The PROGRESS ARITHMETICS
BOOK A

Boyer - Cheyney - Wride

The Macmillan Company
To the Teacher

The Progress Arithmetics are simple and practical. They provide for continuous pupil growth, through easy and natural steps. Social situations within the experience of the pupil motivate his work. Explanations are clear. Each new step is fully illustrated. Teachers may supplement these explanations by class discussions, but the developmental treatment of each topic stimulates pupils to progress independently.

The Test-Workbook. The combined textbook and workbook units into a single plan, all those features that are essential to a complete program in arithmetic. The workbook plan saves time and reduces error by making the copying of examples unnecessary. In problem solving, the computations are performed beside the problem, thus facilitating careful rechecking and checking.

The pupil's textbook is his workbook. It is a personal and individual possession. It encourages neat, accurate, and systematic work. Much of the scoring of daily work may be done by the pupil himself. This trains the pupil in habits of careful checking and permits immediate correction of errors.

Problem Solving. The problems in the Progress Arithmetics are clearly related to the everyday life of the pupil. They are expressed in clear, simple language. Steps are repeated so that new problems are attacked with assurance of success.

Pupils are trained to study the conditions of each problem situation before starting the computations, and to examine the reasonableness of the final answer. They are provided with abundant drill in the fundamental operations and wide experience with many problems.

Fundamental Operations. Book A provides ten major units of work, each followed by a standardized test. Units one, two, and three comprise a thorough review of the addition and subtraction combinations as well as the presentation of the simpler multiplication and division facts. Adding and subtracting, adding without carrying, and subtracting without carrying (or borrowing) are emphasized in their natural settings. Units four and five emphasize more difficult multiplication and division combinations. Two- and three-column addition and more advanced subtraction are introduced. Units six, seven, and eight place major emphasis on longer addition, subtraction with zeros, longer multiplication, including multiplication of United States money, and the most difficult multiplication and division combinations. Units nine and ten continue work in division, emphasizing division with zeros and division of United States money.

Pupils progress through these ten units of development by means of active participation in social situations that challenge interest. This is pre-eminently a thinking and doing book. Drill is related to thinking. Extra drill to meet individual needs is provided at the end of the book. Throughout the treatment there is cumulative review to assure maintenance of skills.

The frequency of repetition of number combinations is in proportion to their relative difficulties as determined by research studies.

Tests. Tests in problem solving and diagnostic tests in the fundamental operations are provided at frequent intervals. These tests have been carefully standardized. National norms are given for each subject. However, the most significant immediate goals for each pupil are determined by his own strengths and weaknesses in comparison with his average level of arithmetical ability.

Drill for Individual Needs. The supplementary drill and test materials on pages 139 to 160 are essential aids to individualization. References throughout the book direct the pupil to particular pages containing appropriate supplementary drill.

No time limits are specified for these drill and test exercises. One hundred per cent accuracy is more desirable than speed accompanied by errors. Through mastery involves discrimination, the examples of a given exercise are seldom confined to a single type of difficulty. Drill exercises without letter designation may be utilized as review material by keeping the timing and the number of examples the same as in the original test.

A simple numbering system provides close integration of development, diagnostic test, and remedial drill. Exercises are numbered as follows: Simple combinations begin with 1, addition with 10, subtraction with 20, multiplication with 30, and division with 40.
These children are having a good time at the seashore. There are _____ girls and _____ boys. 4 and 5 are ____. You have added 4 and 5.

We may say that 4 and 5 are 9, or we may use the plus sign (+) for adding.

When we read 4 + 5 = 9, we say, “4 plus 5 equals 9.”

1. 4 + 5 = 9
   5 + 4 = 9

2. The children have _____ large balls and _____ small balls. They have _____ balls all together.

Be sure you know these addition facts. Cover the answers with a sheet of paper and say them to yourself. Look at the answers if you need to.

