## AMATH 567

## Methods of Applied Mathematics: Complex Variables Bernard Deconinck

## Autumn 2015

## Homework 4

Due: Wednesday, October 28, 2015

- 1. From A&F: 2.4.7
- 2. From A&F: 2.4.8
- 3. From A&F: 2.5.1
- 4. From A&F: 2.5.5
- 5. From A&F: 2.5.6
- 6. Now that you've done 2.5.6, use a similar method to calculate  $\int_{-\infty}^{\infty} \frac{dx}{1+x^4}$ . Can the same method be used to calculate  $\int_{-\infty}^{\infty} \frac{dx}{1+x^n}$ , where  $n \geq 2$  is an integer?
- 7. From A&F: 2.6.1
- 8. From A&F: 2.6.7