What will be the length of the entire fence?**

- a. 16 km
- b. 20 km
- c. 30 km
- d. 24 km

17. Which of the following is INCORRECT?

- a. To find the value of an expression, we must substitute the values of only constants in the expression and then simplify.
- b. The sum and difference of two like terms is a like term with a coefficient equal to the sum or the difference of coefficients of the two like terms.
- c. A polynomial is an algebraic expression that consists of more than two terms.
- d. Terms with the same literal factors are like terms and terms with different literal factors are unlike terms.

18. Which of the following is equivalent to 7.7×10^{-6} ?

- a. 0.00000077
- b. 0.0000077
- c. 0.000077
- d. 0.00077

19. Maya goes 35 km east from point A to point B. From B, she travels 30 km west along the same road. If the distance travelled in the west direction is represented by a negative integer, how will you represent the distance travelled east? By which integer will you represent her final position from A?

- a. Positive integer, 5 km
- b. Negative integer, 5 km
- c. Positive integer, 3 km
- d. Negative integer, 3 km

20. Ajay earns ₹ 60,000 per month and spends 70% of it. Due to pay revision, his monthly income increased by 20% but due to the price rise, he has to spend 25% more. Find his new savings.

- a. ₹ 7,200
- b. ₹ 17,200
- c. ₹ 18,200
- d. ₹ 19,500

21. Moving a number from the LHS to the RHS or vice versa is called _____ and the _____ of that number changes.

- a. Transposition, Operation
- b. Transposition, Sign
- c. Conversion, Operation
- d. Conversion, Sign

22. What is the value of $3\frac{1}{12} - [1\frac{3}{4} + \{2\frac{1}{2} - (1\frac{1}{2} - \frac{1}{3})\}]$?

- a. 0.5
- b. 2
- c. 1
- d. 0

23. What type of a number is $\frac{-6}{0}$?

- a. A positive rational number
- b. A negative rational number
- c. Either a positive or a negative rational number
- d. Neither a positive nor a negative rational number

24. The sum of the first n natural numbers is given by $\frac{1}{2}n^2 + \frac{1}{2}n$. Find the sum of the first 10 natural numbers.

- a. 10
- b. 50
- c. 55
- d. 60

25. What is the value of the expression $[\frac{-19}{21} \times (-7) \times \frac{108}{30}]$?

- a. $\frac{-114}{5}$
- b. $\frac{114}{5}$
- c. $\frac{-104}{5}$
- d. $\frac{104}{5}$

26. Which of the following pairs of angles are supplementary?

- a. $97^\circ, 83^\circ$
- b. $107^\circ, 72^\circ$
- c. $54^\circ, 36^\circ$
- d. $48^\circ, 42^\circ$

27. Robin was playing with a rope of length 132 cm. He was curious to see if the area of a circle and square made from the rope would be the same. Calculate and check if they are the same.

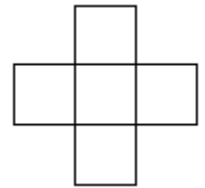
- Yes, they are of the same area.
- No, the area of the circle is bigger.
- No, the area of the square is bigger.
- The results are not always the same.

28. What is the value of $(3 \times 10^4) + (2 \times 10^3) + (3 \times 10^2) + (2 \times 10^1) + (3 \times 10^0)$?

- 33223
- 23232
- 32323
- 32232

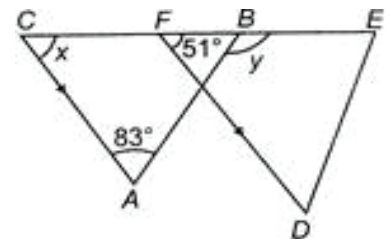
29. What is the order of rotational symmetry for the given figure?

- 4
- 3
- 2
- 1



30. In the figure (not drawn to scale), ABC and DEF are two triangles, CA is parallel to FD and CFBE is a straight line. Find the value of $x + y$.

- 185°
- 134°
- 148°
- 176°



31. Under which condition will the given equation hold TRUE?

$$(-1)^n = 1$$

- Where n is an even natural number.
- Where n is an odd natural number.
- Both a and b.
- None of these.

32. A _____ is a non-empty intersection of a solid body in three-dimensional space with a plane.

- Vertex
- Two-dimensional shape
- Cross-section
- Oblique sketch

33. A school has, $8a^2 + 4a + 9$ students. $2a^2 - 9a + 2$ students are boys. How many girls were enrolled in the school?

- $6a^2 - 13a + 7$
- $4a^2 + 13a + 7$
- $6a^2 + 13a + 7$
- $4a^2 - 13a + 7$

34. The maximum number of lines of symmetry that a polygon can have is equal to the _____.

- sum of angles
- length of each side
- degree of each angle
- number of sides

35. SSS Pvt. Ltd has three partners, namely Suman, Satish, and Shilpi. Each of them are invested in the ratio of 5:3:2. The total amount of money invested is ₹ 2,50,000. What is the amount invested by each of them?

