Due Friday, October 18

(1)


(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:**


(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.)