MATH 1101

Exercise: Permutations 1

Trevor Jimu

Topic: Permutations

Instructions

Answer all the questions. Show all necessary steps. Use the permutation formula where required:

$$^{n}P_{r} = \frac{n!}{(n-r)!}$$

Exercise Questions (10)

1. How many different ways can 5 books be arranged on a shelf?
2. In how many ways can 3 students be selected and arranged from a group of 10?
3. A password consists of 4 different letters. How many different passwords can be formed using the letters of the alphabet?
4. In how many ways can the letters of the word **MANGO** be arranged?
5. How many 3-digit numbers can be formed from the digits 1, 2, 3, 4, 5 without repeating any digit?
6. In a race of 8 runners, how many different ways can the 1st, 2nd, and 3rd prizes be awarded?
7. How many 5-letter arrangements can be made using the letters of the word **GREAT**?
8. A class has 7 boys and 5 girls. In how many ways can a president, vice-president, and secretary be chosen from the boys only?
9. How many different 4-letter arrangements can be made using the word **MATH**, if repetition of letters is not allowed?
10. A team of 6 players is to be arranged in a line. In how many ways can they be arranged if two specific players must be next to each other?

Prepared by TJ Tutors – Excellence in Learning!