Math 15300/14 Homework 2
Due date: Thursday, January 23, 2020, 5pm (in my mailbox in Eckhart basement)

Please present your solutions clearly and in an organized way. Think of it this way: if you show it to another student in this class, he/she should be able to understand it without needing to ask you questions.

Wolfram Alpha

Wolfram Alpha is a very useful tool. Check it out if you have not used it before: `http://wolframalpha.com`. For example, try entering the following text into Wolfram Alpha:

- `plot y = sin(1/x)` (direct link)
- `integrate x/(x^2+2x+5)^2 dx` (direct link)
- `eevee curve` (direct link)

January 16

Goals:

- Find limits of sequences and functions
- Evaluate improper integrals with unbounded intervals

Section 11.4:

- 1, 3, 27, 53

Section 11.6:

- 37, 39, 41

Section 11.7:

- 1, 3, 5

January 18

Goals:

- Evaluate improper integrals
- Do some basic manipulations with series

Section 11.7:

- 7, 8, 9, 17, 19, 33, 43, 57

Section 12.1:

- 1, 11

Exercise not from the textbook:

- Using the method from class (see page 580 of the textbook), simplify the following sum:

$$(\tfrac{2}{3})^{10} + (\tfrac{2}{3})^{11} + \cdots + (\tfrac{2}{3})^{100}$$

This is all for HW 2.