

Name: _____ Date: _____ Row: _____ Period: _____

CHAPTER 12: PROBABILITY AND STATISTICS

NOTES SECTION 12.1:

THE FUNDAMENTAL COUNTING PRINCIPLE AND PERMUTATIONS

DAY 1

WARMUP

You want to make a delicious ice cream sundae so you bought 4 different types of ice cream, 3 different colors of sprinkles, and 2 different toppings. How many options do you have if your sundae has 1 type of ice cream, 1 type of sprinkles, and 1 type of topping?

FUNDAMENTAL COUNTING PRINCIPLE

TWO EVENTS

THREE OR MORE EVENTS

EXAMPLE 1

At a restaurant you have a choice of ___ different entrees, ___ different salads, ___ different drinks, and ___ different desserts. How many different dinners consisting of 1 salad, 1 entrée, 1 drink, and 1 dessert can you choose?

YOUR TURN

In a high school, there are ___ freshman, ___ sophomores, ___ juniors, and ___ seniors. In how many ways can a committee of 1 freshman, 1 sophomore, 1 junior, and 1 senior be chosen?

EXAMPLE 2

How many different 7 digit phone numbers are possible if the first digit cannot be ___ or ___?

YOUR TURN

A multiple choice test has ___ questions with ___ answer choices for each question. In how many ways could you complete the test?

EXAMPLE 3

The standard configuration for a New York license plate is ___ digits followed by ___ letters.

a) How many different license plates are possible if digits and letters can be repeated?

b) How many different license plates are possible if digits and letters cannot be repeated?