

**Modern Algebra**  
**MATH 325W – Spring 2015**

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Monday: Chapter 9: PIDs  
Wednesday: Chapter 9: PIDs  
Friday: Chapter 10: Algebraic Elements

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**Week 7**

HOMEWORK

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**Homework #11**

**due Tuesday, March 3**

Ch. 8: #8, 9

Ch. 9: #7

*Hint: GCD!*

Extra #1: Define  $I = \{p(x) \in \mathbb{R}[x] : p(0) = 0 \text{ and } p'(0) = 0\}$  where  $p'(x)$  denotes the usually derivative of  $p(x)$ . Show that  $I$  is an ideal of  $\mathbb{R}[x]$ .

**Homework #12**

**due Friday, March 6**

Ch. 9: #9

Ch. 10: #8, 10

Extra #1: Define  $I = \{p(x) \in \mathbb{R}[x] : p(0) = 0 \text{ and } p'(0) = 0\}$  where  $p'(x)$  denotes the usually derivative of  $p(x)$ . Show that  $I$  is a **principal** ideal of  $\mathbb{R}[x]$ . *Note: you already proved that it is an ideal.*

WRITING ASSIGNMENTS

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On writing assignments, part of your grade will reflect the quality of your *style*. Style includes everything from the basic mechanics of writing (complete, grammatically correct sentences with capitalization and proper punctuation) to the conventions of writing mathematics developed in Linear Algebra.

**Writing Assignment #6**

**due Wednesday, March 4**

Ch. 7: #25

Ch. 8: #41

Ch. 9: #8