

STAT 320: Principles of Probability

Unit 2: A Few Counting Principles & and Their Applications

United Arab Emirates University

Department of Statistics

Outline

1 Multiplication Principle

Multiplication Principle

Permutations

Combinations

Binomial and Multinomial Coefficient

Overview of Counting Principals

Definition (Multiplication Principle of counting)

Suppose that two experiments are to be performed. Then if experiment 1 can result in any one of m possible outcomes and if, for each outcome of experiment 1, there are n possible outcomes of experiment 2, then together there are $m \times n$ possible outcomes of the two experiments.

Questions?