

# Homework 10

Math 147, Fall 2017

This homework is due on Thursday, Nov. 2.

0. Read Sections 5.2 and 5.3. After reading these sections, you should be able to answer the following question (which is *not* to be turned in): what are horizontal, vertical, and oblique asymptotes?
1. Find all global maxima and global minima of the following functions:
  - (a)  $f(x) = \frac{3x^2}{x+1}$  with domain  $[-0.5, 4]$
  - (b)  $f(x) = x - 2 \cos x$  with domain  $[0, \pi]$
  - (c)  $f(x) = |x^2 - 1|$  with domain  $[-5, 4]$
  - (d)  $f(x) = (x + 5)^2$  with domain  $(-\infty, \infty)$
  - (e)  $f(x) = (x + 5)^2$  with domain  $(-5, \infty)$
  - (f)  $f(x) = (x + 5)^2$  with domain  $(-6, -5]$
2. Section 5.2 # 14, 20, 28, 44
3. Section 5.3 # 4, 12, 26, 30, 36
4. (These problems are *not* to be turned in!)
  - (a) Section 5.1 # 31, 33
  - (b) Section 5.2 # 5, 9, 11, 13, 15, 19, 27
  - (c) Section 5.3 # 5, 7, 17, 21, 25, 27, 29, 31, 33, 37, 39