

Turn in starred problems Thursday 09/10/2009.

Multiple-page homework must be STAPLED when handed in.

Section 4.2:

- 1 (a), (d), *(e), (g), *(k)
- 2 (b), (d), *(e)
- *6
- 3 (a), (e), (i), *(m)
- 7 (a), *(f), (i), (j)

Hints and remarks: (a) For the problems of 4.2.1 I find it convenient to use the ratio or root test directly to determine for what values of x the series converges, rather than use the formulas (7a) or (7b). These work but some care is needed; for some problems you will need to use the trick of Example 4.

(b) I have listed problem 4.2.6 before problem 4.2.3 because 4.2.6 teaches us an important lesson about finding Taylor series: it is frequently easiest to get a Taylor series starting from some other Taylor series that one knows, rather than using formula (16) on page 181. For example, in 3(a) it helps to write $e^x = e e^{x-1}$. For 3(m) one should start from formula (6.2), page 192.