

Homework 4 - Math 580, Frank Thorne (thornef@mailbox.sc.edu)

Due Friday, October 18

- (1)
- (2) Dudley p. 55-56: 13, 16, 18.
- (3) Dudley p. 61-62: 1 (just the first pair), 4, 5, 12.
- (4) Dudley p. 71-72: 3, 5, 7, 8, 12, 14, 15, 16, 17, 20.

Bonus problems:

- (1) Dudley: p. 57, 17, p. 62, 14, 15.
- (2) How many n are there with $\phi(n) = 100$? It will be hard to find the exact number, so instead *prove an upper bound*.
- (3) Find an n with $\sigma(n) > 5n$. (You will probably want to use a calculator or a computer, and beware that blind trial and error will not be very helpful: the smallest solution has 41 digits.)