11. The sum of 7 and 2 is _____.
12. The sum of 5 and 1 is _____.
13. 2 shells and 5 shells are ____ shells.
14. 1 pail and 6 pails are ____ pails.
15. 5 balls and 3 balls are ____ balls.
16. 6 and 2 are ____.
17. 1 and 8 are ____.
18. 2 and 1 are ____.
19. 1 + 4 = ____, 2 + 7 = ____, 5 + 1 = ____, 1 + 3 = ____.
20. 5 + 2 + 4 + 3 + 5 + 1 = ____, 1 + 3 = ____, 2 + 7 = ____, 1 + 3 = ____.
21. 3 + 6 + 4 + 2 + 1 + 3 = ____, 1 + 3 = ____, 2 + 7 = ____, 1 + 3 = ____.

Add:

When you add, the answer is called the sum.

9. The sum of 4 and 3 is _____.
10. The sum of 5 and 1 is _____.
11. The sum of 7 and 2 is ______.

2. Dick had 6 cents. After he bought a popcorn ball, he had — cents left. (The cost of the popcorn ball is given in the picture.)

3. Ann gave Mr. Green 5 cents for a fudge bar. He gave her — cents in change.

Sometimes you must add.
Sometimes you must subtract.
Do you always know which to do?

4. Jack bought a candy watch and a candy cane. These cost — cents all together.

5. A lollipop and a cane would cost — cents all together.

6. Bob had 5 cents. After he bought a fudge bar, he had — cents left.

7. Sue had 4 cents. She bought a candy cane and had — cents left.

8. A popcorn ball and a fudge bar would cost — cents.

9. 3 6 5 6 4 6
   -2 4 -3 -1 -1 -5

10. 4 5 5 2 6 3
    -3 -1 -4 -1 -2 -1

1. There were 7 birds on a fence. Two birds flew away. There were — birds left.

2. Jane has 8 cents. If she spends 5 cents, she will have — cents left. Cross out the 5 cents she is going to spend.

In these two problems you have been subtracting.

Study these subtraction facts:

\[
\begin{array}{cccccccc}
7 & 7 & 7 & 7 & 7 & 7 & 7 & 7 \\
-2 & -3 & -6 & -1 & -5 & -4 & -4 & -4 \\
5 & 4 & 1 & 6 & 2 & 3 & 3 & 3 \\
-5 & -1 & -3 & -6 & -2 & -4 & -7 & -7 \\
3 & 7 & 5 & 2 & 6 & 4 & 1 & 1 \\
\end{array}
\]

1. There were 8 children at Jack's party. 5 were boys, and — were girls.

2. Bob is buying a 4-cent candy watch. If he gives the storekeeper 5 cents, he should get — cent in change.

3. Ethel was carrying 8 eggs to the kitchen. She dropped 1 egg, and it broke. She had — eggs left.

4. Frank planted 7 rose bushes. During the winter 3 of them died. He had — bushes left alive.

Subtraction Facts

12. 4 2 7 5 8 4
   2 1 5 4 3 1

13. 6 3 8 5 8 7
   3 2 5 3 6 1

14. 5 7 3 6 7 8
   2 3 1 4 6 7

15. 8 7 8 7 6 8
   6 5 4 4 2 5

16. 6 7 3 8 8 7
   1 2 7 3 1 4

17. 7 5 8 6 7 8
   6 1 4 5 3 2

18. The sum of 3 and 5 is —

19. The sum of 2 and 4 is —

20. The sum of 7 and 1 is —

*To the teacher: If the additive method of subtraction is taught, instruct pupils to think, "2 from 8, 3." If the take-away method is used, then pupils should think, "2 and 3 = 5."
Fred has 3 white marbles and 6 colored marbles.

1. Fred has ___ marbles all together.

2. If Fred gives away his 3 white marbles, he will have ___ marbles left.

3. If he keeps his white marbles but gives away his 6 colored marbles, he will have ___ marbles left.

\[
\begin{array}{cccc}
\frac{3}{9} + \frac{6}{9} &=& \frac{9}{9} \\
\frac{9}{9} + \frac{3}{9} &=& \frac{3}{3}
\end{array}
\]

Ruth has 4 silver jacks and 5 black ones.

4. Ruth has ___ jacks in all.

5. If she picks up the 4 silver jacks, there will be ___ jacks left.

6. If she picks up the 5 jacks that are black, there will be ___ jacks left.

\[
\begin{array}{cccc}
\frac{5}{9} + \frac{4}{5} &=& \frac{9}{5} \\
\frac{9}{5} + \frac{5}{4} &=& \frac{4}{4}
\end{array}
\]

Finding the sum is called **addition**.

