Math 222 Quiz 6
October 21, 2010

Instructions: Time is 20 minutes and the total score is 10 points.

1. Find the radius of convergence for the series \( \sum_{n=1}^{\infty} \frac{(x-1)^n}{\sqrt[3]{n^3}} \). For what values of \( x \) does the series converge? (4 pts)

2. (a). Find the Taylor series generated by \( f(x) = x^3 - 2x + 4 \) at 2 (2 pts)
   (b). Find the Maclaurin series expansion of \( f(x) = \frac{1}{x^2+16} \) (4 pts)
   Hint: Use the expansion for \( \frac{1}{x+1} \). Here you should factor 16 out and replace \( x \) with a suitable expression.