

6. The organizers of a gymnastics event wish to arrange the participants in neat rows. They try rows of 2, 3, 4, 5, 6, 7 and 8, but in each case there is one gymnast left over. There are fewer than 1000 gymnasts in all. How many are there? Explain your reasoning. (Hint: What if 1 gymnast left the room?)

7. (P) A gate has a key pad with digits 0 to 9. How many possible code combinations are there if the code is 4 digits long?

a) If repetition of numbers is allowed

b) If repetition of numbers is not allowed

8. (P) Give the possible number of license plates with 6 letter and 3 digits (no repetition)

9. (P) If you have 12 runners how can get gold silver and bronze .

10. (C) Select 4 teachers from 12.

11.(C) Select 6 books from 20.