

Math 115AH Linear Algebra. Homework 2

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Due Friday, October 9.

Problems from Hoffman-Kunze:

Section 2.2: 2, 4, 5, 6, 7, 8, 9.

Section 2.3: 2, 3, 4, 5, 7, 9, 11.

(1) (We proved some of this in class, but please write out the following proofs.)

Let F be a field. Show that $0 \cdot a = 0$ for all $a \in F$. Show that $(-1)a = -a$ for all a in F . Show that

$$\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$$

for all a, b, c, d in F with b and d not zero.