1 Exercise

1.1 Introduction of the exercise

- name of the course: Linear Algebra I/Recitation
- instructor: same as lecture
- TA: Hiroki Murakami (email: murakami.h.ah@m.titech.ac.jp,room: H316)

About exercise

- to practice on examples what we have learned during the lectures

Grading

- one grade together for class and exercise

Midterm exam Final exam	60 points
Homework	10 points
Exercise tests	30 points

- Exercise tests
  - 5 short tests
  - grade is calculated by averaging 4 best tests
  - 10-15 min
  - if you cant do short tests it indicates you dont understand the lecture

Publishing of materials

- on OCW-i
- examples, solutions

1.2 Length and Angle: The Dot Product

- linear combination, coefficients of linear combination, coordinates
- the dot product and its properties
- length (norm) and its properties
- unit vectors, normalizing a vector
- The Cauchy-Schwarz Inequality
- The Triangle Inequality
- Distance
- Angles

- Orthogonal Vectors
- Pythagoras' Theorem

1 Homework

(a) Algebraical proof of statements (b) to (h) in Theorem 1.1.

(b) Algebraical proof of statements (b) to (d) in Theorem 1.2.

(c) The following exercises from the section Exercise 1.1 on page 16.
12, 17, 21, 25–28

(d) The following exercises from the section Exercise 1.2 on page 29.
2,3,8,9,14,15,17,24,25,52,55,59,63,66