

STUDY GUIDE FOR FINAL
Math 320: Math for Elementary School Teachers
Note: you can bring this sheet to the exam if you like.

The Final will cover Chapters 1 through 7 of the Parker-Baldrige book. It will also cover all your notes, the homework, the quizzes, and my web-page. The test is 50 minutes long and it is worth 50 points. It has two parts with very different instructions.

PART 1: The first part is modeled after quiz 4, it is 20 minutes long and is worth 20 points. It consist of 10 questions that must be solved mentally, without the use of scratch-paper. Answers are either right or wrong and no partial credit will be given. You shall not show your work. **TIP:** study the answer-keys to quizzes 1 through 4 and part 1 of exams 1 through 3. **Time management:** you have 2 minutes per question.

PART 2: The second part is 30 minutes long and is worth 30 points. It consists of 6 questions, worth approx. 5 points each. **Time management:** you have 5 minutes per question.

1. The first question will test your knowledge of the textbook and will involve some of the main concepts to be found in the lectures. To prepare for this question study the answer-keys for part 2 on exam 1 through 3. Also reread Chapter 7 of the book and review the definitions highlighted in blue.
2. The second question will consist of two problems chosen from the following “teaching problems”:
 - (a) State the Quotient-Remainder Theorem and explain it using a measurement or set model, see Theorem 6.5 on page 35.
 - (b) Explain with the partitive approach how the division algorithm works for $945 \div 7$, see page 73.
 - (c) Explain the identity $(x + 1)^2 = x^2 + 2x + 1$ using the distributive property and a diagram, see page 98 “Step 2”.
 - (d) Illustrate how to add $\frac{4}{5} + \frac{2}{3}$ using an area model, see page 140.
3. The third question will give you a word problem involving “fractions” and will ask you to write down a “teacher’s solution” which includes a bar diagram and the relevant algebra. **TIP:** I will take it from Exercise 28 and 29 pages 68-71, of Primary Math 5A WORKBOOK.
4. The fourth question asks you to simplify an expression involving exponents by using prime factorization. **TIP:** understand Example 3.6 of section 4.3.
5. The fifth question will give you a word problem involving “ratios” and will ask you to write down a “teacher’s solution” which includes a bar diagram and the relevant algebra. **TIP:** I will take it from the hand-out.
6. The sixth and last question will be a “parenthesis/fraction/ratio challenge”. Write each step down carefully and indicate your method.