

MATH 373: CLASS 4

1. EXERCISE

1) Section 2.1 , problem 3.

2) Section 2.2 , problem 3.

3) a) Use the theorem 2.3 to show that the sequence defined by

$$x_n = \frac{x_{n-1}}{2} + \frac{1}{x_{n-1}}, \text{ for } n \geq 1,$$

converges to the unique fixed-point whenever $x_0 > \sqrt{2}$.

b) Find the fixed-point of the above sequence whenever $x_0 > \sqrt{2}$.