

## MATH2060B Exercise 8

**Deadline:** Mar 17, 2015.

The questions are from Bartle and Sherbert, *Introduction to Real Analysis*, Wiley, 4th edition, unless otherwise stated.

**Section 8.1** Q.1, 2, 8, 11, 12, 18, 22, 23, 24

### Supplementary Exercise

1. Find the pointwise limits of the following sequences of functions on  $\mathbb{R}$ , and determine, in each case, whether the convergence of the sequence of functions is uniform on  $\mathbb{R}$ .

(a)  $\frac{\cos 5x}{n + x^2}$

(b)  $\frac{|x|}{n^2 + x^2}$

(c)  $(\cos \pi x)^{2n}$