

## 5. Teacher's Comments (English)

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- [00:00:29](#) Presupposition: The multiplication of brackets in calculus is well known. The transparency (page 1 Resources) gives an overview of the topic. In the last lesson we discovered on the basis of fractions, why factorizing is useful (page 2 Resources).
- Goal: Today we will see that with appropriate factorizing we can already solve quadratic equations (it's actually a topic of the following school year). First we correct the homework (page 3 Resources).
- Class: It's a special scientific class. The majority of this class will major in economics, biology and chemistry or physics and mathematics during their school education.
- Classroom Environment: I operate with an overhead projector, because problems with my shoulders make the handling of the blackboard more difficult for me.
- [00:00:33](#) I am the homeroom teacher of this class. During the break I already settled administrative class affairs with individual students.
- [00:02:23](#) Correction of homework (page 3 Resources).
- [00:04:36](#) The small additional difficulty with the sign immediately raises questions. For this reason I first explain the procedure very slowly and in detail.
- [00:06:54](#) The discussion of the solutions of A-D is very detailed, and that of 3-4 rather brief. In the first steps I have to slow the students down, so that they get used to working carefully.
- [00:10:23](#) Some students often make copying mistakes, therefore I insist on this point.
- [00:11:18](#) In the following part of the lesson, the students compile the solutions of the quadratic equations step by step (page 4 Resources). On the worksheet, only the problem statement is set.
- [00:13:38](#) This student was absent in the preceding week and delivered his work to me to correct. My remark refers to this.
- [00:15:26](#) These students are performing very well. I therefore answer them briefly.
- [00:16:45](#) We summarize the solution of the first problem in order to bring the class back to the same status.
- [00:19:14](#) The second equation can be solved again with the help of the factorization of the second binomial formula. This is what the class should find out. I support some students with particular difficulties in mathematics.
- [00:21:16](#) There is a very large difference in speed. As soon as the class works independently, the difference in achievement increases. Therefore I limit these sequences and bring the class together again at the end.

- [00:22:45](#) An error on my overhead transparency brings some confusion! Sometimes this affects the attention of the students positively. Besides, they also detect that the teachers are not infallible!
- [00:24:41](#) Summary of the knowledge gained.
- [00:25:14](#) The next problem involves factorizing into two different binomials. Who finds it out?
- [00:27:00](#) This way of working promotes the self-competence of the students. They learn that co-operation and copying are two different things.
- [00:27:35](#) One cannot solve mathematical problems by following standard procedures alone. It means thinking, experimenting, and deciding. Therefore, this example pleases me well: it forces the students to proceed in such a way.
- [00:29:21](#) So that the whole class can understand the process, we repeat the considerations made in the prior dialog.
- [00:35:18](#) Tomorrow I will work through the square addition with the class, so that they can see that a general consideration can lead to a practical solution, which everybody can understand!
- [00:35:29](#) The exercises will be worked on until the end of the lesson.
- [00:37:06](#) The blackboard cannot be lowered far enough.
- [00:37:14](#) I now have time to care for individual students.
- [00:37:46](#) The solutions of the problems are printed in the teacher's book. The students correct their work independently with this book.
- [00:38:43](#) This student is at present strongly loaded by sports training. I guarantee that his homework is made.
- [00:39:22](#) A clean and accurate presentation is important to me. It helps to avoid mistakes.
- [00:41:45](#) In our textbook, the problems in column B are normally the more advanced.
- [00:44:54](#) Homework is usually given from one lesson to another. Without mentioning it each time, repetition of the theory is also part of the homework assignment.
- [00:45:45](#) During the breaks, I speak to the students in dialect (Swiss German).