Math 132
Worksheet 9 – March 27, 2012

Name _____

Useful notation: $A_n = \sum_{i=1}^{n} a_i, \quad R_n = \sum_{i=n+1}^{\infty} a_i.$

1. Show that $\sum_{i=1}^{\infty} \left(1 + \frac{1}{i^4}\right)$ diverges.

2. Show that $\sum_{i=1}^{\infty} \frac{1}{1 + i^4}$ converges.

3. Show that $\displaystyle\sum_{i=1}^{\infty} \frac{1}{i^4 - 100}$ converges.

4. Show that $\displaystyle\sum_{i=1}^{\infty} \frac{1}{i + \sqrt{i}}$ diverges. (Assume any results from the quiz.)