

CLASS-VIII
Case Study

DATE:16/07/24

Case studies on Squares and Square Roots:

Q1. Priya want to design a square box of area 2916 m^2 . She went to market and purchased a big cardboard. She had to cut the cardboard for making the square box.



Based on the above information, answer the following questions:

- (i) If Priya wants to apply coloured ribbon on all across the box, then which quantity she needs to calculate?
- (ii) What will be each side of a square box?
- (iii) If the cost of applying ribbon all across the box is Rs. 5 then find the total amount spent.

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 will not be able to sit in the auditorium.

Based on the above information, answer the following questions:

- (I) How many people will not be able to sit?
- (II) Find the no of chairs in each row.
- (III) How many chairs must be added in the auditorium so that no one will stand out?
- (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 n th 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 $1+3+5+7+\dots+63$.
- (ii) Find number of non-perfect squares between 1024 and 1089.
- (iii) Find the value of $9+11+13+\dots+59$.
- (iv) Write 33^2 as a sum of two consecutive numbers.

Case study (Linear Equations in one variable):

Q4.. Sita and Gita going to market purchasing some toys for children. Sita has Rs.84 in his purse while Gita has Rs.85. Sita has 36 coins of Rs. 2 and Rs. 5. Gita has Rs. 1 and Rs. 2 coins and the ratio in her coins is 5:6.

Now give the answer of following questions based on the above situation.

- (I) Find the equation of representing number of coins in Sita's purse.
- (II) Find the equation of representing the number of coins in Gita's purse.
- (III) Find the number of Rs. 2 coins in Sita's purse .
- (IV) Find the number of Rs. 2 coins in Gita purse .
- (V) Find the total number of coins in Sita's purse?