Homework (setting up for the class activity and exploration)
Search for a mathematical paradox that makes sense to you. Post on Canvas Discussion three paradoxes that you like, making clear which one you'd like to write about. Write a one-sentence description of the paradox. The discussion will be available between 7:45 and 8pm.

Write a paper on the paradox you chose using these guidelines:
The American Heritage Dictionary gives the following definition for paradox:

A seemingly contradictory statement that may nonetheless be true.
A statement contrary to received opinion.

In class thus far, we have explored various paradoxes from a mathematical standpoint. That is, we have identified situations that, at first, seem completely contradictory (for example, that is should make a difference if you switch or not at Let's Make a Deal, that 1=2) and have resolved them by using mathematics. Your task for this paper is to find, describe, and give the solution to a mathematical paradox. I am anticipating that papers will be between 2-3 pages double spaced, though this is only a suggested length.

Your papers should include the following sections:

1.) A description of your paradox. State the problem in your own words. Be sure that you understand the paradox you have chosen. There are many paradoxes out there, and many of them involve mathematics that goes beyond the scope of this course. Choose one that you can explain.
2.) The source of your paradox. Where did you find it?
Good sources are books, the Internet, and mathematics journals. Martin Gardner and Lewis Carroll are well known for their books on paradoxes.
3.) A description of the contradiction. Why is your problem a paradox? What would most people's initial solution be? Why is the solution counterintuitive? Be mindful that puzzles and games are not necessarily paradoxes. Your paradox must be a situation that gives a solution that runs counter to our "gut feeling".
4.) An explanation of the solution to your paradox. This must be written in your own words. Most sources of paradox will give solutions. It is fine that you do not solve the paradox yourself. What is important is that you understand the solution, and that you are able to explain it to me (or your peers) in your own words.
5.) A conclusion. What did you learn from this paradox? (Or from the search?)
6.) Citation of your source, in APA format.

Classwork:

- Students are grouped according to paradox paper.
- In breakout sessions, students present their paradox for 3 minutes each. After everyone's turn, students use the whiteboard feature on Zoom to create a drawing that combines all paradoxes or highlights your favorite.
- Whole group: students share and discuss their drawings.