

# Problem Set 1 (§1.1.1–2.2.4)

Math 660

Due Monday, June 27, 2011

Jim Fowler

## Feel free to do additional problems

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The listed homework is a *lower bound* on the number of problems you should be doing: doing more homework is a great idea! It is also a good idea to do more than just the problems from the book: try your hand at inventing your own problems! Try to push the limits of the techniques we learn. See what you can do with the mathematical machinery.

## Show Work

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When you “solve” a problem, the goal is not merely to give a correct answer! Each problem has a story, and you should *tell the story* by clearly explaining your argument.

### Problem 1

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Page 16, problem 2 in Ahlfors’ *Complex Analysis*.

### Problem 2

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Page 20, problem 2 in Ahlfors’ *Complex Analysis*.

### Problem 3

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Page 20, problem 1 in Ahlfors’ *Complex Analysis*.

### Problem 4

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Page 16, problem 4 in Ahlfors’ *Complex Analysis*.

### Problem 5

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Page 28, problem 3 in Ahlfors’ *Complex Analysis*.

## **Problem 6**

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Page 28, problem 4 in Ahlfors' *Complex Analysis*.

## **Problem 7**

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Page 32, problem 2 in Ahlfors' *Complex Analysis*.

## **Problem 8**

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Page 32, problem 3 in Ahlfors' *Complex Analysis*.

## **Problem 9**

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Page 33, problem 6 in Ahlfors' *Complex Analysis*.

## **Problem 10**

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Page 32, problem 4 in Ahlfors' *Complex Analysis*.

## **Problem 11**

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Page 32, problem 1 in Ahlfors' *Complex Analysis*.

## **Problem 12**

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Page 37, problem 5 in Ahlfors' *Complex Analysis*.

## **Problem 13**

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Page 37, problem 5 in Ahlfors' *Complex Analysis*.