

Homework 3–21-241, Matrices and Linear Transformations

Name: _____
Section: _____

Instructions: Complete the following problems, clearly labeling the problems. Staple this sheet, with your name and section filled in, to the top of your work. Failure to attach this sheet will result in a one point deduction in the grade. The assignment will be graded out of ten points.

DUE: FRIDAY, OCTOBER 2, 2015

Book Problems

- Section 2.4: 4, 12, 16, 20
- Section 2.5 (you may use a calculator for this section only): 4, 6, 10, 12, 22, 24
- Section 3.1: 6, 10, 14, 16, 18, 22, 38
- Section 3.2: 8, 10, 14, 18, 19, 40
- Section 3.3: 14, 34, 36, 38, 42, 43, 52, 54
- Section 3.4: 4, 10, 29, 30

Other Problems

1. Determine for which values of a the matrix

$$A = \begin{bmatrix} 1 & 1 & 0 \\ 1 & 0 & 0 \\ 1 & 2 & a \end{bmatrix}$$

has an inverse and calculate A^{-1} for these values of a .

2. Use the Gauss-Jordan process to find the inverse of a 2×2 matrix

$$\begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

where $ad \neq bc$. Show that if $ad = bc$, then A is singular.