MATH 371-03 (181)
HW # 4
Due Oct. 21, 2018

Q1. Determine the parameters a, b, c, d and e so that S is a natural cubic spline

$$S(x) = \begin{cases} a + b(x-1) + c(x-1)^2 + d(x-1)^3 & x \in [0,1] \\ (x-1)^3 + ex^2 - 1 & x \in [1.2] \end{cases}$$

Q2. Determine the coefficients so that the function

$$S(x) = \begin{cases} x^2 + x^3 & 0 \le x \le 1 \\ a + bx + cx^2 + dx^3 & 1 \le x \le 2 \end{cases}$$

is a cubic spline and has the property $S'''(x) = 12$.