

Duke Math 431
Spring 2015

Homework 4

Due Friday, February 6

Reading. Sections 2.5 and 2.6.

Problems.

Section 2.1: #7.

Section 2.2: #1(d), 4, 6, 7, 8.

Hint: For #6, let $p(x)$ be the arbitrary polynomial $p(x) = b_mx^m + \dots + b_1x + b_0$.

Section 2.4: #1, 6, 7, 13.

Reflection. *Please put on a separate piece of paper.*

Write 10 sentences minimum on any topic or two related to the class so far. Here are some possible topics:

- Describe a result that you've found particularly surprising or counterintuitive. Why did you find it counterintuitive at first?
- Explain a proof that you've found particularly creative. Why is it creative?
- What's a topic in this class that you're struggling to understand? What do you think are possible sources of your confusion?
- Discuss overall trends of the course by tying different concepts together.
- Present a proof or a problem not assigned for homework. Why do you find this problem interesting?
- How are your study habits for the class so far? Do you have goals for improving them?

Don't write on all of these topics — pick one or two of them, or alternatively any other topic of your choosing related to our class.