Math 102 Section 02

Permutations and Combinations Activity

Instructions: For each of the following, decide whether the situation being described is a permutation, a combination, or neither. Next, if it is a permutation or a combination, write it in the form $P(n, r)$ or $C(n, r)$, otherwise, explain why it is not a permutation or a combination. Finally, use a formula or the Fundamental Counting Principle to compute the number of possible ways each situation can occur.

1. You pick 3 other students from a class of 30 students to work together with on a group project.

2. A club with 15 members need to elect a President, a Vice President, a Secretary, and a Treasurer.

3. You have homework to do in each of your five classes. You pick an order in which to complete these assignments.

4. A small business with 22 employees decides to delegate a project to a team of 4 people.

5. A small business with 22 employees decides to delegate a project to a team of 4 people. They want two of the team members to be female, and two of them to be male. There are 12 female employees total in the company.