Assignment 13

No need to hand in any problem.

Section 9.3 no. 1(b)(d), 7, 8(a)(c), 14.

Section 9.4 no. 5, 6(a)(c), 11, 12.

Supplementary Exercise

1. (a) Let $f(x) = \sum_n a_n x^n$ whose radius of convergence at 0 is positive. Show that

$$a_n = \frac{f^{(n)}(0)}{n!} \ .$$

   (b) Assume that the two power series $\sum_n a_n x^n$ and $\sum_n b_n x^n$ are convergent and equal on $(-r, r)$ for some non-zero r. Show that they are identical, that is, $a_n = b_n$ for all n.