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

NOTES SECTION 12.2:

COMBINATIONS AND THE BINOMIAL THEOREM – DAY 1

COMBINATIONS

COMBINATIONS OF n OBJECTS TAKEN r AT A TIME

EXAMPLE 1

Use a standard deck of 52 cards.

a) If the order is not important, how many different ___ card hands are possible?

b) How many of these hands have all ___ cards of the same suit?

c) How many 5-card hands contain exactly ___ kings?

d) How many 5-card hands contain ___ aces and ___ other cards?

event A and event B

event A or event B

EXAMPLE 2

You are taking a vacation. You can visit as many as 5 different cities and 7 different attractions.

a) Suppose you want to visit exactly ___ different cities and ___ different attractions. How many different trips are possible?

b) Suppose you want to visit at least ___ locations (cities or attractions). How many different types of trips are possible?

YOUR TURN

From a group of ___ volunteers, you are choosing at least ___ to be peer counselors. In how many ways can this be done?

EXAMPLE 3

A restaurant offers 6 salad toppings. On a deluxe salad, you can have up to ___ toppings. How many different combinations of toppings can you have?

YOUR TURN

A theater is staging a series of ___ different plays. You want to attend at least ___ of the plays. How many different combinations of plays can you attend?