Q2. In an auditorium, the number of rows is equal to the number of chairs in each row. If 3050 people present over there, then some people(minimum) will not be able to sit in the auditorium.

Based on the above information, answer the following questions:

(I) How many people(minimum number of people) will not be able to sit?
(II)Find the no of chairs in each row.
(III) How many chairs(least number) must be added in the auditorium so that no one will stand out? (If the pattern of the auditorium is fixed)
(IV) What is the minimum number of rows required so that 3050 number of people can sit in the auditorium?

Q3. It is informed you that sum of first n consecutive odd numbers represent the square of nth natural number. Also there are 2n non-perfect squares between the square of two consecutive numbers n and (n+1). Every square can be represented as sum of two consecutive numbers .

Example : $5^2 = 1+3+5+7+9 = 12+13$ and between 25 and 36 there are 10 non-perfect squares.

Based on the above information, answer the following questions:

(i) Find the value of 1+3+5+7+.....+63.
(ii) Find number of non-perfect squares between 1024 and 1089.
(iii) Find the value of 9+11+13+.....+59.
(iv) Write 33^2 as a sum of two consecutive numbers.

CHAPTER 05: SQUARE AND SQUARE ROOTS

Fill in the blanks from Q.1 to Q.7

1. If there are n odd number of digits in a perfect square, then its square root will have _____digits.
2. For any natural number m>1, (_____, _____, _____) is the Pythagorean triplet.
3. A number ending with _____, _____, _____, _____can never be a perfect square.
4. A perfect square multiple of 10 ends with _____number of zeros.
5. Prime factorization and long division are methods for finding _____.
6. The sum of first six odd natural numbers is _____.
7. The number of digits in the square root of 54756 is _____.

Choose the correct option from Q.8 to Q.13

8. The unit digit of the square of 5626 is
   a). 2 b).3 c). 5 d). 6
9. Using property $(n+1)^2 - n^2 = 2n+1$, where n is natural number; Find $281^2 - 280^2$
   a) 560 b).650 c).561 d).651
10. How many perfect square numbers lies between 60 and 70 ?
    a). 0 b). 1 c). 2 d). 3
11. 11025 students are arranged in a square for a School Choir in a Stadium. Find the number of students in each row.

    (a) 115 (b)625 (c)105 (d)15
12. The least number to be subtracted from 743 to get a perfect square is:
    (a) 14 (b) 41 (c) 98 (d) 118
13. The square root of 0.9 is:
    (a) 0.3 (b) 0.03 (c) 0.81 (d) 0.94

Short Questions 14 to 21

14. Find the Pythagorean Triplet whose one of the members is 35.
15. Find the Square root 121 by repeated subtraction.
16. By which least number should we multiply 735 to make it a perfect Square.
17. By which least number should we divide 2448 to make it a perfect Square.
18. Find the shortest side of the right-angled triangle, if its other two sides are of the length 48 cm and 50 cm.
19. Find the square of 65, 49 and $4\frac{3}{5}$
20. Find the Square root of 49 , 6561, x^4, $(y+x)^2$ and $(2x-3y)^6$
21. Find the greatest 3-digit number which is a perfect square?

Case Study based Question 22 to 23

22. I am a state in New England. If you find the square root of half of 98, you'll know the number of letters in my name. What state am I?

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Map of New England

23. The area of a rectangle and a square is equal. The length and the breadth of rectangle are 343 cm and 63 cm respectively.
    a) Find the area of the reactangle.
    b) Find the length of the side of the square.

Choose the correct answer from column II corresponding to column I

column I	column II			
$\sqrt{81 \times 36}$	486	54	324	2916
$\sqrt{\frac{49}{121}}$	$\frac{7}{11}$	$\frac{7}{121}$	$\frac{49}{121}$	$\frac{17}{121}$
$\sqrt{2^2 \times 5^4}$	250	100	50	2500
$\sqrt{25 \times 64}$	1600	40	160	400