

## Basics of Counting

### Example

1. How many three digit odd numbers are there with distinct digits?

### Problems

2. True    False    When dealing with a multi-stage counting problem, it doesn't matter in which order we consider the stages.
3. True    False    The product rule and the sum rule cannot be used together.
4. How many three letter initials with distinct letters can people have?
5. How many ways are there to line up 5 different people?
6. How many ways are there to choose a single representative of the math department if there are 30 faculty members and 60 students in the department (the representative can be a faculty member or a student).
7. How many different Minneapolis, MN phone numbers are there if the area code has to be (612), (763), or (952), and the remaining 7 digits can be whatever?
8. A palindrome is a number (or phrase) that is the same if you reverse it. How many 3 digit palindromes are there?
9. How many ways can a photographer at a wedding arrange six people in a row, including the bride and groom, if the bride must be next to the groom? If the bride cannot be next to the groom?