DTP-Math-Circle: Session 1—Counting

Sept 02 2022

3 Tossing coins, rolling dice, giving chocolates

1. You toss a coin five times. How many different sequences of heads and tails can you get?

   At a party, there are seven different colored balloons and three children wanting to play with them. How many different ways can these balloons be given to the three children?

   Do you see how these questions are similar? Can you give a generalization?

2. You toss a coin hundred times and record the sequence of heads and tails you get. How many different sequences are possible? Out of all these sequences, how many have exactly fifty heads and fifty tails?

3. At a party for little children, there are ten identical chocolates to be given to three children. How many ways can they be given ifit is possible that some child gets none?

   Now what if you want to ensure that each child gets at least one?