Homework Assignment 24

Assigned Tuesday March 25; due Friday April 4, 2PM at SS 1071

web version: http://www.math.toronto.edu/~drorbn/classes/0203/157AnalysisI/HW24/HW24.html

Required reading. All of Spivak Chapter 24.

Required thought and response. The results of Term Exam 4 are disappointing. What went wrong? You are **required** to think about it and send me your thoughts, by email or using the feedback form on the class' web site. Did something go wrong with the way you studied? In your opinion, was the exam inappropriate? Did I make serious mistakes in teaching the material? Did we sink into a routine and forgot to see the bigger picture? Anything else?

The goal of this exercise is to improve things. Be constructive! Don't just swallow or throw dirt, that won't help anyone. An indication that X went wrong is fine, but it's better if it comes along with "and Y could have fixed it".

As always, anonymous messages are fine (though signed messages are better). I guess it means that I cannot verify that you all do this exercise. Yet it remains morally required, for the benefit of everybody.

The due date for this exercise is this Friday, March 28, at 5PM. I may or may not prepare a synopsis of your responses (with all identifying details removed) for distribution as a handout.

To be handed in. From Spivak Chapter 24: 2 (even parts), 5 (even parts), 17, 23.

Recommended for extra practice. From Spivak Chapter 24: 2 (odd parts), 5 (odd parts), 12, 15, 22, 24.

An extra computation.

```
drorbn@coxeter:~/classes/157AnalysisI:1 math
Mathematica 4.1 for IBM AIX
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 -- Motif graphics initialized --

In[1]:= D[ArcTan[x], {x, 10}]

                    9              7              5             3
        -185794560 x    371589120 x    243855360 x    58060800 x    3628800 x
Out[1]= ------------ + ------------ - ------------ + ----------- - ---------
              2 10           2 9            2 8           2 7          2 6
       (1 + x )       (1 + x )       (1 + x )      (1 + x )     (1 + x )
```