

**Percolation and related topics III****Pass in scripts by Thu 20 Jan 2011****Class: Wed 2 Feb 2011, 3pm, MR12****NOTE CHANGE OF DAY OF CLASS**

Exercises will be taken mostly from my book *Probability on Graphs*, published by Cambridge University Press in 2010, and available online at

<http://www.statslab.cam.ac.uk/~grg/books/pgs.html>

This set of exercises is extracted from the ends of Chapters 5, 7, 8.

1. *Boundedness of crossing probabilities.* Exercise 5.6.
2. *FKG for Ising model.* Exercise 7.3.
3. *Russo formula for random-cluster model.* Exercise 8.1.
4. *FKG for random-cluster model.* Exercise 8.2. The expression ‘continuation’ is misleading and should be overlooked
5. *BK inequality for random-cluster measures?* Exercise 8.4.
6. *Weak limits as  $q \rightarrow 0$ .* Exercise 8.6 (but omit the last sentence).
7. *Comparison inequalities.* Exercise 8.7.
8. *Random-cluster critical points.* Exercise 8.12.
9. *Profit from the vacation!*