STRAYER-UPTON PRACTICAL ARITHMETICS

SECOND BOOK

PART 4

BY

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PREFACE

This series of books aims to give the child the ability to compute easily and accurately, and to enable him to interpret and solve the quantitative situations which he will meet in everyday life. In the achievement of this aim, these books incorporate the most valuable findings of modern experimentation in the teaching of arithmetic, including the results of important researches conducted by the authors themselves. These books present only those methods and materials which have been thoroughly tested in the classroom by many experienced teachers.

It is an established principle of teaching that nothing stimulates a pupil's interest so much as the satisfaction he gets from his ability to do things successfully. If he finds himself steadily perfecting new skills in arithmetic, he will look forward to his arithmetic period and will approach each new problem with intelligent interest. In accordance with this principle, these texts require the pupil to take only one new step at a time and supply him with enough exercises to assure mastery of that step before proceeding to the next one. Thus the constant stimulus of success is made possible for the pupil.

In this book the following features are worthy of note:

1. This book is written for children, in language with which they are familiar. The greatest care has been taken in the selection of vocabulary.

2. The problems relate to the life and interests of the pupils. They are *real problems* in every sense of the word.

3. Motivation is the keynote of successful work in arithmetic. When a new topic is being presented, the pupils should know why the topic is important and how it is used in life. This fundamental principle of teaching is

applied throughout this series of books by presenting every new operation or detail of a process in connection with an interesting motivating problem that treats of some situation with which the child is familiar.

4. The explanations of new principles and processes have been made as simple and clear as possible.

5. All the abstract exercises have been scientifically constructed so as to provide drill on all the fundamental number combinations, with ample repetition of those recognized as most difficult. The pupil thereby acquires that automatic mastery of the basic computations which is so essential to rapid and accurate computation.

6. The total number of abstract exercises in this book is far greater than that usually found in elementary school texts. All these exercises have been graded with extreme care with reference to the difficulty of the steps involved.

7. The checking of computations is one of the most important habits that a child can form. Throughout this book checking is taught early in the presentation of each new operation and is constantly required in connection with all exercises.

8. A series of 84 Improvement Tests covering whole numbers, fractions, and decimals is included. These tests provide the most efficient and interesting means yet devised for keeping alive skills already learned while the pupil is studying new topics. For example, when the pupil is studying the addition and subtraction of fractions, the Improvement Tests provide the drill on whole numbers that is necessary to keep these skills active. These tests have the further advantage that the total time required to give and score them is less than 30 minutes a week thus leaving ample time to be devoted to the new work of the grade. For further information concerning these tests, see pages 16-20 of Part 1 of this book.

9. This book provides an exceptionally full and generous program of diagnostic and remedial work. Frequent diagnostic tests are given throughout the book, with keyed references to remedial exercises.

10. The carefully planned instruction in problem solving, which was given in the First Book of this series, is continued in this book. In addition to a large number of one-step problems in which the technical language expressions of arithmetic are frequently reviewed, special attention is now given to the solution of problems of two or more steps, with emphasis upon those types of two-step and three-step problems that occur most frequently in everyday life.

There are very few pages in the book on which all the problems may be worked by using the same operation, such as addition only. There are, on the other hand, many pages containing problems of different kinds, each of which the pupil has to study carefully before selecting the operation to be performed. By developing the pupil's initiative in this way and also by centering attention on the more common types of problems, as stated above, the pupil's ability in problem solving is developed as systematically as his skill in computation.

11. A series of tests on problem solving is also provided throughout the book. These tests cover types of problem situations with which every pupil should be familiar. An important feature of these tests is that they not only measure the pupil's mastery of types of thinking frequently employed in problem solving, but they also check his ability to interpret important language expressions and technical phrases peculiar to arithmetic. These tests are arranged in groups known as Groups A, B, and C. Each group consists of three tests; thus Group A consists of Tests A1, A2, and A3. The problems on Test A1 cover the same variety and types of problem situations and the same range of difficulty as those found on Tests A2 and A3. A pupil, therefore, should do better on the second and third tests of any group than on the first test. Thus the pupil has the satisfaction of seeing himself grow in problem-solving ability. The problems on the tests of Groups B and C cover, in similar manner, other sets of type problems.

12. This book contains many interesting projects and units of work involving quantitative relationships.

13. Full provision has been made for pupils of varying levels of ability. For those of average and below-average ability a large number of well-graded exercises is provided. For pupils of superior ability more difficult exercises marked with a star (*), are furnished. The diagnostic tests indicate the needs of each pupil and give references to suitable remedial work.