Finding how much is left is called **subtraction**.

The sum of 8 and 2 is _____.

If you take 2 away from 10, you have ____ left.

Study these addition facts:

\[
\begin{array}{cccc}
\frac{8}{10} + \frac{2}{10} &=& \frac{10}{10} \\
\frac{1}{10} + \frac{7}{10} &=& \frac{8}{10}
\end{array}
\]

Study these subtraction facts:

\[
\begin{array}{cccc}
\frac{10}{10} - \frac{2}{10} &=& \frac{8}{10} \\
\frac{7}{10} - \frac{4}{10} &=& \frac{3}{10}
\end{array}
\]

Add:

\[
\begin{array}{cccc}
5 \quad 6 \quad 3 \quad 9 \\
\frac{4}{2} + \frac{2}{4} &=& \frac{6}{5} \\
\frac{8}{1} + \frac{9}{2} &=& \frac{18}{9}
\end{array}
\]

Subtract:

\[
\begin{array}{cccc}
9 \quad 7 \quad 9 \quad 8 \\
\frac{3}{2} - \frac{2}{1} &=& \frac{1}{3} \\
\frac{6}{1} - \frac{8}{3} &=& \frac{7}{2}
\end{array}
\]

Bob and Betty's Garden

1. Bob planted 6 rows of lettuce and 4 rows of cabbages. That was ___ rows all together.

2. Betty planted 10 tomato plants, but 3 died. There were ___ plants left.

3. Betty pulled the weeds out of 5 rows, while Bob pulled them out of 3 rows. Betty weeded ___ rows more than Bob.

Add:

\[
\begin{array}{cccc}
5 \quad 6 \quad 3 \quad 4 \\
\frac{5}{4} + \frac{6}{3} &=& \frac{11}{5} \\
\frac{9}{3} + \frac{4}{6} &=& \frac{5}{2}
\end{array}
\]

Subtract:

\[
\begin{array}{cccc}
11 \quad 12 \quad 11 \quad 11 \\
\frac{11}{11} - \frac{7}{6} &=& \frac{4}{3} \\
\frac{12}{12} - \frac{3}{6} &=& \frac{9}{4}
\end{array}
\]

Study these addition facts:

\[
\begin{array}{cccc}
5 \quad 5 \quad 7 \quad 8 \\
\frac{6}{11} + \frac{7}{12} &=& \frac{13}{11} \\
\frac{9}{11} + \frac{9}{12} &=& \frac{18}{11}
\end{array}
\]

Add:

\[
\begin{array}{cccc}
1 \quad 2 \quad 3 \quad 4 \\
\frac{1}{11} + \frac{2}{12} &=& \frac{3}{11} \\
\frac{9}{11} - \frac{6}{12} &=& \frac{3}{12}
\end{array}
\]
What Addition Means

You add when you want to find the total number or how much you will have all together.

1. In the picture above there are — boys and — girls.

2. The total number of children in the picture is —.

3. We say that the picture shows — children in all or all together.

4. The man with the balloons has 4 large ones and 3 small ones. All together he has — balloons of both kinds.

5. Mary wanted to buy a 5-cent orange and a 1-cent piece of candy. Both these things would cost — cents.

6. Wilbur had 3 marbles, and James had 5. Together the boys had — marbles.

7. Joan had 4 paper dolls. Her mother gave her 2 more. Then she had — paper dolls.

8. Hazel wanted a 2-cent rubber ball, and Fred wanted a 5-cent balloon. How much would they have to pay for both these things?

Answer: — cents

Some of the words in these problems are printed in heavy type. These are words you often find in addition problems.

These are important words. They do not always tell you to add. They tell you to add if you are trying to find the total amount or how much or how many all together.

Add:

9. 5 4 7 7 6 1
   6 3 5 1 6 9

10. 8 3 6 2 8 5
    3 9 4 6 4 5

11. 7 5 6 7 3 7
    3 2 5 2 5 4

12. 2 3 2 4 1 5
    9 6 8 4 9 4

13. 3 2 4 2 4 1
    3 7 6 2 4 7

14. 4 9 4 8 5 9
    5 3 7 1 7 2

15. 8 2 9 3 1 3
    2 5 1 7 1 8

What Subtraction Means

Find out how many are left.

