



Norwegian University of Science  
and Technology  
Department of Mathematical  
Sciences

# MA1201 Linear Algebra and Geometry

## Exercise set 12

### Glossary

Engelsk	Norsk
conic section	kjeglesnitt
hyperbola	hyperbel
parabola	parabel
ellipse	ellipse
quadratic form	kvadratisk form

### Compulsory exercises

Hand in your solutions to these exercises. All answers must be justified.

#### Chapter 7.1 - Orthogonal matrices

**Exercise 1** Do exercise 2 in chapter 7.1 of Elementary Linear Algebra.

**Exercise 2** Do exercise 26 in chapter 7.1 of Elementary Linear Algebra.

#### Chapter 7.2 - Orthogonal diagonalization

**Exercise 3** Do exercise 12 in chapter 7.2 of Elementary Linear Algebra.

**Exercise 4** Do exercise 19 and 20 in chapter 7.2 of Elementary Linear Algebra.

#### Chapter 7.3 - Quadratic forms

**Exercise 5** Do exercise 11 and 12 in chapter 7.3 of Elementary Linear Algebra.

**Exercise 6** Do exercise 15 in chapter 7.3 of Elementary Linear Algebra.