

Name: _____ Major: _____

What math classes (including math-based courses in other disciplines) have you taken at Dartmouth? For the courses not in the math department, please write the main focus of the course.

In an attempt to understand where we should begin as a class, without looking anything up, please answer as many of the following questions as you are able to. These questions are a smattering of topics relevant to the course that you may have seen in high school or in other classes. *If you cannot solve them, that is okay!*

1. If you flip two coins, what is the probability of flipping one head and one tails?
2. If you flip three coins, what is the probability that you get three tails?
3. Factorials. Write $k!$ in another way.
4. Binomial coefficients. What is the formula for $\binom{n}{k}$?
5. How many different ways can four people stand in a line? In general, how many different ways are there for n people to stand in a line?
6. Set notation. Have you seen set theory before today? If $A \subseteq B$, what is $A \cup B$?
7. Reindex the series $\sum_{j=1}^{\infty} x^j$ so that it begins with $i = 0$ (instead of $j = 1$).
8. When does $\sum_{j=0}^{\infty} r^j$ converge? What is the value of this series in the case that it converges?
9. Evaluate $\int_{1/2}^1 2x \, dx$.
10. Cards. Do you play cards? i.e. are you familiar with suits, the number of cards in a deck ...

What are you most looking forward to about this course? Why are you taking probability? Regardless of perceived ability, do you like math and problem solving?

What is a problem solving skill you hope to improve during this course?
Eg. Preventing procrastination or not giving up too soon, believing you are capable of figuring out challenging problems, knowing when to ask for help (and doing so), improving your ability to determine what you don't understand, better articulating how you arrived at an answer. . . .

Do you prefer working alone or with other people? Why? If you would like to try working more with other people is there any way that I can help?

Is there anything else you want me to know about? If I notice that you are struggling in the class is there a particular way that I should reach out to you? Any concerns in taking this course?