MAT 142
Problem Set #10

due in class on April 14, 2005

1. Apostol, section 10.23 # 1, 2, 3, 10, 19
2. Apostol, section 11.7 # 2–8
3. Let $\sum_{k=0}^{\infty} u_k(x)$ and $\sum_{k=0}^{\infty} v_k(x)$ be uniformly convergent series. Prove that for any real numbers, a and b, the series $\sum_{k=0}^{\infty}(au_k(x) + bv_k(x))$ is also uniformly convergent.