

Math 142V Extra Credit Assignment

1. Locate your exam server PIN. This is a four-character string, located in an e-mail that you received from Professor John Ringland (ringland@buffalo.edu) on about September 10th, 2020 or so. (IF YOU CANNOT FIND THIS PIN, PLEASE LET ME KNOW IMMEDIATELY.)

2. For the first character of your PIN:

-If the character is a digit, then multiply it by $\frac{2}{3}$ and round *up* to the nearest integer. Write this number, calling it “X.”

-If the character is a letter, then determine the number corresponding to its location in the alphabet (*a* is 1, *b* is 2, *c* is 3, ..., *y* is 25, and *z* is 26). Multiply this number by $\frac{3}{13}$, and round *up* to the nearest integer. Write this number, calling it “X.”

3. For the second character of your PIN:

-If the character is a digit, then multiply it by $\frac{11}{9}$ and round *up* to the nearest integer. Write this number, calling it “Y.”

-If the character is a letter, then determine the number corresponding to its location in the alphabet (*a* is 1, *b* is 2, *c* is 3, ..., *y* is 25, and *z* is 26). Multiply this number by $\frac{11}{26}$, and round *up* to the nearest integer. Write this number, calling it “Y.”

4. For the third character of your PIN:

-If the character is a digit, then multiply it by $\frac{4}{9}$ and round *up* to the nearest integer. Write this number, calling it “Z.”

-If the character is a letter, then determine the number corresponding to its location in the alphabet (*a* is 1, *b* is 2, *c* is 3, ..., *y* is 25, and *z* is 26). Multiply this number by $\frac{2}{13}$, and round *up* to the nearest integer. Write this number, calling it “Z.”

5. At this point, the following three statements should be true: *X*, *Y* and *Z* are positive integers, $1 \leq X \leq 6$, $1 \leq Y \leq 11$, and $1 \leq Z \leq 4$. If this is not the case, check your computations and/or ask me for help. If everything is as predicted, proceed to the next page.

You have been assigned the following three sections from the textbook:

- Section 7.X if $1 \leq X \leq 5$, or Section 7.8 if $X = 6$.
- Section 11.Y.
- Section 10.Z.

Your instructions are as follows: for each of your assigned sections, create your own problem, with its solution, based on the material in the section. (For example, if you have been given Section 7.3, then you are instructed to create your own problem and solution that involves integration by trigonometric substitution.)

Note the following:

1. Your problems must be *interesting*. This means that each problem must not be so easy that its solution is obvious, and it must also not be so hard that you cannot solve it.
2. Your problems must be relevant to the assigned sections. If you deviate too far from the subject matter of the section, you will lose points.
3. The previous two guidelines are subjective. This means that I will be the judge of whether your submission meets these criteria. If you have an idea that you think might make a good problem, but aren't sure if it's okay, feel free to ask me before submitting.
4. Taking problems from the relevant section(s) in the textbook is acceptable. If you do decide to do this, then label the problem with the corresponding problem in the textbook.
5. Your solution must be correct. If it isn't, you will lose points.
6. The problems that you and the rest of the class create for this assignment will be compiled into your practice exam for the final. This means that it is in your best interest to make the problems neither too easy nor too hard.

Submission: When you have written your problems and their solutions, put them in an electronic file. Attach this file to an e-mail to me, with the subject line "Extra credit submission."