1. Mabel was playing tenpins. She set up the tenpins and rolled the ball. She knocked down 4 of the pins. There were — pins left standing.

2. Jack had 8 cents. He spent 5 cents and had — cents left.

3. There were 7 girls jumping rope. Three girls went away; so there were only — left.

4. Jack said, “I had 5 marbles, but I gave 2 away; I have only — left.”

5. 9 - 5 is —. 5 + 4 are —.

6. 6 less 4 = —. 4 + 2 = —

Change

7. June had a 10-cent piece. She bought a 5-cent apple. The change was — cents.

8. If Fred pays for a 3-cent ball with a five-cent piece, he should get — cents in change.

9. Larry is 8 years old. His brother is 5 years old. Larry is — years older than his brother.

10. Ten is — more than six.

11. Five is — less than nine.

12. Mary started on a 9-mile trip with her father. After they had driven 6 miles, they had — more miles to drive.

13. Frank caught a fish 9 inches long. Paul caught one 7 inches long. Frank’s fish was — inches longer.


15. 3 and — are 8.

16. The difference between 10 and 4 is —.

17. Edgar has 6 cents. He must save — cents more to have 10 cents.

Subtract:

18. 9 12 8 11 9 12
    1 4 5 7 9

19. 10 7 12 9 10 11
    3 3 5 6 4 3
A circus came to Brownsville. Some children stood on the sidewalk and counted the animals.

1. There were 7 lions in the first cage and 5 lions in the next cage. There were __ lions in the two cages.

2. Jim said: "I like the monkeys best. There are 10 of them in the first cage and 7 in the second cage." There were __ more in the first cage than in the second cage.

3. The children counted 4 large tigers and 8 small ones. There were __ tigers in all.

4. There were 6 horses to pull wagons and 6 horses that could do tricks. The circus had __ horses all together.

5. There were 12 elephants at the front of the parade. The keeper took 6 to the back. That left __ at the front.

Study these addition facts:

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Study these subtraction facts:

1. Leona was playing ring toss. Her score the first time was 8. The next time she played her score was 3. Her total score was __.

2. Edwin counted automobiles as they passed his home. He counted 9 cars and 4 trucks. That was __ automobiles in all.

3. Bill is 9 years old. In 3 more years he will be __.

4. John had 15 cents when he went to the store. He spent 9 cents for a loaf of bread. He had __ cents left.

Study these addition facts:

Add:

1. 7 + 8 = __
2. 9 + 9 = __
3. 8 + 14 = __
4. 6 + 7 = __
5. 5 + 8 = __
6. 4 + 9 = __

Subtract:

1. 13 - 9 = __
2. 14 - 8 = __
3. 15 - 7 = __
4. 16 - 6 = __
5. 17 - 5 = __
6. 18 - 4 = __

Study these subtraction facts:

1. 16 - 9 = __
2. 17 - 8 = __
3. 18 - 7 = __
4. 19 - 6 = __
5. 20 - 5 = __
6. 21 - 4 = __

Study these subtraction facts:

1. 16 - 9 = __
2. 17 - 8 = __
3. 18 - 7 = __
4. 19 - 6 = __
5. 20 - 5 = __
6. 21 - 4 = __

1. 16 - 9 = __
2. 17 - 8 = __
3. 18 - 7 = __
4. 19 - 6 = __
5. 20 - 5 = __
6. 21 - 4 = __
Hitting the Clowns

Harry and Rose were playing a new game. They put pictures of clowns in a row with a number under each clown. They took turns hitting them. Everyone tried to miss the clowns that were marked zero. Do you know why?

When Rose took her turn, she hit one of the clowns marked 3. The next time she hit a clown marked 0. Her score was 3 + 0, or 3.

When Harry tried, he hit a clown marked zero. On his second turn he hit another clown marked zero. His score was 0 + 0, or 0.

Have you ever played a game where you had to use the figure zero? Remember that zero means "nothing" or "not any." When you add zero to a number, the number is not changed.

