

9 CLASS



GCS OLYMPIADS
Olympiads of the New Millennium
An ISO 9001:2015 Certified Organization

Duration : 60 Min.
Total Ques. : 50
Paper Type : M 1

GLOBAL MATHS OLYMPIAD (GMO)

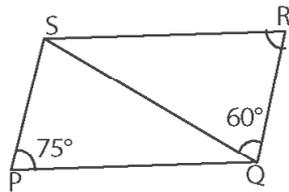
- 1- The Actual Question Paper Contains 50 Questions. Section A Contains 45 Ques. and Section B Contains 5 Ques. (Reasoning & Mental Ability) . Each questions carry an equal marks of 2 .
- 2- The Duration of the Test Paper is 60 Minutes.
- 3- OMR answer sheets are there for class 9.

Section - A (Maths)

1. After rationalising the denominator of $\frac{7}{3\sqrt{3}-2\sqrt{2}}$, we get denominator as
(A) 13 (B) 19
(C) 5 (D) 35
(E) None of these
2. Which one of the following statements is not correct ?
(A) Every integer is a rational number
(B) Every natural number is an integer
(C) Every natural number is a real number
(D) Every real number is a rational number
(E) None of these
3. Find the remainder when the expression $3x^3 + 8x^2 - 6x + 1$ is divided by $x + 3$.
(A) 1 (B) 10
(C) 6 (D) 0
(E) None of these
4. If $x = \frac{a-b}{a+b}$, $y = \frac{b-c}{b+c}$, $z = \frac{c-a}{c+a}$, then the value of $\frac{(1+x)(1+y)(1+z)}{(1-x)(1-y)(1-z)}$ is _____.
(A) abc
(B) $a^2b^2c^2$
(C) 1
(D) -1
(E) None of these
5. If $2x^3 + ax^2 + bx - 6$ has $(x - 1)$ as a factor and leaves a remainder 2 when divided by $(x - 2)$, find the values of 'a' and 'b' respectively.
(A) - 8, 12 (B) 8, - 12
(C) - 4, 10 (D) 4, - 10
(E) None of these
6. The coordinate axes divide the plane into _____.
(A) One part (B) Two parts
(C) Three parts (D) Four parts
(E) None of these
7. At the end of the year 2002, Ram was half as old as his grandpa. The sum of the years in which they were born is 3854. Age of Ram at the end of year 2003 is _____.
(A) 50 years (B) 35 years
(C) 51 years (D) 36 years
(E) None of these
8. The cost of a note book is twice the cost of a pen. If the cost of a note book is 'x' and that of a pen is 'y', then a linear equation is two variables to represent the given condition is _____.
(A) $x + 2y = 0$
(B) $x - 2y = 0$
(C) $2x + y = 0$
(D) $2x - y = 0$
(E) None of these

9. The given figure PQRS is a parallelogram. Then the value of $\angle SQP$ and $\angle QSP$ respectively are _____.

- (A) $45^\circ, 60^\circ$
 (B) $60^\circ, 45^\circ$
 (C) $70^\circ, 35^\circ$
 (D) $35^\circ, 70^\circ$
 (E) None of these

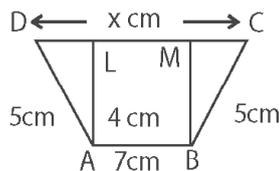


10. The total sales of a company amounts to Rs. 24 crores and the volume sold is 20000 units. What is the average price/unit?

- (A) Rs. 1000 (B) Rs. 1200
 (C) Rs. 120 (D) Rs. 12000
 (E) None of these

11. In the given figure, ABCD is a trapezium in which $AB = 7$ cm, $AD = BC = 5$ cm, $DC = x$ cm and the distance between AB and DC is 4 cm. Then the value of x is _____.

- (A) 13
 (B) 16
 (C) 19
 (D) Cannot be determined
 (E) None of these



12. A man starts from B to K, another from K to B at the same time. After passing each other they complete their journey in $3\frac{1}{3}$ and $4\frac{4}{5}$ hrs. respectively. Find the speed of the second man if the speed of the first is 12 km/hrs.

- (A) 8 km/hrs. (B) 10 km/hrs.
 (C) 15 km/hrs. (D) 24 km/hrs.
 (E) None of these

13. A triangle and a trapezoid are equal in area. They also have the same altitude. If the base of the triangle is 18 inches, the mean of the parallel sides of the trapezoid is _____.

- (A) 36 inches
 (B) 9 inches
 (C) 18 inches
 (D) Can't be determined
 (E) None of these

14. A car completes a certain journey in 8 hours. It covers half the distance at 40 km/ph and the rest at 60 km/ph. The total distance of the journey is....

- (A) 650 km (B) 384 km
 (C) 400 km (D) 600
 (E) None of these

15. A rectangular field has an area $(35x^2 + 13x - 12)m^2$. What could be the possible expression for length and breadth of the field?

- (A) $(5x + 4)m$ and $(7x - 3)m$
 (B) $(3x + 9)m$ and $(7x - 12)m$
 (C) Both (A) and (B)
 (D) None of these

16. Which of the following is not true for a parallelogram?

- (A) opposite sides are equal
 (B) opposite angles are equal
 (C) opposite angles are bisected by the diagonals
 (D) diagonals bisect each other.
 (E) None of these

17. A dog at a point "A" goes in pursuit of a fox 30 away. The dog makes 2 m long leaps and the fox makes 1 m long leaps. At what distance from "A" will the dog catch up with the fox?

- (A) 90 m
 (B) 60 m
 (C) 120 m
 (D) 210 m
 (E) None of these

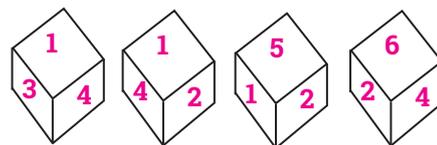
Section - B (Logical Reasoning)

18. There is a certain relationship on the either side of $::$. Identify the relationship and find the missing term.

REASON : SFBTPO $::$ MAGNET : ?

- (A) NBHMFU (B) NBIPFS
 (C) NBHOFU (D) OCIPGU
 (E) None of these

19. The four different positions of a dice are given below.



Which number is on the face opposite to 1?

- (A) 6 (B) 2
 (C) 3 (D) 4
 (E) None of these