

HWK #9, DUE WEDNESDAY DECEMBER 10TH

6.4: 4, 10

6.5: 4, 6, 8, 10, 14

7.1: 8, 14, 19

Just for fun:

Let A be an orthogonal matrix. Show that the determinant of A is ± 1 .

Let $f: \mathbb{R}^n \rightarrow \mathbb{R}^n$ be a linear map and let A be the associated $n \times n$ matrix. We say that f is a **rotation** if A is orthogonal and the determinant of A is 1.

Show that every rotation in \mathbb{R}^3 has an axis.