International Olympiad of Mathematics- iOM'18







CLASS : 8 (SYLLABUS & SAMPLE QUESTIONS)

Number Systems, Powers and exponents, Square and Square Root, Cube and Cube Root, Algebraic Expressions, Factorization, Linear Equation, Direct and inverse proportions, Time and Work, Percentage, Profit and Loss, Compound Interest and Simple Interest, Geometry, Mensuration, Data Handling, Applied Mathematics, Reasoning & Aptitude.

The Actual Question Paper Contains 50 Questions. The Duration of the Test Paper is 60 Minutes.

1. Jack's monthly salary is ₹ 78,000. He spends 4. A thread goes 100 around a wheel of radius 20% on fooding and 10% on house rent. From 14 cm. If the radius of the wheel is increased the remaining, he spends 30% on his only to 20 cm, then find the number of rounds the son's education and donates 10% of the rest same thread will make around the wheel. to charity. His monthly savings is: (A) 70 (A) ₹ 35498 (B) ₹ 34498 (B) 96 (C) ₹ 34389 (D) ₹ 34398 (C) 94 (E) None of these (D) 92 Ravi ranked 8th from the top and 37th from 2. (E) None of these the bottom in a class. How many students are 5. A metallic sphere of radius 3 cm is melted and there in the class? recast into some spherical balls of radius 0.6 (A) 42 (B) 44 cm. The number of balls that can be made (C) 46 (D) 47 out of it is: (E) None of these (A) 90 (B) 95 The value of $\frac{\left(p+\frac{1}{q}\right)^{n}}{\left(\frac{1}{q}\right)^{n}}$ (C) 100 (D) 125 q (E) None of these 3. is: $\left(q + \frac{1}{m} \right)$ Factorise: $x^2 + \frac{1}{x^2} + 2 - 2x - \frac{2}{x}$ 6. (A) $x + \frac{1}{x}$ (B) $x + \frac{1}{x} - 2$ (A) $\frac{p}{q}$ (C) $\left(x + \frac{1}{x}\right)^2$ (D) $\left(x + \frac{1}{x}\right)\left(x + \frac{1}{x} - 2\right)$ (D) (C) (E) None of these (E) None of these 15

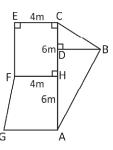


7. Find the value of n such that

$$\frac{2}{3}(4n-1) - \left(2n - \frac{1+n}{3}\right) = \frac{n}{3} + \frac{4}{3}$$
(A) $\frac{-5}{4}$
(B) $\frac{5}{4}$
(C) $\frac{5}{2}$
(D) $\frac{-5}{2}$
(E) None of these

- 8. Two pipes A and B can fill a tank in 16 hours and 20 hours respectively. If both the pipes are opened simultaneously, how much time will be taken to fill the tank?
 - (A) $8\frac{8}{5}$ hours (B) $8\frac{7}{9}$ hours
 - (C) $8\frac{17}{9}$ hours
 - (D) $8\frac{8}{9}$ hours
 - (E) None of these

9. The area of the figure ABCEFGA is 84m². AH = HC = AG = 6m. CE = HF = 4m.



If angles marked in the figure are 90°, then the length of DB will be:

- (A) 2.5m (B) 5m
- (C) 6m (D) 12m
- (E) None of these
- 10. In an examination, a student was asked to find $\frac{3}{14}$ of a certain number. By mistake, he found $\frac{3}{14}$ of that number. His answer was 150 more than the correct answer. The number is:
 - (A) 180 (B) 240
 - (C) 280 (D) 290
 - (E) None of these

ANSWERS									
1. (D)	2. (B)	3. (C)	4. (A)	5. (D)	6. (D)	7. (C)	8. (D)	9. (B)	10. (C)
									16

৵৵৵৵৵৵