

Numerical Analysis
Homework Assignments

Section	Page	Assignments	Due
1.1	11	1a, 2b, 3c, 5, 9	
1.2	25	1d, 2b, 4b, 5, 7, 10, 19	
1.3	35	1b, 2, 6a, 6c, 7a, 7c, 10, 14, 15	
2.1		Implement the Bisection method using a computer language and test it on $f(x)=x^2-2$, $[0,2]$, with a tolerance of 0.0001	
2.2	63	1a, 5, 10, 13, 23	
2.3	74	2, 3a, 5 (use a program), 7, 13b, 13c	
2.4	84	1a, 1b, 3a, 3b, 7, 8, 10	
3.1	112	1b, 3a, 11, 15 (Mathematica), 23	
3.2	120	1a, 3a, 5	
3.3	130	8 (write a program that outputs the coefficients and a program to graph the points and the poly.)	
3.4	139	1, 3 (write a program, graph the polynomial.)	
3.5	158	3d, 5d	
4.1	180	1b, 3b, 5a, 7a, 20	
4.2	189	1b, 2b, 3b, 4b, 5, 8, 11	
4.3	200	1c, 3c, 5c, 7c, 19	
4.4	208	1e, 3e, then use interval doubling to approximate the integral using these two methods accurate to 0.00001.	
4.5	217	5a, 5e, 11 (write a program that outputs the Romberg table), 15.	
4.6	226	1b, 3b, 5b, 7, 9 (a program might be helpful)	
4.7	234	1b, 3b, 5b, 7b, 11, write a composite Gaussian Quadrature that has the limits of integration, the number of nodes, a tolerance and a maximum number of interval splits as inputs and a two column table of interval splits and the approximations as output. Test it on problem 2a accurate to 10^{-8} .	