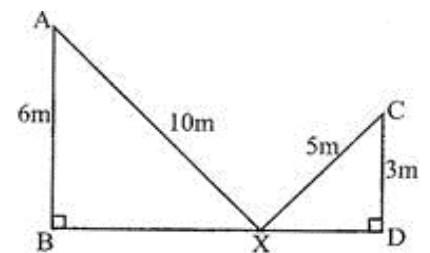
- a. ₹ 1,25,000, ₹ 60,000, ₹ 50,000
- b. ₹ 12,500, ₹ 75,000, ₹ 60,000
- c. ₹ 1,25,000, ₹ 75,000, ₹ 50,000
- d. ₹ 1,25,000, ₹ 7,500, ₹ 60,000

36. Rakesh has 10 one-rupee coins of a similar kind. He puts them exactly one upon the other. What shape will he get finally?

- a. Circle
- b. Cylinder
- c. Cube
- d. Cone

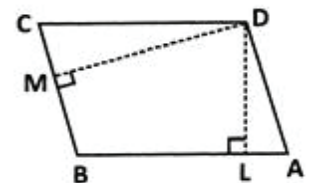
37. The given figure shows two buildings AB and CD. X is a point between the buildings from which two ropes are tied without slack to the top of the buildings. What is the distance between the buildings?

- a. 15m
- b. 14m
- c. 13m
- d. 12m



38. In the given figure, ABCD is a parallelogram in which $DL \perp AB$ and $DM \perp BC$. If $AB = 18$ cm, $BC = 12$ cm, and $DM = 10$ cm, find DL .

- a. $6\frac{1}{2}$ cm
- b. 6 cm
- c. $6\frac{2}{3}$ cm
- d. $6\frac{3}{4}$ cm



39. When 40257 is divided by 213, the quotient is 189. What will be the quotient when 40.257 is divided by 0.0189?

- a. 21300
- b. 213
- c. 1890
- d. 2130

40. Which of the following statements is INCORRECT?

- a. The number $\frac{5}{2}$ lies between 2 and 3
- b. The number $\frac{11}{12}$ lies between $\frac{5}{6}$ and $\frac{23}{24}$
- c. The number $\frac{3}{4}$ lies between $\frac{2}{3}$ and $\frac{6}{7}$
- d. The number $\frac{5}{9}$ lies between $\frac{2}{3}$ and $\frac{3}{4}$

41. The length and breadth of a rectangular plot are l and b . Two rectangular paths, each of width ' r ', run through the centre of the plot, one parallel to the length and the other parallel to the breadth. What is the total area of the paths?

- a. $(l + r)(b + r) - lb$
- b. $lb - (l - r)(b - r)$
- c. $(l + b - r)r$
- d. $lb - (l - 2r)(b - 2r)$

42. Which one among the following statements is NOT correct?

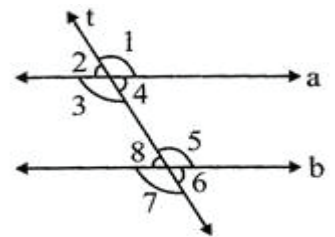
- a. The ratio of the heights 168 cm and 63 cm can be written as 8 : 3.
- b. $3:16 :: 96:512$
- c. 0.02 is equivalent to 2%
- d. To compare two quantities, their units can be different.

43. In which of the following situations can area and perimeter not be used?

- a. To estimate the cost involved in activities like painting, fencing, and flooring.
- b. To assess the length of a piece of wire or the distance between two points.
- c. To compare the sizes of two houses or pieces of land.
- d. To understand the size of a plot, house, locality, city, state, or country.

44. In the given figure, if $\angle 4 = 70^\circ$ then what is the measure of $\angle 1 + \angle 6$?

- a. 180°
- b. 110°
- c. 90°
- d. 70°



45. Vijay manufactures mattresses and sells them for a profit of 60%. The cost prices of the two varieties are ₹ 17,500 and ₹ 20,000. What will be the total selling price with the profit percentage added to it?

- a. ₹ 22,500
- b. ₹ 37,500
- c. ₹ 60,000
- d. ₹ 65,000

46. Which of the following statements is NOT true?

- a. A triangle cannot have two obtuse angles.
- b. A triangle can have three acute angles.
- c. A triangle can have two right angles.
- d. A triangle can have all three angles equal.

47. What is the median of the first seven prime numbers?

- a. 5
- b. 7
- c. 8.28
- d. 11

48. Which of the following is CORRECT about mode?

- a. It occurs most frequently.
- b. A data set can have one or more than one modes.
- c. Both a and b.
- d. None of these.

49. Shailja has a bag with 9 gemstones numbered from 1 to 9. She picks a gemstone from it without seeing it. What is the probability that the picked gemstone has the number 6 on it?

- a. $\frac{2}{3}$
- b. $\frac{1}{9}$
- c. 1
- d. 0

Hours	Fruits (kg)	Vegetables (kg)
5 p.m.	35	25
6 p.m.	26	38
7 p.m.	45	35
8 p.m.	20	20

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