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MA 425/525
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Homework 5

Due October 18th on paper at the beginning of class. Justify your answers. Please let me know if you have a question or find a mistake. The book is `https://archive.org/details/complex-variables-2ed-dover-1999-fisher/page/n23/mode/2up`.

- Section 2.3 (pages 116 and 117) # 2, 6, 10 (but for this one replace $6+2i$ by $1+4i$ to make the calculation nicer and simplify your answer), 13.
- Section 2.4 (page 133) # 11, 13, 23.

Hints: For 2.3.10, to simplify it is helpful to use $a^2-b^2=(a+b)(a-b)$ and note the difference of Args has a nicer form than either of the Args alone. For 2.3.13, there is a hint below Figure 2.8. [1]

[1] You are not required to verify that $\sin x \geq 2x/\pi$ for $x \in [0,\pi/2]$, but in case you are curious, one way to do this is to let $g(x)=\sin x - 2x/\pi$, and show that 1) $g(0)=g(\pi/2)=0$, 2) $g'(0)>0$, 3) g' has only one root in $[0,\pi/2]$.