

UNEXAM #1

ASSIGNED: MONDAY, NOVEMBER 27, 2017 DUE: MONDAY, DECEMBER 11, 2017

Remember that the important aspect of this assignment is not the answer, but the solution. I am not looking for an explanation which includes all of your reasoning, but just a simple, clear, thoughtful, direct, short explanation. Don't try to explain you arithmetic, just how we use what we know (mostly addition and multiplication principle) to determine the answer.

It is important that if you make a connection between the problem and the answer so I am going to impose two important rules:

- (a) you must start your solution with the question (RECOPY IT!)
- (b) if you use words like 'set,' 'spaces,' 'list' or 'choose' it needs to be clear how these things are related to marbles for the first problem and cards for the second.
- (c) Turn in your assignment online and in \LaTeX . You should try to get started on ShareLaTeX in advance of when your assignment is due (don't try to type it up in the last minute in case there is a problem). If you run into any issues with \LaTeX or ShareLaTeX, please email me.

Here are some resources that might be useful:

<http://garsia.math.yorku.ca/~zabrocki/math4160f17/latex.html>

The assignment is due December 11. Please work alone on this assignment. Do not discuss the problems with your classmates. If you need additional help with answering the question please write to me.

- (1) How many ways are there of picking at total of 20 red, green, orange and blue marbles such that that the number of red and green marbles is equivalent to $2 \pmod 3$?
Answer: 588
- (2) How many 7 card hands are there that contain a 5 card straight and a pair?
(A is a high card only, a 5 card straight is any increasing sequence of five cards without regard to suit)
Answer: 542,720