

Fall, 2014

MATH 3500(H)
PROBLEM SET #8

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DUE Wednesday, October 15, 2014.

Problems to work but not hand in:

§3.5: #7a.

§3.6: #2a,b.

§4.1: #2, 3b,f, 6a, 8, 9, 10, 14, 18a,b,e.

Problems to turn in:

WeBWork Homework 8

§3.5: #2 (2), 4 (3), 6 (2).

§3.6: #1 (3).

A. (3) By solving an appropriate system of equations, find all the unit vectors $\mathbf{x} \in \mathbb{R}^3$ that make an angle of $\pi/4$ with $\begin{bmatrix} 0 \\ 1 \\ 1 \end{bmatrix}$ and an angle of $\pi/3$ with $\begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}$.

§4.1: #3g (3), 15 (3), 17* (3), 18c,d,f (3).

Challenge problems (Turn in separately):

§3.5: #11 (3), 14 (4), 15 (6), 16 (2).

§3.6: #7[†] (4), 8 (1), 9 (2), 11 (3).

*For part b, first treat the case that B is singular; then suppose B is nonsingular and A is singular.

[†]Particularly recommended for physics and engineering majors.