MTH 510

Homework 5
Due: Feb. 21, 2018

Chapter 2: 8, 11, 14, 16, 17

Additional homework (suggestion: do these before the book homework):

1. Show that $(z(z-1)(z-2), z(z-1), z, 1)$ is a basis for $\mathcal{P}_3(\mathbb{F})$.
2. Which of the following lists of vectors in $\mathbb{R}^3$ is a basis for $\mathbb{R}^3$?
   (a) $((3,2,1),(0,4,2),(0,0,1))$
   (b) $((3,2,1),(5,1,1))$
   (c) $((1,4,3),(2,0,2),(1,0,0),(-4,-2,1))$
   (d) $((3,2,1),(0,4,2),(6,8,4))$
3. Extend $((1,1,1,1),(2,0,1,1))$ to a basis for $\mathbb{R}^4$.
4. Reduce $((3,1),(6,2),(5,0),(1,4))$ to a basis for $\mathbb{R}^2$.