

YOUR PROJECT TOPIC

YOUR NAME

ABSTRACT. Write a brief summary of your paper here.

INTRODUCTION

Make an introduction. Tell what you will do in the sections of your paper.

1. FIRST SECTION

You can give an equation like this

$$(1.1) \quad \alpha = \begin{cases} \frac{\sqrt{d_K}}{2} & \text{if } d_K \equiv 0 \pmod{4} \\ \frac{\sqrt{d_K+1}}{2} & \text{otherwise} \end{cases}$$

This element α is an algebraic integer since it is a root of a monic polynomial with integer coefficients.

Theorem 1.1. *Let K be a quadratic extension and let $w = (\sqrt{d_K} + d_K)/2$. Then*

$$\mathcal{O}_K = \mathbf{Z}[w].$$

Proof. A proof this can be found in [3, Chap. 2]. Or you can refer to the previous equations such as the equation (1.1). Do this by labels not with numbers! \square

Observe that we can define \LaTeX commands in the beginning of our tex file not to repeat common expressions. For example we can use `\ok`, instead of the longer expression `\mathcal{O}_K`. Please analyse the file `sample.tex`.

2. SECOND SECTION

You can refer to your previous results by labels as well. For example, a corollary of Theorem 1.1 is the following.

Corollary 2.1. *Any quadratic extension has a power basis.*

3. THIRD SECTION

This is another section. After this section you see the bibliography. Each item has a label too. Please add your own references. You may use `mathscinet`.

REFERENCES

1. K. Ireland, M. Rosen, *A Classical Introduction to Modern Number Theory*. Second edition. Graduate Texts in Mathematics, 84. Springer-Verlag, New York, 1990.
2. S. Lang, *Elliptic Functions*. Second edition. Graduate Texts in Mathematics, 112. Springer-Verlag, New York, 1987.
3. D. A. Marcus, *Number fields*. Universitext. Springer-Verlag, New York-Heidelberg, 1977.
4. L. C. Washington, *Introduction to cyclotomic fields*. Second edition. Graduate Texts in Mathematics, 83. Springer-Verlag, New York, 1997.