

CRPF PUBLIC SCHOOL, ROHINI

SECOND Intra School Mathematics Olympiad 2011

CLASS VII

Max. Marks: 50

Max. Time: 1 hour 30 minutes

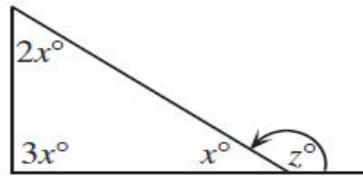
General Instructions:

1. Q1-15 (Section A) each MCQ carries 2 mark. Each question has five choices (A, B, C, D or E). Select the correct answer to each question and darken the corresponding circle in the Answer Sheet provided to you. **THERE IS NO NEGATIVE MARKING.** Marking of more than one circle for an answer shall be awarded zero mark.
 2. Q16-20 (Section B) each question carries 4 mark. You are to give the complete solution. Marking will be done stepwise.
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SECTION - A

- 1) The integer 287 is exactly divisible by
(A) 3 (B) 4 (C) 5 (D) 7 (E) 6
- 2) If a machine produces 150 items in one minute, how many would it produce in 10 seconds?
(A) 10 (B) 25 (C) 20 (D) 15 (E) 303
- 3) The floor of a rectangular room is covered with square tiles. The room is 10 tiles long and 5 tiles wide. The number of tiles that touch the walls of the room is
(A) 26 (B) 50 (C) 34 (D) 46 (E) 30
- 4) When a number is divided by 5, it gives a quotient of 4 with a remainder of 8. What is the number?
(A) 17 (B) 18 (C) 28 (D) 31 (E) 46
- 5) The product of two whole numbers is 30. The smallest possible sum of these two numbers is
(A) 9 (B) 10 (C) 11 (D) 14 (E) 25

6) In the diagram, the value of z is

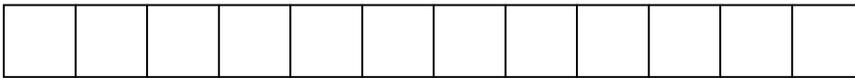


- (A) 150 (B) 180 (C) 60 (D) 90 (E) 120

7. Triangle ABC has its vertices at $A(1, 0)$, $B(5, 0)$ and $C(5, 3)$. The area of the triangle, in square units, is

- (A) 3 (B) 4 (C) 6 (D) 7 (E) 12

8. If $\frac{1}{2}$ of $\frac{2}{3}$ the twelve small squares in the given figure are removed, how many squares remain?



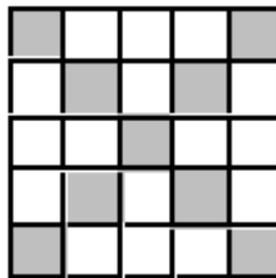
- (A) 2 (B) 3 (C) 4 (D) 8 (E) 9

9. Four years ago today, Sakshi was 11 years old. In two more years, Sakshi will be

- (A) 12 (B) 17 (C) 19 (D) 13 (E) 10

Q10 In the diagram, the percentage of small squares that are shaded is

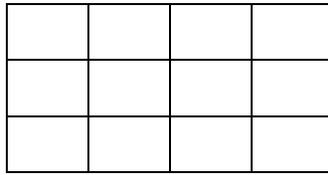
- (A) 64 (B) 33 (C) 36 (D) 56.25 (E) 9



Q11. A box contains 1 red ball, 2 white balls and 3 black balls. Without looking, Arpit reaches in and chooses one ball at random. What is the probability that the ball *is not* red?

- (A) 1 (B) $\frac{2}{6}$ (C) $\frac{1}{6}$ (D) $\frac{4}{6}$ (E) $\frac{5}{6}$

12 In the given diagram, all 12 of the small rectangles are the same size. Your task is to completely shade some of the rectangles until $\frac{2}{3}$ of $\frac{3}{4}$ of the diagram is shaded. The number of rectangles you need to shade is



- (A) 9 (B) 3 (C) 4 (D) 6 (E) 8

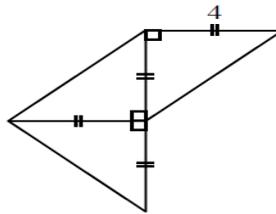
13. Into what geometric shape should you bend a piece of wire so that it will hold the maximum area?

- (A) square (B) circle (C) rectangle (D) triangle (E) oval

14. The sum of three consecutive integers is 90. What is the largest of the three integers?

- (A) 28 (B) 29 (C) 31 (D) 32 (E) 21

15. The area of the entire figure shown is



- (A) 16 (B) 32 (C) 20 (D) 24 (E) 64

SECTION – B

16. Six points are spaced equally around a circle. How many different chords can be formed by joining any 2 of these points? (A chord is a straight line joining two points on the circumference of a circle.)

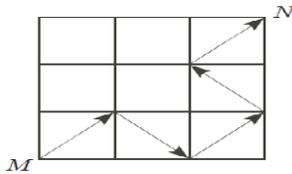
17. A bicycle travels at a constant speed of 15 km/h. A bus starts 195 km behind the bicycle and catches up to the bicycle in 3 hours. What is the average speed of the bus in km/h?

18. A movie theatre has eleven rows of seats. The rows are numbered from 1 to 11. Odd numbered rows have 15 seats and even-numbered rows have 12 seats. How many seats are there in the theatre?

19. The digits 1, 2, 3, 4, 5, and 6 are each placed in one of the boxes so that the resulting product is correct. If each of the six digits is used exactly once, the digit represented by ?

$$\begin{array}{r}
 \square \square \\
 \times \square \\
 \hline
 \square \square \square
 \end{array}$$

20. Kiran can draw a connected path from M to N by drawing arrows along only the diagonals of the nine squares shown. One such possible path is shown. A path cannot pass through the interior of the same square twice. In total, how many different paths can she draw from M to N?



NOTE: The **Solution Key** of this paper will be available on School's blog www.crpfpsrohini.blogspot.com today after 6 pm. The **Result** will be declared on 22 December (Date of Birth of Great Indian Mathematician Ramanujan) and will be available on School's blog.