

## MATH 3162 Homework Assignment 4

**Instructions:** Solve and turn in all of the assigned problems, showing ALL steps or reasoning used in your solutions.

---

Due on Monday, February 11th, at the BEGINNING of class.

Abbott: 6.2.3(a,b,c) ONLY for  $g_n$  (For (b), you do not need to use the definition, you should have a simple reason why the convergence cannot be uniform. For (c), use  $(2, \infty)$  as your set)

6.3.2(a,b), 6.4.5(a, b)

**Extra problems for graduate students:**

Abbott: 6.3.4 (hint for showing divergence of derivatives: prove that  $\forall x, \cos(nx)$  does not converge to 0 as  $n \rightarrow \infty$ )

6.3.7, 6.4.1