MIND CARVER

GLOBAL MATH OLYMPIAD

Pioneer Level — Grades 7–8

Building Strong Mathematical Foundations

Past Paper — For Reference & Practice

40 Questions · 60 Minutes · 2.5 Marks per Question · 100 Marks Total

www.mindcarver.com | info@mindcarver.com | +923134506115

Section 1: Number System Architects (20 Marks)

Q1. What is the value of (-3) × (-4)?

A. -12 B. 12 C. -7 D. 7

Q2. Which of the following is a prime number?

A. 27 B. 33 C. 37 D. 51

Q3. What is 3/4 of 80?

A. 20 B. 40 C. 60 D. 70

Q4. If $2^5 = 32$, what is 2^6?

A. 48 B. 64 C. 36 D. 128

Q5. What is the HCF (Highest Common Factor) of 24 and 36?

A. 6 B. 8 C. 12 D. 24

Q6. Express 0.75 as a fraction in simplest form.

A. 75/100 B. 3/4 C. 1/2 D. 7/10

Q7. What is the square root of 196?

A. 12 B. 13 C. 14 D. 16

Q8. If a number is divisible by both 3 and 5, which of the following must it be divisible by?

A. 8 B. 15 C. 10 D. 9

Section 2: Geometric Innovators (20 Marks)

Q9. What is the area of a rectangle with length 8 cm and width 5 cm?

A. 13 cm² B. 26 cm² C. 40 cm² D. 80 cm²

Q10. How many degrees are in a straight angle?

A. 90° B. 180° C. 270° D. 360°

Q11. What is the perimeter of a square with side length 7 cm?

A. 14 cm B. 21 cm C. 28 cm D. 49 cm

Q12. A triangle has angles measuring 50° and 60°. What is the measure of the third angle?

A. 50° B. 60° C. 70° D. 80°

Q13. What is the circumference of a circle with radius 7 cm? (Use π = 22/7)

A. 22 cm B. 38 cm C. 44 cm D. 154 cm

Q14. How many sides does a pentagon have?

A. 4 B. 5 C. 6 D. 7

Q15. What is the area of a triangle with base 10 cm and height 6 cm?

A. 16 cm² B. 30 cm² C. 60 cm² D. 120 cm²

Q16. Two angles are complementary. If one angle is 35°, what is the other?

A. 55° B. 65° C. 145° D. 155°

Section 3: Algebraic Thinkers (20 Marks)

Q17. Solve for x: x + 7 = 15.

A. 7 B. 8 C. 22 D. 105

Q18. If 3x = 27, what is the value of x?

A. 6 B. 7 C. 9 D. 24

Q19. What is the value of the expression 2a + 3b when a = 4 and b = 2?

A. 10 B. 12 C. 14 D. 16

Q20. Simplify: 5x + 3y − 2x + y.

A. 3x + 4y B. 7x + 2y C. 3x + 2y D. 7x + 4y

Q21. What is the next number in the sequence: 2, 5, 8, 11, ...?

A. 12 B. 13 C. 14 D. 15

Q22. If 2(x − 3) = 10, what is x?

A. 4 B. 5 C. 8 D. 13

Q23. The sum of three consecutive integers is 45. What is the middle integer?

A. 13 B. 14 C. 15 D. 16

Q24. What is the value of $4^2 - 2^3$?

A. 0 B. 4 C. 8 D. 16

Section 4: Probability & Logic Explorers (20 Marks)

Q25. A fair die is rolled once. What is the probability of getting an even number?

A. 1/6 B. 1/3 C. 1/2 D. 2/3

Q26. If today is Tuesday, what day will it be 10 days from now?

A. Wednesday B. Thursday C. Friday D. Saturday

Q27. In a code where A = 1, B = 2, ..., what is the value of CAB?

A. 312 B. 6 C. 3121 D. 3

Q28. A bag has 5 red and 5 blue balls. What is the probability of drawing a red ball?

A. 1/5 B. 1/2 C. 1/10 D. 2/5

Q29. What is the next term in the pattern: 1, 4, 9, 16, ...?

A. 20 B. 24 C. 25 D. 36

Q30. If all roses are flowers and some flowers are red, which statement is definitely true?

A. All roses are red B. Some roses are red C. All red things are roses D. None of the above

Q31. A coin is tossed twice. How many possible outcomes are there?

A. 2 B. 3 C. 4 D. 6

Q32. Find the missing number: 3, 6, 12, 24, ___.

A. 36 B. 42 C. 48 D. 72

Section 5: Data Science Beginners (20 Marks)

Q33. What is the mean of the numbers 4, 8, 6, 10, and 2?

A. 5 B. 6 C. 7 D. 8

Q34. The ages of 5 children are: 8, 10, 12, 10, 5. What is the mode?

A. 8 B. 10 C. 12 D. 5

Q35. In a bar graph, the tallest bar represents:

A. The smallest value B. The largest value C. The average D. The median

Q36. What is the median of: 7, 3, 9, 1, 5?

A. 3 B. 5 C. 7 D. 9

Q37. A pie chart shows favorite fruits. If apples represent 25% and there are 40 students, how many chose apples?

A. 5 B. 10 C. 15 D. 20

Q38. The range of {12, 5, 8, 15, 3} is:

A. 3 B. 8 C. 12 D. 15

Q39. If the mean of 4 numbers is 10, what is their total sum?

A. 10 B. 20 C. 30 D. 40

Q40. A line graph shows temperature rising from 20°C to 30°C over 5 days. What does this indicate?

A. Temperature is falling B. Temperature is constant C. Temperature is rising D. No pattern