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Mathematics Department

Math 330

HW2

Student name: ………………………… ID no.: …… sec……..

consider the equation

1. For
2. Show that has aunique fixed point in
3. Show why the fixed point iteration converges in the given interval
4. Estimate the fixed point with error , starting with = 3.
5. Find the number of iterations(theoretically) to get the same accuracy above.
6. Consider the equation

1-Find a fixed point function and an interval [ that contains a unique fixed point of . Show your claim(existance and uniqueness).

2- start with in the interval and estimate the root with 5 significant digits.

1. (a) Use false position method to estimate the same root of the above equation (two iterations),=2, =4

(b) Use secant method to estimate the same root of the above equation (two iterations),=2, =4