

MA 713
Reading and Exercises
Week ending February 16

Reading:

Class 12 (2/12): Ahlfors pp. 109–114

Class 13 (2/14): Ahlfors pp. 114–118

Class 14 (2/16): Ahlfors pp. 118–120

Exercises to be submitted for grading on Friday, February 23:

Class 12 (2/12):

Additional Exercise 3: In the proof of the third version of Cauchy's Theorem, we used the estimate

$$\int_{\partial S} \frac{|dz|}{|z - a|} \leq 8$$

for any square S centered at the number a . Verify this estimate.

Class 14 (2/16):

Ahlfors Exercises 2 and 3 on p. 120

Additional Exercise 4: Suppose that $f(z)$ is analytic on the disk $|z| < 1$ and that it satisfies the inequality $|f(z)| \leq 1$ over the entire disk. How large can $|f'(0)|$ be? Why is your answer the best possible estimate?