

Homework 5

This homework is due by 6PM on Friday 2/11/11. You are encouraged to work on the problem sets as a group, but each student must hand in their own problem set.

1 Equations which reduce to quadratic equations

Read examples 3, and 4 of Chapter 2.2 of the textbook (pages 94-100) and do problems 16, 18, 26, 28, 30.

2 Quadratic functions (continued)

Textbook Questions: Section 4.5: 2, 4, 6, 10

3 Power functions/Higher order polynomial

Textbook Questions: Section 4.6: 6, 10, 12

For each of the functions defined in the following problems (see below), ignore the textbook question but instead (a) State whether the function is fully factored, and if not, factor it further (b) Determine the x - and y -intercepts, (c) Draw a signs table, (d) Determine the behavior of the function near *each* of the x -intercepts, (e) Determine the behavior near infinity (i.e. say $f(x)$ goes to ... as x goes to $-\infty$ and $f(x)$ goes to ... as x goes to $+\infty$) and finally (g) *Sketch* the function given all of this information. Note that you can easily check all your answers using a graphing calculator, so you should!

Textbook Questions: Section 4.6: 28, 30, 32, 34, 36, 38, 40.