

Math 222 Quiz 4

Feb 23, 2011

Your Name:

Your Section:

Instructions: You have 20 minutes to solve the following problems and the total score is 10 points.

1. Write out the Taylor series about $a = 0$ for **any two** (no need to explain)(4 pts):
 $\bullet \cos x \quad \bullet \sin x \quad \bullet e^x \quad \bullet \ln(1+x) \quad \bullet \frac{1}{1-x}$
2. Find the Taylor series of $f(x) = \frac{2+x}{1-x}$ about $a = 0$ (3 pts)
3. Estimate the error if we use $p(x) = 1 + x/2$ to approximate $f(x) = \sqrt{1+x}$ when $|x| < 0.01$ (3 pts)

Bonus: Find the Maclaurin series for $f(x) = \int_0^x t^2 e^{2t^2} dt$ (2 pts)