After the class, and by the announced deadline, prepare a written presentation of your session, including the interactions among the group members, and a detailed explanation of how you arrived at your solution. You may include diagrams and mathematical work if you used those as part of your process.

One group member should submit that to the Curator System via the collection point for ICE02.

Remember that the evaluation of your solution will depend primarily on the completeness and clarity of your explanation.

Problem 1

Six boxes are numbered 1 through 6 (so we can tell which box is which). You are given a collection of 20 identical balls (so they are interchangeable).

In how many different ways can you distribute the 20 balls among the 6 boxes if none of the boxes are allowed to be empty?

What if empty boxes are allowed?

After the class, and by the announced deadline, prepare a written presentation of your session, including the interactions among the group members, and a detailed explanation of how you arrived at your solution. You may include diagrams and mathematical work if you used those as part of your process.

One group member should submit that to the Curator System via the collection point for ICE02.

Remember that the evaluation of your solution will depend primarily on the completeness and clarity of your explanation.

Problem 2

You are given five different purses (which you can tell apart), and 12 pennies (which you cannot tell apart).

In how many different ways can you distribute the 12 pennies among the 5 purses if none of the purses are allowed to be empty?

What if empty purses are allowed?

After the class, and by the announced deadline, prepare a written presentation of your session, including the interactions among the group members, and a detailed explanation of how you arrived at your solution. You may include diagrams and mathematical work if you used those as part of your process.

One group member should submit that to the Curator System via the collection point for ICE02.

Remember that the evaluation of your solution will depend primarily on the completeness and clarity of your explanation.

Problem 3

A bookbinder must bind 12 identical books (you cannot tell one from another) using red, green or blue covers. In how many different ways can she do this?

After the class, and by the announced deadline, prepare a written presentation of your session, including the interactions among the group members, and a detailed explanation of how you arrived at your solution. You may include diagrams and mathematical work if you used those as part of your process.

One group member should submit that to the Curator System via the collection point for ICE02.

Remember that the evaluation of your solution will depend primarily on the completeness and clarity of your explanation.

Problem 4

Thirty voters must choose from among 5 candidates; each voter can (and will) vote for exactly one candidate. In how many different ways can the votes be distributed among the five candidates, if we only consider the number of votes each candidate receives?

After the class, and by the announced deadline, prepare a written presentation of your session, including the interactions among the group members, and a detailed explanation of how you arrived at your solution. You may include diagrams and mathematical work if you used those as part of your process.

One group member should submit that to the Curator System via the collection point for ICE02.

Remember that the evaluation of your solution will depend primarily on the completeness and clarity of your explanation.

Problem 5

You have three one-dollar bills (which you cannot tell apart) and 10 quarters (which you also cannot tell apart), and four boxes (which you can tell apart).

In how many different ways can you distribute the bills and quarters among the boxes?