Rose wrote her scores. Add them:

1. 3 5 6 1 0 9
2. +0 +0 +7 +0 +8 +1

Some of Harry’s friends came to play the new game.

2. Ellwood said: “Yesterday I made a score of 7. My score is not so good today. It is 0." Ellwood’s score for the two days was ___.

3. Albert’s score was 9. Sue’s score was 6. Albert’s score was ___ more than Sue’s.

4. Ann’s score was 0 the first time she played and 0 the next time she played. Her total score was ___.

5. Harry hit clowns marked 7 and 5. His score was ___.

6. Rose hit one clown marked 9. She said, “Now I must hit a ___ to equal Harry’s score.”

Add:

7. 0 7 5 8 0 4
8. 9 7 8 9 7 5
9. 0 9 7 0 8 4
10. 6 0 7 2 8 0
11. 6 9 0 8 0 7

Playing Beanbag

One day the children played beanbag. They set some round baskets on the floor. Each basket had a number on it. Each child threw the beanbags until he had one in each of two baskets. Find the total scores for each turn.

1. Ellen’s scores:
   4 and 0 = 0 and 4 =
   0 and 7 = 9 and 5 =
   4 and 6 = 8 and 1 =
   7 and 8 = 0 and 1 =

2. Vincent’s scores:
   6 and 0 = 9 and 9 =
   8 and 0 = 1 and 3 =
   7 and 1 = 7 and 0 =
   8 and 4 = 0 and 3 =

3. Jim’s scores:
   7 7 3 9 3 5
   0 8 9 0 4 9

4. Mabel’s scores:
   1 0 8 0 6 0
   0 7 0 9 8 0

When you add a 0, you are not adding anything; so the number stays the same.
When you subtract a 0, you are not subtracting anything; so the number stays the same.

5. 8 5 6 7 9 3
   -0 -0 -0 -0 -0 -0

When you subtract the same number, you have nothing left; so you write a 0.

6. 3 6 5 4 7 8
   -3 -6 -5 -4 -7 -8

Subtract:

7. 9 6 8 8 2 2
   9 0 0 7 2 0

8. 9 9 1 4 4 4
   5 0 1 3 2 0

9. 7 1 8 0 6 9
   3 0 4 0 1 8

10. 18 16 3 17 15 16
    9 8 0 9 8 9

11. 7 15 16 15 5 17
    0 7 7 9 0 8
At Camp

Jack and Bill were going to a camp near the river. Jack's father gave them a weighing scale. He said: "Now you can weigh all those big fish that you are going to catch. The numbers on the scale show the number of pounds. I hope you have good luck."

At camp Jack said, "I think we should get practice in weighing before we catch the fish."

"That's a fine idea," said Bill. "Let's weigh the food that we brought."

1. Jack weighed the sugar. They had 8 pounds of white sugar and 2 pounds of brown sugar. They had — pound all together.

2. The bananas weighed 8 pounds. The apples weighed 3 pounds. The bananas weighed — pounds more than the apples.

3. The potatoes weighed 6 pounds. The bread weighed 4 pounds. Together they weighed — pounds.

4. Jack caught a 3-pound fish the first day. Bill caught a fish that weighed 2 pounds. Bill's fish weighed — pound less than Jack's.

5. At the end of the week Jack had caught 7 pounds of fish. Bill had caught 5 pounds. That is — pounds all together.

6. Bill said, "Jack, your fish weighed — pounds more than the ones I caught."

The short way to write pound or pounds is lb.

7. 9 lb. 8 lb. 12 lb. 16 lb.
   -2 lb. -8 lb. -4 lb. -9 lb.
   lb. lb. lb. lb.

8. 4 lb. 8 lb. 7 lb. 6 lb.
   +8 lb. +8 lb. +6 lb. +7 lb.
   lb. lb. lb. lb.