George Drayton Strayer

Clifford Brewster Upton

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STUDYING A BILL

A storekeeper often lets a reliable customer open an *account* with him and *charge* the things bought at his store. At the end of the month he sends a *bill* showing how much the customer owes him. When the bill is paid, the storekeeper *receipts* it. Here is a typical bill:

JONES, KING, AND COMPANY
Clothiers

Chicago, Nov. 1, 19–

Mr. Charles Reed
893 Beech St.
Chicago

Oct.	2	4 Neckties	@ .85	3	40		
	10	6 Collars	@ .25	1	50		
	15	2 Pairs Gloves	@2.10	4	20		
	24	1 Boys' Suit	@16.50	16	50		
						25	60

Received Payment
Nov. 4, 19 —
JONES, KING, AND COMPANY
per M.K.

The sign @ means "at." The total charge for **each** item, such as the $3.40 for neckties, is an *extension*. **$25.60** is the *total amount*. When was this bill receipted? by whom?

A bill should give these facts: (1) the place and the date; (2) the merchant's name; (3) the customer's name; (4) the date, the quantity, the price, and the extension for each item; (5) the total amount of the bill.

MAKING OUT BILLS

Make out and receipt bills for the following. Make up the names, the addresses, and the dates:

1. $2\frac{3}{4}$ doz. eggs @ 40¢; $3\frac{1}{2}$ lb. sweet butter @ 44¢; $1\frac{3}{4}$ lb. Swiss cheese @ 60¢; 2 pt. cream @ 35¢.

2. 1 boys' mackinaw overcoat @ $7.45; 2 ties @ $.95; 3 pr. boys' sports hose @ $1.25; 1 cap @ $2.15.

3. $2\frac{1}{2}$ doz. rolls @ 15¢; 4 loaves bread @ 9¢; $1\frac{3}{4}$ doz. buns @ 18¢; 3 doz. cookies @ 20¢.

4. $6\frac{1}{2}$ lb. chicken @ 34¢; $1\frac{1}{4}$ lb. sausage @ 28¢; $2\frac{3}{4}$ lb. steak @ 44¢; $3\frac{1}{2}$ lb. lamb chops @ 38¢.

5. 1 wheelbarrow @ $4.25; 2 axes @ $1.18; 1 garden hose @ $14.60; 16 lb. nails @ $.12; 5 bolts @ $.35.

6. 5 tennis balls @ $.45; 2 pr. sports hose @ $.85; 2 catchers' mitts @ $2.90; 1 football @ $6.75; 2 tennis rackets @ $3.75.

7. $\frac{1}{2}$ doz. linen handkerchiefs @ $3.50; 2 pr. kid gloves @ $2.55; 2 pr. woolen blankets @ $6.98; 7 Turkish towels @ $.49.

8. 1 tool chest @ $9.65; 2 pr. pliers @ $.42; 1 steel hammer @ $.65; 3 chisels @ $.68.

9. 2 Axminster rugs @ $20.95; 15 sq. yd. printed linoleum @ $1.56; 11 yd. curtain goods @ $.75.

10. 3 jars strawberry jam @ 35¢; 5 packages buckwheat flour @ 25¢; 6 packages crackers @ 10¢.

11. 2 bottles tomato catsup @ 24¢; 3 jars olives @ 26¢; $2\frac{1}{2}$ lb. walnuts @ 29¢; 4 cans peaches @ 25¢.

12. $5\frac{1}{2}$ yd. cotton crêpe @ 28¢; 3 spools sewing silk @ 12¢; $11\frac{1}{2}$ yd. braid @ 35¢; $2\frac{3}{4}$ yd. ribbon @ 39¢.

★SHOWING CREDITS IN BILLS

Sometimes the *charges* on monthly bills are placed in one column and the *credits* in the next column. If a payment is made during the month or if some article is returned, the merchant gives *credit* for these items.

WARREN BROTHERS
Athletic Goods

Dick Rankin, Baseball Manager
Roosevelt School,
Flint, Mich.

Detroit, Apr. 30, 19–

Date		Items	Charges		Credits	
Apr.	2	9 gray baseball suits @ 5.50	49	50		
	6	6 pr. baseball shoes @ 3.25	19	50		
	6	By cash on account			25	00
	8	3 catchers' mitts @ 1.50	4	50		
	11	1 catchers' mitt returned @ 1.50			1	50
			73	50	26	50
		Credit	26	50		
		Balance	47	00		

The total charges above are $73.50; the total credits are $26.50. Hence the *balance* due is $47.00.

