

MA 530 second midterm review problems

Version as of March 21st.

The second midterm will be in class on Monday, April 3rd. Most of the exam will be closely based on problems, or on parts of problems, from the list below. Justify your answers. Please let me know if you have a question or find a mistake. Some of these problems reference Fisher's book:

<https://archive.org/details/complex-variables-2ed-dover-1999-fisher/page/n181/mode/2up>

- Taylor Section 4.1 # 2.
- Taylor Section 4.1 # 8.
- Fisher Section 2.6: #13, # 15. (Note the answers should be real numbers!)
- Fisher Section 3.1: # 13, # 14. (For the latter, use the fact that $e^{-2} > 0.13$.)
- Evaluate $\int_0^{2\pi} \frac{d\theta}{a+b\cos\theta}$, where $a > b > 0$.