

Permutations and Combinations Combined

Name: _____

- _____ 1. I have a safe in my house that has a key pad on it with the digits 0 – 9 on it. If my combination is a 6 digit code, how many possible combinations exist?

- _____ 2. My password to log on to my computer is 2 letters followed by 2 digits. How many different passwords can be made this way?

- _____ 3. From my 9 cousins, I must pick 3 of them to be in my wedding. How many different sets of 3 can I choose?

- _____ 4. How many different 2 topping pizzas can I make if I have 14 toppings to pick from?

- _____ 5. There are 12 players on the basketball team. How many different sets of a starting 5 can be made?

- _____ 6. The Virginia lottery has you pick five numbers from 1 to 56 and then one number from 1 to 46. If you match all 5 numbers and then the 1 number, you win the “Mega Millions.” What are the odds of winning the lottery?

- _____ 7. From my class of 30 students, I need 2 to represent our class at the talent show. How many ways could I pick the two?

- _____ 8. Old VA license plates used to be 3 letters followed by 3 numbers. How many license plates could the state make in this manner?

- _____ 9. From our freshman class, we will elect a President, Vice President, and a Secretary. How many ways could that be done if there are 220 kids in the freshman class?

- _____ 10. How many 5 card hands can be dealt from a deck of cards?
(For you non-card people, there are 52 cards in a deck.)

- _____ 11. My passcode can be digits, uppercase letters, lowercase letters, or any of the following Symbols: &, #, @, !, or ? If my code is 4 characters, how many passcodes can be made?