

MATH 321-01 (151)

HW # 3

Due Oct. 8, 2015

|      |    |    |   |   |   |    |
|------|----|----|---|---|---|----|
| x    | -2 | -1 | 0 | 1 | 2 | 3  |
| f(x) | -5 | 1  | 1 | 1 | 7 | 25 |

Q1. Using all of the above data, find the Lagrange interpolating polynomial

Q2. Find the divided differences table for the above data.

Q3. Use the table to construct the interpolating polynomial of the above data

Q4. What is your observation on part (1) and (3). Explain.  
(Hint: write all polynomial in the standard form)