Zillions of Practice Problems

Fractions

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What This Book Is All About

In the *Life of Fred: Fractions* book, there are *Your Turn to Play* sections in each lesson. And each *Your Turn to Play* offers complete solutions to each question.

One reason why teachers seem to know more than their students is that they have done many more problems than their students.

Students working through each lesson of *Life of Fred: Fractions* may do about a half dozen questions.

In Chapter 11, for example, we subtract fractions with the same bottoms. $\frac{7}{9} - \frac{5}{9} = \frac{2}{9}$ and $\frac{6}{13} - \frac{4}{13} = \frac{2}{13}$

How many of these would you have to do in order to figure out that you subtract the tops and copy the bottoms?

Some of my readers have written to me, "I want to know this fractions stuff like a teacher knows it. I want to know it well enough that I could stand in front of a classroom and do it."

Okay. I spent more than three months writing the book you now hold in your hands. *Zillions of Practice Problems Fractions* has about twice as many fractions problems as *Life of Fred: Fractions*.

Do all these and you should reach teacher-level.

HOW THIS BOOK IS ORGANIZED

Life of Fred: Fractions has 32 chapters. So does this book.

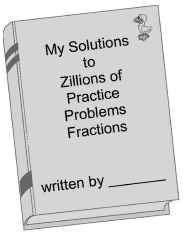
As you work through each chapter in *Life of Fred: Fractions* you can do the problems in the corresponding chapter in this book.

Each chapter in this book is divided into two parts.

✯ The first part takes each topic and offers a zillion problems.
✯ The second part is called the Mixed Bag. It consists of a variety of problems from the chapter and review problems from the beginning of the book up to that point.

HOW TO DO THE PROBLEMS

Get out paper and a pencil or pen. Do each problem. When you are done with this book, you will have a "book" of solutions written by you. This may be the first book you have ever written.



After you have written out your solution to a problem, then you may look at my solution. I have worked out each problem in detail in the back of the book.

The first question in this book is numbered "35." The second one is numbered "88." I didn't number them 1, 2, 3. . . . That would be foolish. When you looked up the answer to 1, you might accidentally see the answer to 2 and that would ruin the book you are writing.

❀ ❀ ❀

Fred is a teacher at KITTENS University. He is now 5½ years old. In this book and later books

Life of Fred: Decimals and Percents
Life of Fred: Pre-Algebras 0, 1, and 2
Life of Fred: Beginning Algebra Expanded Edition
Life of Fred: Advanced Algebra Expanded Edition
Life of Fred: Geometry Expanded Edition
Life of Fred: Trig Expanded Edition
Life of Fred: Calculus Expanded Edition

you will get to know four of Fred's students: Betty, Alexander, Darlene, and Joe.

Darlene and Joe are the funny ones. I've included lots of stories about them in this book.

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Chapter Ten
Add and Reduce

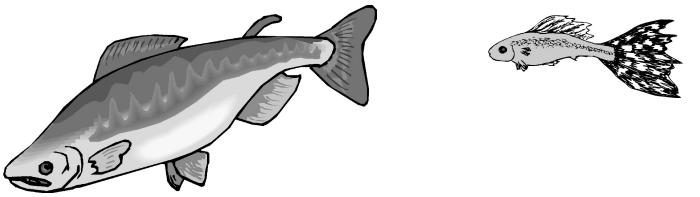
First part: Problems from this chapter

216. $\frac{1}{5} + \frac{2}{5} = ?$

306. $\frac{7}{31} + \frac{8}{31} = ?$

327. Darlene owns 56 bottles of nail polish. Twenty-eight of them are red. What fraction of her nail polish bottles are red? (Remember to reduce your answer if that's possible.)

351. On one fishing trip Joe caught 4 salmon and 16 guppies.



What fraction of his catch were guppies?

424. (continuing the previous problem) Salmon weigh a lot more than guppies. If each of the salmon Joe caught weighed 9 pounds, and each of the guppies weighed one ounce, then . . .

A) How much did all the salmon weigh?

B) How many pounds did the guppies weigh? (one pound = 16 ounces)

C) What was the total weight of his catch?

D) What fraction of the total weight were the guppies?

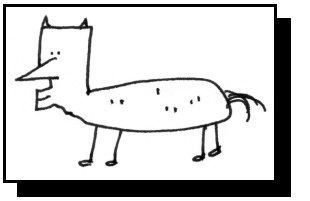
Second part: the Mixed Bag: a variety of problems from this chapter and previous chapters

55. Change 63" to feet and inches.

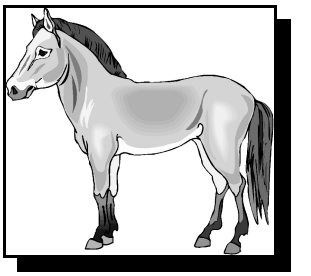
69. Darlene read in one of her bridal magazines that if you hold your wedding in New York City rather than in Kansas, the total price will triple. She had estimated that marrying Joe in Kansas would cost about $7849. How much would that cost in New York City?

255. $\frac{3}{8} + \frac{3}{8} = ?$

378. Here is Fred's drawing of a pony.



Fred's doll, Kingie, drew a picture of that same pony. Kingie can draw a lot better than Fred can.



Kingie's picture sold for $602. Fred's picture sold for one-seventh of what Kingie's picture sold for.

What was the selling price of Fred's picture?

652. 200 ounces is how many pounds. (16 ounces = 1 pound)

735. Joe was given this problem: Suppose x is cardinal number and suppose that 40 < x < 42. What is x?

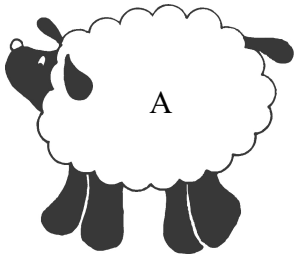
Joe wanted to be fancy and wrote $40\frac{7}{8}$

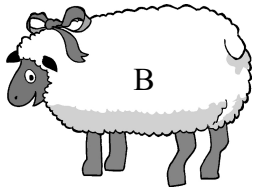
The teacher said his answer was wrong. Why?

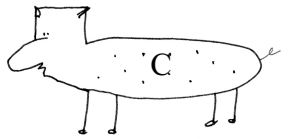
250–275 Complete Solutions and Answers

250. Suppose we are looking at a bunch of sheep. Is "has more wool" transitive?

Yes. If sheep A has more wool than sheep B, and sheep B has more wool than sheep C, then it must be true that sheep A has more wool than sheep C.







252. $\frac{9006}{9888} - \frac{7847}{9888} = \frac{1159}{9988}$

When you are subtracting fractions with the same bottoms, you just subtract the tops and *copy* the bottom.

255. $\frac{3}{8} + \frac{3}{8} = \frac{6}{8}$ and you reduce this fraction by dividing top and bottom by 2. $\frac{6 \div 2}{8 \div 2} = \frac{3}{4}$

257. The letter *I* can only go to the left of *V* or *X* (to indicate subtraction).
The letter *X* can only go to the left of L or C .
The letter *C* can only go to the left of D or M .

260. Fred could go 69 mph riding on his train.
How far could he go in 7 hours?
69 miles per hour times 7 hours
Fred could go 483 miles.

$$\begin{array}{r} 69 \\ \times \quad 7 \\ \hline 483 \end{array}$$

275. Which has the most eggs?

A) Seven buckets, each holding eight eggs $7 \times 8 = 56$
B) Nine lunch boxes, each holding six eggs $9 \times 6 = 54$
C) Ten bags, each holding five eggs $10 \times 5 = 50$

Alternative A) has the most eggs.

adding fractions
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