Concept 4: Circular Permutation

There are two cases of circular-permutations:-

- If clockwise and anti-clockwise orders are different, then the total number of circular-permutations is given by **(n - 1)!**
- If clockwise and anti-clockwise orders are taken as not different, then total number of circular-permutations is given by **(n - 1)!/2,** where n is the no. of objects.

Drill 4

You go to a jewellery shop to buy a beaded necklace and the necklace displayed on the side is shown to you.

After some time, the sales man rotates the displayed jewellery by a certain angle and claims it to be a different jewellery. Will you accept it? *Yes/No*

a. In how many ways can 5 friends sit around a table?
Are clockwise and anti-clockwise arrangements different? Yes/No
Number of circular arrangements = _____

b. How many necklaces can be formed with 7 different beads?
Are clockwise and anti-clockwise arrangements different? Yes/No
Number of circular arrangements = _____

c. How many garlands can be formed with 6 different coloured roses?
Are clockwise and anti-clockwise arrangements different? Yes/No
Number of circular arrangements = _____

d. In how many ways can 4 boys and 4 girls sit around a table, if no two boys should sit together? _____