Name: VEN THON

ID: e20191250

Group: I3-GIC-C

1. How many permutation of a set of 6 numbers {1,3,5,8,9,7} ?

In this case, we permutate 6 numbers among 6 numbers.

* P(n) = n!

P(6) = 6! = 720 permutations

2. How many possible ways to arrange 4 letters among 7 letters {A,E,I,O,U,D,N} ?

In this case, we arrange 4 letters among 7 letters.

* APn=
* A47=

3. How many groups of 6 pets can be chosen from 10 pigs and 8 horses if:

a. exactly 4 pigs must be on each group

* CPn =
* C410 x C28 = x = 210 x 28 = 5880

b. at least 4 pigs must be on each group

* C410 x C28 + C510 x C18 + C610 x C08

= x + x + x

= 210 x 28 + 252 x 8 + 210 x 1 = 8106

c. exactly 5 horses must be on each group

* C58 x C110 = x = 56 x 10 = 560

d. at least 5 horses must be on each group

* C58 x C110 + C68 x C010

= x + x

= 56 x 10 + 28 x 1 = 588