

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

NOTES SECTION 12.1:

THE FUNDAMENTAL COUNTING PRINCIPLE AND PERMUTATIONS

DAY 2

PERMUTATION

EXAMPLE 1

You have homework assignments from ___ different classes to complete this weekend.

a) In how many different ways can you complete the assignments?

b) In how many different ways can you choose _____ of the assignments to complete first and last?

YOUR TURN

There are ___ movies you would like to see currently showing in theaters

a) In how many different ways can you see all ___ of the movies?

b) In how many different ways can you choose a movie to see this Saturday and one to see this Sunday?

PERMUTATIONS OF n OBJECTS TAKEN r AT A TIME

EXAMPLE 2

There are ___ books on the summer reading list. You want to read some or all of them. In how many orders can you read (a) ___ of the books or (b) all ___ of the books?

a)

b)

YOUR TURN

There are ___ players on a baseball team.

a) In how many ways can you choose the batting order for all ___ of the players?

b) In how many ways can you choose a pitcher, catcher, and shortstop from the ___ players?

EXAMPLE 3

Find the number of distinguishable permutations of the letters in

a)

b)

c)

YOUR TURN

Your dog has ___ puppies, ___ male and ___ female. One possible birth order is _____.

How many different birth orders are possible?