

MATH 2400 Revision

* review assignments

* review mid-semester

* old exams

* Note for 2003: skip 9, 6.

Additional questions:

① Show that the equations

$$2e^x + yu - 4v + 3 = 0$$

$$y \cos x - 6x + 2u - w = 0$$

can be solved for functions

$x = f_1(u, v, w)$, $y = f_2(u, v, w)$ in a small ball with centre $(3, 2, 7)$ such that $f_1(3, 2, 7) = 0$, $f_2(3, 2, 7) = 1$.

② Calculate Maclaurin series of $\sin 2x$, $\cos 2x$, e^{2x} , $\log(1+2x)$. Give the radius of convergence in each case.

③ what is the maximum error when approximating e^x by $1 + x + \frac{x^2}{2}$ for $|x| < 1$?

④ classify as ^{abs:} convergent, conditionally convergent or divergent: $\sum_{n=1}^{\infty} \frac{n! a^{n-1}}{n^2 + 1}$