Please answer the questions below. I prefer to have your file scanned and saved as a single pdf and submitted to Blackboard.

Name the pdf file: `hw09_math413_lastname.pdf` with "lastname" of course replaced by your last name.

1. Section 8.1, Exercise 1, part (d).

2. Section 8.1, Exercise 3.

3. Prove that $f_n(x) = \frac{x^n}{n}$ converges uniformly to $f(x) = 0$ on $[0, 1]$.

4. Section 8.2, Exercise 5.