Math 173 - Quiz 1

January 28, 2010

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary.

---

1. (4 points) Find the 4th Taylor polynomial for $f(x) = \dfrac{1}{x}$ centered at $x = 1$.

2. (2 points) Use your calculator to find the 3rd Maclaurin polynomial for $f(x) = \dfrac{\sin x}{x + 3}$. Write down your result and use it to approximate $f(0.125)$. Round your answer to the 7th decimal place.

3. (4 points) Determine the interval of convergence of the power series $\displaystyle\sum_{n=1}^{\infty} \dfrac{(x - 2)^n}{n^2 5^n}$.