Exercises

Make out bills for these items. Supply names and dates:

1. 3 Scout hats @ $1.20; 6 Scout handkerchiefs @ $.25; credit, 1 Scout hat @ $1.20 returned; 2 sweaters @ $3.50; 2 khaki middy blouses @ $1.25; 3 pr. stockings @ $.55; credit, 1 sweater @ $3.50 returned.

2. 1 small Chinese rug @ $49.50; cash on account, $25.00; 3 chairs @ $6.76; 2 lamps @ $18.75; 1 table @ $24.80; 2 tablecloths @ $2.85.

MAKING OUT RECEIPTS

You have seen how a bill is receipted. Sometimes, if no bill is presented, a separate receipt is written to show that one person has received money from another.

Buffalo, N. Y. April 10, 19–

$16^{25}

Received from George Miller

Sixteen and $\frac{25}{100}$ Dollars

for repairing automobile.

John Harris

Supply the dates and the names of cities:

1. Bob Dugan sold George Price his bicycle for $13.50. Write the receipt which Bob gave George.

2. Esther paid her dentist, Dr. J. M. Green, $3.50 for filling her tooth. Write a receipt for this.

3. Mr. Rex bought a car for $2500 from the Monroe Company. He paid $700 cash. Write a receipt for this payment.

4. Mrs. Fuller pays her landlord, Mr. Greeley, $50 rent each month. Make out the rent receipt which Mrs. Fuller receives from Mr. Greeley for rent for March.

Write a receipt for each. Supply names and dates:

5. $50 for building a garage.

6. $10 for the rent of a tent for one month.

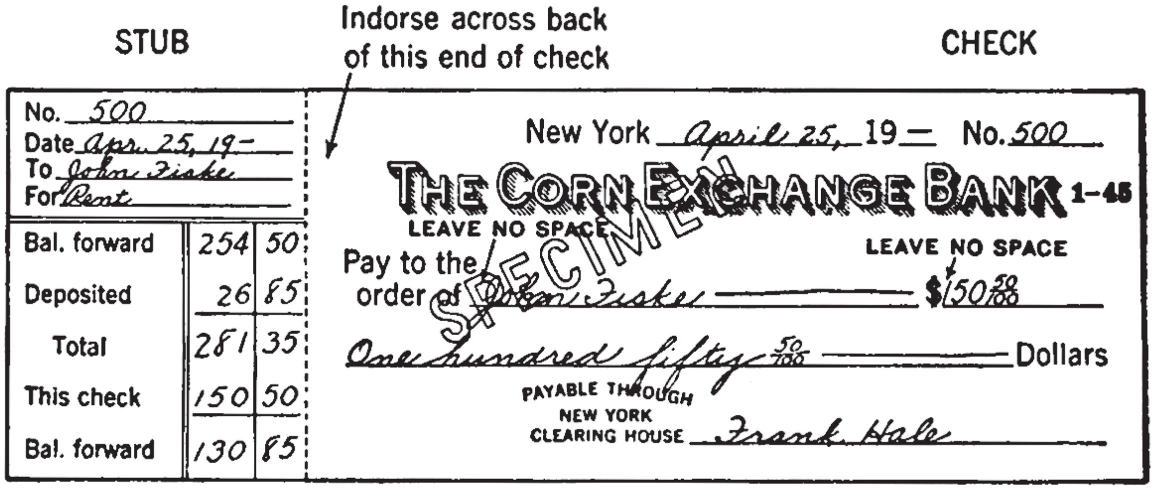
7. $3.60 for milk for August.

8. $15 for the first payment on a radio set.

9. $4.75 for a telephone bill for January.

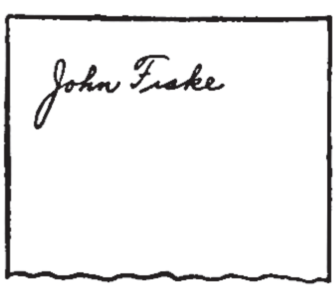
HOW TO WRITE CHECKS ON A BANK

Many people keep their money in a bank. By writing a **check,** they may order the bank to pay some of their money to the person named in the check. Checks are usually more convenient than cash for paying bills.

