

Homework Assignment 1  
Due Monday, September 1

Section 1.1: Vectors

Problems: 1, 4, 5, 8, 9, 10, 11, 15, 19, 20, 21, 22

Section 1.2: Length

Problems: 1, 2, 4, 6ab, 7, 8, 12, 13, 16, 18, 19

Homework Assignment 2  
Due Wednesday, September 3

Section 1.3: Planes

Problems: 1, 3, 4, 6, 11, 12, 18, 19

Homework Assignment 3  
Due Friday, September 5

1.4: Matrices and Linear Equations

Problems: 1, 5, 6, 9, 11, 12, 16, 26

Homework Assignment 4  
Due Monday, September 8

2.1 The Idea of Elimination

Problems: 3, 4, 5, 11, 13, 19, 20

Homework Assignment 5  
Due Wednesday, September 10

2.2 Elimination using Matrices

Problems: 1, 3, 5, 10, 11, 13, 14, 15, 17, 18, 23

Homework Assignment 6  
Due Friday, September 12

2.3 Rules for Matrix Operations

Problems: 1, 3, 5, 6, 7, 8, 9, 12, 13, 21, 23, 32

Homework Assignment 7  
Due Monday, September 15

2.4 Inverse Matrices

Problems: 1, 2, 3, 6, 7, 9, 10, 11, 13, 20, 21, 23, 29

Homework Assignment 8  
Due Wednesday, September 17

2.5 Elimination = Factorization  $A = LU$

Problems: 1, 2, 3, 5, 11, 12

Homework Assignment 9  
Due Friday, September 19

2.5 Elimination = Factorization  $A = LU$   
Problems: 11, 12

2.6 Transposes  
Problems: 1, 2, 4, 5, 7, 8

Homework Assignment 10

Due Monday, September 22

## 2.6 Transposes and Permutations (again)

Problems: 9, 11, 14, 15, 16, 19, 21, 32, 33

Homework Assignment 11  
Due Wednesday, September 24

## 3.1 Spaces of Vectors

Problems: 1, 4, 5, 6, 7, 10, 11, 19, 20

Remember:

The first exam is Monday, September 29.  
A practice exam will be made available on Wednesday.

Homework Assignment 12  
Due Monday, September 29

## 3.1 Spaces of Vectors

Problems: 19, 20, 22, 23, 25, 27, 28

You may hand in assignment 11 on Monday, as well.

Homework Assignment 13  
Due Friday, October 3

## 3.2 The Nullspace of A: Solving $Ax = 0$

Problems: 1, 2, 3, 5, 6, 11, 13, 14, 21, 23, 30

Homework Assignment 14  
Due Monday, October 6

### 3.3 The Rank of A

Problems: 2, 3, 6, 7, 9, 13, 15, 20, 24, 29

Homework Assignment 15  
Due Wednesday, October 8

### 3.4 Independence, Basis, and Dimension

Problems: 1, 2, 3, 7, 8, 11

Homework Assignment 16  
Due Friday, Oct 10

### 3.4: Independence, Basis, and Dimension

Problems: 13, 14, 16, 17, 21, 24, 27, 29, 32

Homework Assignment 17  
Due Monday, October 13

### 3.5 Dimensions of the Four Subspaces

Problems: 1, 2, 3, 7, 12, 14

Homework Assignment Number 18  
Due: Wednesday Oct 15, 1997

Section 3.4 and 3.5: Bases and Four Subspaces  
Problems: (3.4) 33,34 (3.5) 18, 20, 21, 25

Homework Assignment Number 19  
Due: Friday Oct 17, 1997

Section 4.1: Orthogonality of the Four Subspaces  
Problems: 3, 8, 13, 14, 15, 16, 17, 20, 21, 24

