

Mathematics Workshop held at S. D. School, Pitam Pura

Real Life Problem Solving using Mathematics

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PROBLEM 1:

The reunion of two friends in a park sounded like this:

I – How many kids do you have?

II – I have three kids.

I – Wow! How old are they?

II – Well, if you multiply their ages, you would get 36; but if you add them up, you'd get the number of chairs in the park.

I counted the number of chairs and said “You did not tell me enough to figure out their ages.”

II – My oldest kid will win Mathematics Olympiad this year.

Find the ages of the kids.

PROBLEM 2: (Staircase Problem)

Suppose a child can climb the stairs by taking a one step at a time or two steps at a time (in any order). He climbs the stairs in a different way each time. In how many different ways he can climb a ten step staircase.

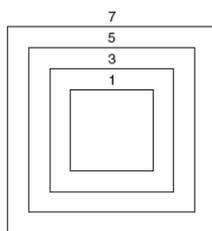
PROBLEM 3: (Shooting Problem)

Let there are 100 persons (labelled as 1, 2, 3, ..., 99, 100) standing in a circle. Person 1 has a gun. He shoots person 2 (of course he dies) and the gun transferred to person 3. He shoots person 4 and the gun transferred to person 5. The process goes on repeating in a cyclic order.

Who will be the last survival?

Try these!

1. You have a lot of Re 1, Rs 2 and Rs 5 coins in your pocket. You reach in and pull out three of the coins without looking. What are the different amounts of money you could have taken from your pocket?
2. If 3 chickens can lay 4 eggs in 5 days, how many days will it take 12 chickens to lay 48 eggs?
3. There are 6 points, no three of which lie on the same line. How many straight line segments are needed to connect every possible pair of dots?
4. Sanjeev works for an art gallery. He is designing a large wall covering for a client. The entire design is made up of 50 concentric squares (squares with the same center and sides parallel). Figure shows the first four squares of his design and gives the length of one side of each square. Sanjeev is going to outline the perimeter of each square with wool. How many feet of wool does he need to outline all 50 squares?



5. Sahrukh Khan has 35 feet of flat board. He wants to make bookshelves that will be exactly 5 feet long. It takes him 2 minutes to make one cut through the board. How long will it take him to make the shelves?
6. There are four finalists, Seema, Bhavya, Anisha and Shallu , who are competing for two prizes in a photo contest. In how many different ways can the first and second prizes be awarded?
7. A zookeeper has ostriches and elephants in one part of the zoo. Altogether the animals account for 60 heads and 180 legs. How many of each animal does he have?
8. How many different four-digit numbers can be made using the digits 1, 2, 3 and 4? What is the sum of all the number so formed?

You may send your solutions at amitbajajcrpf@gmail.com

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