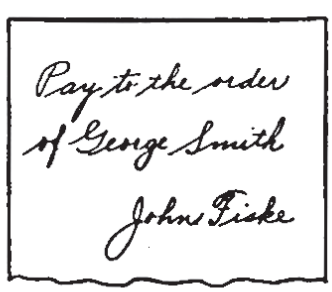


1. Who wrote the above check?
2. In what bank does Mr. Hale have his money?
3. To whom are the words " Pay to " addressed?
4. To whom is the bank ordered to pay the money?
5. Why is the amount written in words and also in figures? Why is a waved line put after the amount written in words? after John Fiske's name?
6. When Mr. Fiske wishes *to cash* the check, he *indorses* it by writing his name across the back on the left-hand end, as in *A*, thus acknowledging receipt of the money. If he wishes the check paid to George Smith, he indorses it as in *B*.

A



B



KEEPING ACCOUNT OF OUR BANK BALANCE

The stub of a check, which should be filled out when the check is written, gives a record of each payment and shows the balance in the bank. It stays in the check book when the check is torn out.

Here are six of Mr. Dow's stubs.

1. Study stub No. 77; then tell what numbers should be put in place of the stars on stubs No. 78, 79, 80, 81, and 82.

No. 77
Date Jan. 3, 19—
To Carl Green
For Auto repairs

Bal. for'd	154	50
Deposited	30	00
Total	184	50
This check	27	75
Bal. for'd	156	75

No. 78
Date Jan. 5, 19—
To Paul Jones
For Rent

Bal. for'd	156	75
Deposited	00	00
Total	156	75
This check	83	27
Bal. for'd	*	

No. 79
Date Jan. 6, 19—
To John Holt
For Groceries

Bal. for'd	*	
Deposited	84	60
Total	*	
This check	36	89
Bal. for'd	*	

No. 80
Date Jan. 7, 19—
To Will White
For Cement walk

Bal. for'd	*	
Deposited	00	00
Total	*	
This check	42	78
Bal. for'd	*	

No. 81
Date Jan 9, 19—
To Harris Company
For Tires

Bal. for'd	*	
Deposited	23	17
Total	*	
This check	27	00
Bal. for'd	*	

No. 82
Date Jan. 9, 19—
To Dr. Grant
For Services to date

Bal. for'd	*	
Deposited	45	00
Total	*	
This check	31	22
Bal. for'd	*	

2. On what days did Mr. Dow put money in the bank?

3. If Mr. Dow had wanted to write a check for $187.93 on Jan. 9, could he have done it? Why not?

4. Suppose that you are a storekeeper. Make out bills against 5 pupils in your class. Have each pay his bill by check. Accept the checks only if they are made out right.

COLUMN ADDITION

Add, starting at the bottom. Check by adding down:

1.	**2.**	**3.**	**4.**	**5.**
774	476	803	4830	7963
654	236	529	3689	37
526	337	882	3594	1177
100	579	851	616	89
816	896	990	8955	658
943	289	126	672	2520
380	610	613	30	4579
907	204	817	1602	281
242	562	529	53	440

6.	**7.**	**8.**	**9.**	**10.**
290	876	788	3963	5967
338	649	297	9876	868
994	705	297	1849	78
175	480	860	64	50
455	389	908	793	5208
400	560	472	529	2047
747	631	965	90	2670
401	721	429	8103	601
533	351	210	126	551

11.	**12.**	**13.**	**14.**	**15.**
824	604	325	4313	8282
335	860	996	2464	996
849	134	738	1435	9601
732	932	446	6170	83
941	711	890	2555	96
752	841	472	48	18
846	210	500	6261	5911
570	239	721	30	7310
106	350	807	705	5109
125	468	349	465	32

ADDITION AND SUBTRACTION

Add, starting at the bottom. Check by adding down:

1.	**2.**	**3.**	**4.**	**5.**
8699	1458	1150	2988	8686
6878	7525	2989	5605	8291
4400	6716	3715	7771	4858
8636	2928	7910	9371	6740
3264	2260	1753	5444	8406
7634	3105	9539	7589	1233
4990	8093	9379	3724	7650
4401	3907	3048	5130	1019
8123	7568	5520	2442	2639

Subtract and check the work:

