

# (Math 170) Homework 8:

Due November 29, 2007

All exercises are from “The Heart of Mathematics” text book.

Exercise 1: Go to:

<http://math.bu.edu/DYSYS/applets/Quadr.html>

And print out 3 different looking Julia Sets (These are the pictures on the left. Click on Compute to compute the Julia set)

Exercise 2: Chapter 6.4 Exercise 3

Exercise 3: Chapter 6.4 Exercise 7

Exercise 4: Chapter 6.4 Exercise 8

Exercise 5: Chapter 6.4 Exercise 12-15

Exercise 6: Chapter 6.4 Exercise 38

Exercise 7: Chapter 6.5 Exercise 9

Exercise 8: Chapter 6.5 Exercise 38. In addition to drawing the first 10 iterations work out numerically what they are (the starting point is  $x = 0.2$ )

Exercise 9: Find values of  $x$  (to 3 decimal places) such that

(a)  $2^x = 4$

(b)  $3^x = 6$

(c)  $4^x = 8$

(d)  $5^{x^2} = 25$

Exercise 9: Chapter 6.6 Exercise 15