

# 7<sup>th</sup> iOM'14

## International Olympiad of Mathematics



Presented by :

**SILVER  
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**Mathematics Olympiad  
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### CLASS : 7 (SYLLABUS & SAMPLE QUESTIONS)

Number System and Its Operations, Fractions and Decimals, Rational Numbers, Exponents & powers, Algebraic Expression, Linear Equation, Percentage, Profit and Loss, Simple and Compound Interest Data Handling, Mensuration, Line, Angles and Triangles, Ratio and Proportion, Applied Mathematics, Mathematical Reasoning.

The Actual Question Paper Contains 40 Questions. The Duration of the Test Paper is 60 Minutes.

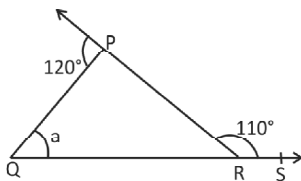
1. Find the ratio among the time taken by three buses to travel the same distance if the ratio of their speeds are 5 : 4 : 6.

(A) 10 : 15 : 12      (B) 12 : 15 : 10  
(C) 10 : 12 : 15      (D) 15 : 12 : 10  
(E) None of these

2. The present ages of Peter & Jony are in the ratio of 4 : 3, four years later, their ages will be in the ratio of 6 : 5. What is their present ages?

(A) 8 and 9 years      (B) 6 and 9 years  
(C) 8 and 6 years      (D) 5 and 9 years  
(E) None of these

3. Find the value of 'a' in the following figure

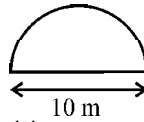


(A) 50°      (B) 55°  
(C) 60°      (D) 45°  
(E) None of these

4. The compound interest on a sum for 2 years at 12% per annum is ₹ 510. What would the simple interest on the same sum at the same rate for the same period.

(A) ~ 400      (B) ~ 450  
(C) ~ 460      (D) ~ 481.13  
(E) None of these

5. Find the perimeter of the following figure which is a semicircle including its diameter. (Take  $\pi = 3.147$ )



(A) 25 m      (B) 20 m  
(C) 25.7 m      (D) 20.7 m  
(E) None of these

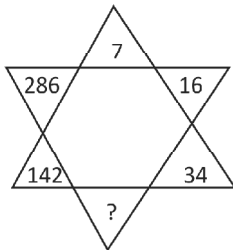
6. Radii of two concentric circles are 4 cm and 3 cm respectively. Find the area enclosed between two circles.

(A) 98 cm<sup>2</sup>      (B) 199 cm<sup>2</sup>  
(C) 22 cm<sup>2</sup>      (D) 99 cm<sup>2</sup>  
(E) None of these

7. Sofia started walking straight towards South. She walked a distance of 15 m and then took a left turn and walked a distance of 30 m. Then she took a right turn and walked a distance of 15 m again. Sofia is facing in which direction?

(A) North - East      (B) South  
(C) North      (D) South - West  
(E) None of these

8. Find the number at the place of question mark.

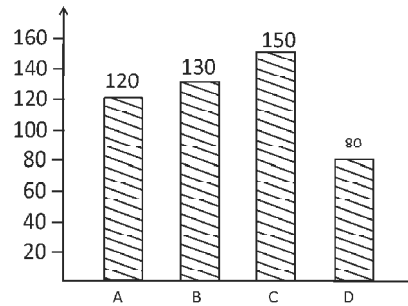


- (A) 72 (B) 70  
 (C) 68 (D) 66  
 (E) None of these

9. Find the value of  $x$  so that  $2^{2x+1} = 4^{2x-1}$ .

- (A)  $\frac{3}{2}$  (B) 1  
 (C) 2 (D)  $\frac{1}{2}$   
 (E) None of these

10. The graph given below represents the population (in lakhs) of some cities. Which city has minimum population?



- (A) A  
 (B) B  
 (C) C  
 (D) D  
 (E) None of these



**ANSWERS**

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