6. $734.36	**7.** $500.00	**8.** $600.64	**9.** $842.78
184.94	248.97	136.87	758.99
10. $864.32	**11.** $600.03	**12.** $748.27	**13.** $900.00
266.67	270.63	588.69	112.55
14. $833.96	**15.** $800.00	**16.** $812.66	**17.** $754.65
697.88	169.40	587.97	265.57
18. $924.84	**19.** $823.32	**20.** $669.21	**21.** $511.24
659.04	493.45	362.34	139.28
22. $200.00	**23.** $797.60	**24.** $513.44	**25.** $300.28
38.52	98.61	69.99	45.25
26. $675.33	**27.** $436.27	**28.** $800.01	**29.** $334.57
78.65	58.79	27.81	74.78

OUR SCHOOL ORCHESTRA

1. Our school orchestra has 7 first violins, 5 second violins, 1 violoncello, 1 double-bass viol, 2 clarinets, 2 flutes, 2 cornets, 1 trombone, 1 piano, and 1 drum. How many pupils are there in our orchestra?

2. Jean's music teacher told her that a large orchestra in Chicago had 112 musicians. About how many times as large as our orchestra was this orchestra?

3. The large orchestra in ex. 2 had 3 times as many string instruments as wind instruments. How many times as many string instruments (violins, violoncellos, double-bass viols) as wind instruments (clarinets, flutes, cornets, trombones) are there in our orchestra?

4. We practice $3\frac{1}{2}$ hr. each week and play in school assemblies about $\frac{3}{4}$ hr. each week. If our orchestra plays 36 wk. each school year, how many hours in all do we spend in assemblies and in practice?

5. We gave a concert to raise money to buy music and more instruments. We sold 65 tickets at 35¢ each, 127 tickets at 25¢ each, and 156 tickets at 10¢ each. How much in all did we take in?

MULTIPLICATION AND DIVISION

Multiply. Check the work by going over it again:

1. 32×\$40.87	**12.** 509×321	**23.** 904×1203
2. 84×\$84.76	**13.** 762×391	**24.** 924×8750
3. 80×\$19.53	**14.** 910×489	**25.** 846×9132
4. 67×\$80.09	**15.** 528×892	**26.** 460×6184
5. 59×\$37.89	**16.** 704×718	**27.** 279×2469
6. 90×\$45.06	**17.** 938×567	**28.** 305×6007
7. 17×\$52.67	**18.** 560×706	**29.** 681×5768
8. 75×\$45.06	**19.** 124×496	**30.** 753×2340
9. 26×\$25.67	**20.** 708×234	**31.** 507×1578
10. 43×\$29.35	**21.** 356×458	**32.** 262×8019
11. 30×\$20.16	**22.** 301×913	**33.** 440×7767

Divide. Check the work by multiplying:

34. 2940 ÷ 21	**46.** 26,096 ÷ 56	**58.** 49,217 ÷ 911
35. 5969 ÷ 94	**47.** 16,686 ÷ 27	**59.** 41,734 ÷ 542
36. 8845 ÷ 29	**48.** 50,911 ÷ 84	**60.** 23,973 ÷ 393
37. 4988 ÷ 43	**49.** 16,731 ÷ 39	**61.** 15,228 ÷ 564
38. 8183 ÷ 36	**50.** 23,800 ÷ 68	**62.** 39,428 ÷ 634
39. 3952 ÷ 52	**51.** 58,753 ÷ 82	**63.** 27,789 ÷ 471
40. 8298 ÷ 27	**52.** 10,640 ÷ 35	**64.** 43,070 ÷ 590
41. 9028 ÷ 61	**53.** 60,420 ÷ 76	**65.** 52,726 ÷ 643
42. 8610 ÷ 41	**54.** 21,854 ÷ 43	**66.** 26,088 ÷ 724
43. 6174 ÷ 78	**55.** 26,675 ÷ 97	**67.** 45,288 ÷ 888
44. 7605 ÷ 39	**56.** 12,580 ÷ 85	**68.** 36,371 ÷ 983
45. 9554 ÷ 83	**57.** 27,704 ÷ 48	**69.** 61,688 ÷ 701

PROBLEMS WITHOUT NUMBERS

1. If you know the length of one board and also the length of a longer board, how do you find the difference in the lengths of the two boards?

2. If you know the weights of each of several fish you caught, how do you find the average weight of the fish?

3. If you know the distance an airplane traveled and the number of hours it was in the air, how do you find its average speed per hour?

4. If you know the costs per yard of two different kinds of cloth and the number of yards you bought of each kind, and also the amount of money you gave the clerk in payment, how do you find the amount of your change?

5. If you know the different amounts you spent at the circus, how do you find the total amount spent?

★6. If you know the amount of money you have now and the amount you need to have to go to camp, and also the number of weeks there are before you go to camp, how can you find the average amount of money you must save each week from now until you go to camp?

