

Nametag Combinatorics Activity – Class Handout

We just performed the following activity in class. Each student wrote his/her name on a sticky note to create a nametag. The nametags were mixed and each student chose one. Then, with his/her right hand, each student sought out the left hand of the student whose nametag he or she picked. The result was one or more circles of students.

1. How many possible outcomes are there for the nametag activity with n students?
2. How many of these outcomes result in one big circle?
3. When the nametag activity is done with 20 students, what is the probability that the outcome is one big circle? Simplify your answer, but don't approximate.
4. When the nametag activity is done with 20 students, how many outcomes have one circle of 12 students and one circle of 8 students? What is the probability of this occurring? Simplify your answer, but don't approximate.

Nametag Abstract Algebra Activity – Class Handout

We just performed the following activity in class. Each student wrote his/her name on a sticky note to create a nametag. The nametags were mixed and each student chose one. Then, with his/her right hand, each student sought out the left hand of the student whose nametag he or she picked. The result was one or more circles of students.

Now you can try a smaller version of the nametag problem individually or in a small group. Each group should have small squares numbered 1, 2, . . . , 10.

1. Turn your squares face down so you cannot see the numbers. Mix them. Turn over the squares one at a time and record each number you get in the chart below. The first number you turn over goes under the 1, the second number goes under the 2, etc.

1	2	3	4	5	6	7	8	9	10

2. Draw the circles that result from your chart. You can think of your drawing as a top down view of the nametag activity.