

Math 473/573

Fall 2016

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## Homework 3

1. Textbook problem 2.5.5 (non-uniqueness). Answer items a and b.
2. Textbook problem 2.7.3 (potentials).
3. Textbook problem 2.7.6 (potentials). Use  $r = 0, 1, 2, -1, -2$ . Use a numerical method to approximate the roots of the cubic polynomial (if they exist) if you cannot solve them analytically. Make sure your numerical roots are good enough approximations to the real ones. State how do you calculate the error and what error tolerance you are using.