★7. If you know the total distance to be covered on an automobile trip you are making and the distance you have now traveled and the number of hours in which you wish to complete the rest of the trip, how do you find the average speed per hour that you will have to drive for the rest of the trip?

★8. If you know the number of boys who went camping, the cost of the camp equipment and food, the rent per week for a boat, and the number of weeks it was rented, how do you find each boy's share of the expenses?

ADDITION AND SUBTRACTION

Add. Check the work by going over it again:

1.	**2.**	**3.**	**4.**	**5.**	**6.**
$1\frac{5}{6}$	$2\frac{9}{16}$	$3\frac{4}{5}$	$4\frac{1}{4}$	$6\frac{1}{3}$	$8\frac{5}{8}$
$3\frac{1}{2}$	$1\frac{3}{4}$	$6\frac{3}{10}$	$2\frac{5}{8}$	$3\frac{1}{2}$	$2\frac{2}{3}$
$1\frac{1}{3}$	$4\frac{1}{8}$	$6\frac{1}{2}$	$1\frac{1}{2}$	$7\frac{3}{4}$	$9\frac{1}{6}$

7.	**8.**	**9.**	**10.**	**11.**	**12.**
$4\frac{3}{4}$	$2\frac{7}{10}$	$2\frac{3}{4}$	$4\frac{5}{16}$	$3\frac{1}{2}$	$5\frac{3}{4}$
$8\frac{1}{16}$	$2\frac{1}{5}$	$9\frac{1}{8}$	$1\frac{3}{4}$	$6\frac{1}{4}$	$3\frac{1}{5}$
$3\frac{7}{8}$	$6\frac{1}{2}$	$1\frac{1}{2}$	$7\frac{1}{16}$	$8\frac{1}{3}$	$3\frac{1}{2}$

13.	**14.**	**15.**	**16.**	**17.**	**18.**
$2\frac{5}{6}$	$8\frac{7}{8}$	$3\frac{3}{4}$	$4\frac{7}{10}$	$1\frac{5}{8}$	$6\frac{1}{2}$
$1\frac{1}{2}$	$1\frac{3}{16}$	$2\frac{1}{3}$	$1\frac{3}{5}$	$5\frac{1}{6}$	$3\frac{1}{4}$
$4\frac{2}{3}$	$6\frac{1}{4}$	$2\frac{5}{6}$	$2\frac{1}{10}$	$3\frac{3}{4}$	$2\frac{1}{8}$
$1\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$6\frac{1}{2}$	$1\frac{1}{3}$	$2\frac{1}{16}$

Subtract. Check the work by going over it again:

19.	**20.**	**21.**	**22.**	**23.**	**24.**
$8\frac{5}{8}$	6	$4\frac{7}{10}$	$9\frac{1}{6}$	$4\frac{1}{3}$	$8\frac{7}{16}$
$1\frac{7}{16}$	$2\frac{5}{6}$	$1\frac{1}{2}$	$6\frac{1}{2}$	$3\frac{5}{8}$	$6\frac{3}{4}$

25.	**26.**	**27.**	**28.**	**29.**	**30.**
$5\frac{9}{16}$	$3\frac{2}{5}$	$9\frac{3}{4}$	$7\frac{4}{5}$	$6\frac{5}{8}$	$8\frac{7}{8}$
$3\frac{1}{16}$	$1\frac{2}{3}$	$2\frac{15}{16}$	$4\frac{1}{2}$	$1\frac{3}{4}$	$8\frac{3}{8}$

31.	**32.**	**33.**	**34.**	**35.**	**36.**
$7\frac{2}{3}$	$1\frac{5}{6}$	$8\frac{1}{2}$	$6\frac{3}{4}$	9	$5\frac{1}{6}$
$2\frac{1}{4}$	$1\frac{1}{3}$	$4\frac{1}{2}$	$3\frac{1}{4}$	$4\frac{1}{4}$	$1\frac{1}{3}$

37.	**38.**	**39.**	**40.**	**41.**	**42.**
$4\frac{1}{2}$	$6\frac{4}{5}$	$9\frac{1}{5}$	7	$8\frac{5}{6}$	$3\frac{1}{8}$
$2\frac{5}{6}$	$5\frac{2}{3}$	$8\frac{1}{2}$	$5\frac{9}{16}$	$3\frac{3}{4}$	$2\frac{1}{3}$

MULTIPLICATION AND DIVISION

Multiply. Check the work by going over it again:

