

Name : _____ Partners : _____

INSTRUCTIONS :

1. Write the names of you and your partners.
2. Write all intermediate steps, and circle the answers.
3. Answers given without sufficient work to support them may NOT receive credit.
4. Every member of a group should turn in the lab report stapled with this paper on top.

1. Do #5 on page 324.

2. Do #6 on page 324.

3. Do #10 on page 336.

4. Do #3 on page 348.

5. Do #11 on page 362.

6. Prove the following error estimate of the quadratic interpolation on equally spaced nodes $x_0, x_1 = x_0 + h, x_2 = x_0 + 2h$. (Refer to Example 5 in Section 6.1 during the lecture.)

$$\|f - p_2(x)\|_\infty \leq \frac{M_3}{9\sqrt{3}} h^3$$

where $M_3 = \|f^{(3)}\|_\infty$

7. Prove that $S_m^m(\Delta) = \mathcal{P}_m$.