

**Section 6.6 Worksheet**  
**Permutations and Combinations**

Name \_\_\_\_\_

1. How many three letter “words” composed from the 26 letters of the alphabet are possible? No duplication of letters is permitted.
2. How many different ways can the letters of the word EAT be arranged using each letter once in each arrangement? List all possibilities.
3. How many four digit whole numbers greater than 5,000 can be formed using each of the digits 3, 5, 6, 8 once in each number?
4. A club contains 15 members and wishes to elect three officers consisting of a president, vice-president, and sec/treasurer. How many sets of officers are possible?
5. A baseball team consists of nine players. How many different batting orders are possible? How many are possible if the pitcher bats last?
6. A student’s PID (personal identification number) is a sequence of six digits. How many different PID numbers are possible?
7. A class consists of 15 members. How many committees of four can be selected?
8. A class consists of 10 boys and 15 girls. How many committees of five can be selected if each committee consists of two boys and three girls?
9. There are 15 women on a team. In how many different ways can a coach field a team of five players?
10. A basketball squad has 12 players consisting of three centers, five forwards and four guards. How many ways can a coach field a team having one center, two forwards, and two guards?
11. In a psychology experiment, there are nine males and seven females available to form a research group. How many different combinations are possible if the group is to contain two males and two females?
12. The Virginia Lottery’s Cash 5 game instructs the player to choose five numbers from the numbers 1 through 34. How many different combinations of numbers can be chosen for this game?
13. The Virginia Lottery Mega Millions game instructs players to select five different numbers from 1 through 52, then select one Mega Ball number from 1 through 52. How many different combinations are possible in this game?