1. $9 \times 1\frac{2}{3}$
2. $\frac{3}{4} \times 8$
3. $\frac{5}{8} \times 14$
4. $6 \times 2\frac{3}{5}$
5. $\frac{9}{10} \times \frac{5}{6}$
6. $1\frac{1}{2} \times 1\frac{1}{3}$
7. $\frac{2}{3} \times \frac{3}{4}$
8. $2\frac{3}{5} \times 1\frac{1}{5}$
9. $\frac{9}{10} \times 35$
10. $32 \times \frac{7}{8}$
11. $16\frac{1}{2} \times 2\frac{2}{3}$
12. $125 \times \frac{4}{5}$
13. $11\frac{1}{4} \times 3\frac{3}{5}$
14. $2\frac{1}{2} \times 2\frac{7}{10}$
15. $12\frac{3}{4} \times 1\frac{1}{3}$
16. $8\frac{2}{5} \times 4\frac{1}{6}$
17. $2\frac{3}{16} \times 2\frac{2}{5}$
18. $75 \times 6\frac{1}{5}$
19. $13\frac{3}{4} \times 1\frac{4}{5}$
20. $3\frac{1}{5} \times \frac{5}{16}$
21. $14\frac{2}{5} \times 1\frac{9}{16}$
22. $10\frac{1}{2} \times 9\frac{1}{3}$
23. $3\frac{1}{5} \times 1\frac{3}{16}$
24. $100 \times 1\frac{4}{5}$
25. $11\frac{1}{2} \times 3\frac{1}{3}$
26. $\frac{5}{6} \times 96$
27. $4\frac{1}{2} \times \frac{7}{8}$
28. $1\frac{1}{8} \times 12$
29. $8\frac{1}{10} \times 33\frac{1}{3}$
30. $\frac{3}{4} \times 142$

Divide. Check the work by going over it again:

31. $\frac{1}{3} \div \frac{1}{2}$
32. $\frac{7}{10} \div 14$
33. $\frac{9}{16} \div 12$
34. $\frac{3}{4} \div \frac{1}{8}$
35. $\frac{2}{3} \div \frac{5}{6}$
36. $\frac{7}{8} \div \frac{3}{8}$
37. $12 \div \frac{15}{16}$
38. $\frac{9}{10} \div 3$
39. $12 \div \frac{3}{4}$
40. $\frac{3}{8} \div \frac{1}{2}$
41. $10\frac{5}{8} \div 2\frac{5}{6}$
42. $12\frac{3}{5} \div 21$
43. $16\frac{1}{2} \div 1\frac{4}{5}$
44. $10\frac{1}{2} \div 2\frac{1}{3}$
45. $5\frac{1}{16} \div 1\frac{1}{8}$
46. $7\frac{1}{5} \div 3\frac{1}{5}$
47. $11\frac{1}{4} \div 4\frac{1}{6}$
48. $\frac{7}{10} \div 2\frac{4}{5}$
49. $10\frac{4}{5} \div 36$
50. $8\frac{1}{6} \div 1\frac{3}{4}$
51. $2\frac{5}{8} \div 2\frac{1}{3}$
52. $\frac{11}{16} \div 8\frac{1}{4}$
53. $9\frac{3}{8} \div 5\frac{5}{6}$
54. $15\frac{3}{4} \div 1\frac{1}{8}$
55. $75 \div 18\frac{3}{4}$
56. $12\frac{4}{5} \div 3\frac{1}{5}$
57. $13\frac{1}{2} \div 3\frac{3}{5}$
58. $20\frac{1}{4} \div 5\frac{5}{8}$
59. $17\frac{1}{2} \div 9\frac{1}{3}$
60. $\frac{3}{8} \div 3\frac{3}{4}$

PROBLEM TEST B1

1. Fred is counting his money. He has 4 pennies, 3 nickels, 4 dimes, 2 quarters, and 1 half dollar. How much has he in all?

2. When Miss Kent started on a trip, the speedometer on her car registered 8176.2 mi. When she returned from the trip, it registered 8605.6 mi. If she used 23 gal. of gasoline for the trip, what was the average number of miles she drove per gallon? Find the result correct to the nearest tenth of a mile.

3. Mary went to the store to buy oranges for a party. She saw some at 8 for $.25 and others at $.35 a dozen. If she needed 2 doz. oranges, which kind would cost less and how much less?

