# Breakout Room Discussion of Session 2 Exercises

In each of your groups, you’ll be discussing the Session 2 exercise questions.

First, decide which roles each group member will fill:

## Roles:

**Moderator** - helps facilitate the conversation and encourages equitable participation

**Timekeeper** - keeps the group on track

**Note Taker** - takes record of the group’s discussion in this Google doc (see below).

**Active Participant** –engages and contributes to the discussion.

**Reporter** - presents the group’s solution to the whole class when we regroup.

## Before you begin to answer the exercise questions:

1. Introduce yourselves briefly.
2. Assign roles and record them below. Try to take a different role than last time.
3. Discuss the question(s) assigned to your group and note your answer.
4. Next, discuss other questions from Session 2. You won’t need to present these to the class but can use this time to compare answers to the other Session 2 questions.

##

## Breakout Room (n=5 per room)

|  |  |
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| **Breakout Room** | **Assigned Exercise Questions (see next page)** |
| **1** | **1 a, b, c, d** |
| **2** | **2** |
| **3** | **3** |
| **4** | **4** |
| **5** | **5 a, b, c** |
| **6** | **6 a, b** |
| **7** | **7** |
| **8** | **8** |
| **9** | **9** |
| **10** | **10** |
| **11** | **11** |
| **12** | **1 a, b, c, d** |

Roles:

* Moderator -
* Timekeeper -
* Note Taker -
* Reporter -
* Active Participant -

Question(s) discussed:

Solution to assigned question:

Any question you want the whole class to discuss/answer?

A different question discussed:

Notes:

**Session 2 Exercises**

1. Categorize the following variables into nominal, ordinal, discrete, or continuous

* 1. Viral load
	2. Age measured in years
	3. Price of your lunch
	4. Zip code of your residence

2. What is



3. What is



4. What is the mean of -5, 10, and 0?

5.

1. If I buy a bag of 3 bagels, and they weigh 85g, 95g and 90g, what is the mean weight?
2. If I buy a bag of 3 bagels and they weigh 0.085 kg, 0.095 kg and 0.09 kg, what is the mean weight?
3. If I add 20 grams of cream cheese to each of my bagels, what is the mean (combined) weight of my breakfast?

6. a. If I buy a bag of 3 bagels, and they weigh 85g, 95g and 90g, what is the variance and standard deviation of the weight? (Recall that the mean was 90g)

1. What is the variance and standard deviation of the weight of the 3 bagels if 20g of cream cheese is added to each bagel?

Questions 7, 8, 9:

Suppose a new student has joined your lab and is learning how to culture cells. Their reference letter says that 25% of the new student’s experiments fail. They only have time to create 3 cultures.

Recall,



where, e.g., 4! = 4 x 3 x 2 x 1 = 24

7.  What is the probability that exactly 1 experiment fails?

8.  What is the probability that at least 1 experiment fails?

9.  What is the probability that all experiments succeed?

10. A couple intends to have 5 children and both are carriers of myotonic dystrophy, a dominant trait. Therefore, the probability that a child has the trait is 0.75. What is the probability that at least 1 child will have the trait?

11: Calculate the mean and variance of a binomially distributed random variable with n trials and success probability p.