QUIZ 3

NAME: _______________________________________

Problem 1: Assume $f$ is continuous and piecewise smooth. Let $c_n$ be the Fourier coefficient of $f$, write down the Fourier coefficient $c'_n$ of $f'$.

Problem 2: Assume $\sum_{n=-\infty}^{\infty} |c_n|$ is convergent, then $\sum_{n=-\infty}^{\infty} c_ne^{in\theta}$ is uniformly convergent.

The above statement is (a) true (b) false. Circle the correct answer.

Problem 3: Circle all the correct answers. The Fourier series $\sum_{n=1}^{\infty} \frac{\cos(2n-1)\theta}{(2n-1)^2}$ is

(a) convergent for every $\theta \in [-\pi, \pi]$
(b) divergent for some $\theta \in [-\pi, \pi]$
(c) uniformly convergent for every $\theta \in [-\pi, \pi]$