Math 417: Homework 1
Due Friday, January 26, 2018

The problems from Goodman’s text refer specifically to edition 2.6 of Algebra: Abstract and Concrete.

1. Goodman 1.3.1.

2. Goodman 1.4.2. Do the first part: find the matrices that implement the symmetries of the equilateral triangle. The second part (the sentence that begins “Verify that the products…”) is optional (and will not be graded).

3. Goodman 1.5.1.

4. Goodman 1.5.3.

5. Goodman 1.5.5.

6. Goodman 1.10.5. In case it is not clear, in this problem $d(x, y)$ denotes the usual Euclidean distance between two points $x = (x_1, x_2, x_3)$ and $y = (y_1, y_2, y_3)$ in $\mathbb{R}^3$:

$$d(x, y) = \sqrt{(y_1 - x_1)^2 + (y_2 - x_2)^2 + (y_3 - x_3)^2}.$$