

1. MATH 381 : SPRING 2021 : HOMEWORK O

Your first homework assignment is to submit your group preferences for homework discussion and other discussion, as follows:

1. Tell me the names of any people you want to be in a group with. As long as all members of the group tell me the same thing, I will group you. Groups should be no larger than 5 people and ideally should be larger than 2 people.
2. Rate your discussion style on a scale of 0 to 5, where 0 is like something from a Zen monastery and 5 is like that scene in “Hamilton” where they’re all yelling that the Revolution is coming any minute.
3. Tell me any other preferences you have about your group.
4. Tell me what your career goals are and/or why you’re taking 381.
5. Tell me anything else you’d like me to know, including your pronouns (if any), any challenges you’re facing, anything you’re particularly hoping for in this class, whatever.

Submit this by email. Future homeworks will be handled differently—to be announced.

Homework rules (partial): Rule 1. You are allowed to discuss any problem with your group, to the extent you want to (it is not compulsory). Rule 2. You must write up the solution *in your own words*, not copied from a joint solution. Rule 3. Don’t look up a solution on the Internet; that takes all the fun out of it.

(These rules do apply to HW O, except Rule 2.)

2. L^AT_EX, OR MORE SIMPLY L^AT_EX

The .tex file is a Latex source file. Note the extension: `.tex`

The .pdf file is what results from compiling the Latex file.

To get a new paragraph, leave a blank line.

Here is how to type some math: $x^2 = \frac{1}{2}x - 3 \log(x)$. (Not as good, but acceptable: $\log(x)$.)
For a big formula, you can use a display:

$$f(x, y) = \text{a very long formula in } x \text{ and } y.$$

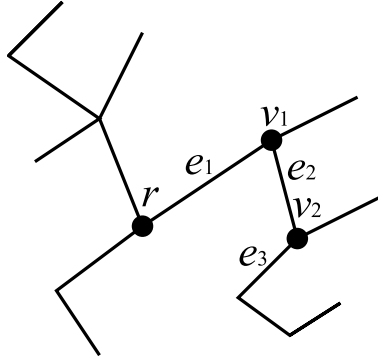
Let’s make a nice formula:

$$f(x) = \sum_{i=0}^n r^i = \frac{1 - r^{n+1}}{1 - r}.$$

but here it is in the text: $f(x) = \sum_{i=0}^n r^i = \frac{1-r^{n+1}}{1-r}$, which is just the way it looks in a textbook or a math research paper. Oh, let’s make a product: $g(x) = \prod_{i=0}^n r^i \neq \frac{1-r^{n+1}}{1-r}$.

To include a graphic file, use `\includegraphics{graphicfile}`. That will include your file “graphicfile.pdf” or “graphicfile.eps” or “graphicfile.tiff” etc.

This figure shows a partially labeled graph:



Another figure (this shows replacing some vertices in a cycle by paths; don't ask why!):

