Name _____   Date _____

Permutations and Combinations - Independent Practice Worksheet

Complete all the problems.

1. How many ways can 7 students come in first, second, and third place in a math contest? Only one student can earn each place.

2. There are 9 balls in a hat. The balls are numbered 1-9. You need to choose 3 of the balls. How many possible combinations are there?

3. During the New Year celebration there are orange, green, purple, and blue fireworks. In how many different orders can the different colors of fireworks appear?

4. Daniel has 6 different pants that match with 4 different shirts. How many shirt-and-pants combinations can he make if he selects one shirt and one pair of pants?

5. Julia has 3 hand bags in her closet. In how many different orders can the bags be arranged?

6. How many ways can the letters of the word AGAIN are arranged?

7. There are 6 students in an English class. For a certain activity, 4 of those students need to form a group. How many ways can a group of 4 students be formed?

8. How many different arrangements can be made with 5 cream packets, 3 breads, and 4 butter packets if one choice is selected from each category?

9. How many ways can a student select six questions from an exam containing ten questions, if you take into account the different order you can answer the questions in?

10. Mary has to visit 6 friends. In how many different orders can she visit them?