4. Mary had $2.18 at the beginning of the week. She got her allowance of $.35 and earned $.45 one day helping a neighbor. During the week Mary spent $.25 for moving pictures and $.29 for school supplies. How much did she have at the end of the week?

5. A fast train travels 45 mi. an hour. Mr. King drives his car an average of 32 mi. an hour. In $4\frac{1}{2}$ hr. how much farther can the train go than Mr. King's automobile?

6. Saturday morning Ann took care of Mrs. Lee's baby from 8.30 A.M. until 11.00 A.M. Mrs. Lee paid Ann $.30 an hour. How much did Ann get?

Standards	Excellent	Good	Fair	Poor
	6 right	4 or 5	3	0 to 2

Write down the number of problems you got right on this test. Try to do better on your next problem test.

IMPROVEMENT TEST No. 19

Test 19 A — Addition (Time 4 min.)

1. $\begin{array}{r} 6\frac{3}{8} \\ 1\frac{1}{2} \\ \frac{1}{4} \\ 2\frac{3}{16} \\ \hline \end{array}$ —

2. $\begin{array}{r} 5\frac{3}{8} \\ 2\frac{3}{4} \\ 1\frac{1}{2} \\ 8\frac{1}{2} \\ \hline \end{array}$

3. $\begin{array}{r} 9\frac{1}{2} \\ 8\frac{3}{4} \\ \frac{2}{3} \\ 6\frac{1}{2} \\ \hline \end{array}$

4. $\begin{array}{r} 3\frac{3}{4} \\ 2\frac{3}{5} \\ 4\frac{1}{5} \\ 1\frac{1}{10} \\ \hline \end{array}$

5. $\begin{array}{r} 6\frac{1}{6} \\ 5\frac{1}{2} \\ 4\frac{3}{4} \\ 2\frac{5}{12} \\ \hline \end{array}$

Test 19 B — Subtraction (Time 4 min.)

1. $\begin{array}{r} 1\frac{1}{2} \\ \frac{1}{3} \\ \hline \end{array}$ **2.** $\begin{array}{r} 9 \\ 7\frac{5}{8} \\ \hline \end{array}$ **3.** $\begin{array}{r} 7\frac{1}{4} \\ 2\frac{1}{5} \\ \hline \end{array}$ **4.** $\begin{array}{r} 6\frac{5}{16} \\ 3\frac{3}{4} \\ \hline \end{array}$

5. $\begin{array}{r} 8\frac{3}{4} \\ \frac{1}{3} \\ \hline \end{array}$ **6.** $\begin{array}{r} 7 \\ 6\frac{1}{12} \\ \hline \end{array}$ **7.** $\begin{array}{r} 8\frac{1}{8} \\ 5\frac{3}{4} \\ \hline \end{array}$ **8.** $\begin{array}{r} 9\frac{11}{12} \\ 8\frac{1}{2} \\ \hline \end{array}$

9. $\begin{array}{r} 2\frac{9}{10} \\ \frac{3}{5} \\ \hline \end{array}$ **10.** $\begin{array}{r} 8 \\ 5\frac{7}{10} \\ \hline \end{array}$ **11.** $\begin{array}{r} 3\frac{1}{6} \\ 1\frac{3}{4} \\ \hline \end{array}$ **12.** $\begin{array}{r} 9\frac{3}{8} \\ 4\frac{1}{16} \\ \hline \end{array}$

Test 19 C — Multiplication (Time 3 min. after copying)

1. $\frac{3}{8} \times \frac{1}{2}$ — **2.** $5\frac{1}{6} \times 9$ **3.** $7 \times 62\frac{1}{2}$

4. $\frac{5}{6} \times \frac{3}{8}$ **5.** $9\frac{3}{4} \times 20$ **6.** $8\frac{5}{8} \times 48$

7. $\frac{3}{10} \times 55$ **8.** $2\frac{3}{4} \times 42$ **9.** $13\frac{1}{2} \times 1\frac{1}{3}$

Test 19 D — Division (Time 3 min. after copying)

1. $2\frac{1}{2} \div 5$ **2.** $5 \div \frac{3}{4}$ **3.** $2\frac{1}{4} \div \frac{3}{4}$

4. $1\frac{2}{3} \div 3$ **5.** $6 \div \frac{4}{5}$ **6.** $6\frac{1}{2} \div \frac{1}{4}$

7. $3\frac{3}{4} \div 10$ **8.** $9 \div 3\frac{3}{5}$ **9.** $1\frac{1}{4} \div 3\frac{1}{8}$