9. 7 9 8 4 6 4
   +8 +5 +4 +0 +5 +9

10. 14 18 13 15 16 14
    -9 -9 -8 -6 -8 -6

The Addition Combinations

1. 2 + 1 = 0 + 1 = 11. 5 6 1 4 5 6 6
   +4 +2 +6 +6 +6 +0 +6
2. 1 + 1 = 2 + 2 =
3. 2 + 0 = 0 + 0 = 12. 3 7 7 3 0 4 6
   +6 +1 +2 +7 +7 +7 +7
4. 1 + 3 = 2 + 3 =
5. 3 + 3 = 3 + 0 = 13. 7 7 8 1 4 8 5
   +5 +7 +3 +8 +8 +0 +8
6. 2 + 4 = 1 + 4 =
7. 4 + 0 = 3 + 4 = 14. 7 8 2 8 3 6 9
   +8 +6 +8 +9 +6 +9 +1
8. 4 + 4 = 3 + 5 =
9. 5 + 5 = 0 + 5 =
10. 5 + 2 = 1 + 5 =

For more practice turn to DRILL 1 on p. 139.

Subtraction Combinations

1. 4 - 1 = 2 - 0 =
   11. 8 11 10 14 12 15 13
   -6 -6 -6 -6 -6 -6 -6
2. 6 - 0 = 8 - 1 =
3. 7 - 2 = 11 - 2 =
   -7 -7 -7 -7 -7 -7 -7
4. 3 - 3 = 8 - 3 =
5. 11 - 3 = 12 - 3 =
   -7 -7 -7 -7 -7 -7 -7
6. 7 - 4 = 9 - 4 =
7. 11 - 4 = 13 - 4 =
   -8 -8 -8 -8 -8 -8 -8
8. 11 - 5 = 13 - 5 =
9. 12 - 5 = 14 - 5 =
10. 7 - 6 = 9 - 6 =

For more practice turn to DRILL 2 on p. 140.
Sue's aunt gave her a cash-register bank for her birthday. She said: "You may put pennies, nickels, dimes, and quarters into this bank. I shall give you one of each. That will be four coins."

Sue placed the coins in a row like this:

Cent Nickel Dime Quarter

As she picked up each coin Sue said:

1. A nickel is ___ cents.
2. A dime is ___ cents.
3. A dime is the same as ___ nickels.
4. A quarter is ___ cents.

The sign ¢ means cent or cents. 5¢ is the same as 5 cents.

Sue received other coins for her bank. How much money did each person give her?

5. Aunt Ida gave her 1¢, 5¢. Total: ___¢
6. Father gave her 5¢, 3¢. Total: ___¢
7. Mother gave her 8¢, 5¢. Total: ___¢

Sue's aunt asked her these questions. See if you can answer them.

8. Which is more, a dime or 11 cents?
9. Which is less, a dime or a nickel?
10. Which is less, a nickel or 6 cents?

11. 4¢ + 7¢ = 11¢ 15¢ - 6¢ =
12. 5¢ + 5¢ = 4¢ - 2¢ =
13. 8¢ + 5¢ = 4¢ - 4¢ =
14. 5¢ + 0¢ = 17¢ - 9¢ =
15. 2¢ + 9¢ = 7¢ - 0¢ =
16. 8¢ + 6¢ = 16¢ - 7¢ =
17. 8¢ + 8¢ = 6¢ - 1¢ =
18. 6¢ + 0¢ = 15¢ - 8¢ =
19. 8¢ + 9¢ = 8¢ - 0¢ =
20. 6¢ + 7¢ = 16¢ - 8¢ =
21. 9¢ + 8¢ = 14¢ - 5¢ =

First Progress Test

Work all the examples on this page. Do not spend too much time on one example. If you cannot do it, go on to the next. Do not hurry. Work TEST 1 and then go right on and work TEST 2. Be careful to see whether it says to add or to subtract.

TEST 1 — ADD

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TEST 2 — SUBTRACT

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To the teacher: Stop the test when all but a few have finished TEST 2. These may be allowed to finish later. The goal is 100 per cent accuracy, but some pupils may be expected to make one or two chance errors.
1. Mabel's doll has 3 party dresses and 5 everyday dresses. She has ___ dresses.

2. Elsie has 11 roses on her rosebush. If she picks 6 roses, there will be ___ left on the bush.

3. Mae has 7 cents. Helen has 4 cents. They both have ___ cents.

4. Mary and Edna each had 4 cents. Together they had ___ cents.

5. Fred promised to pick 7 quarts of cherries. He picked 3 quarts. He had ___ more quarts to pick.

6. Ellen made a stool 12 inches long. Bob made one 8 inches long. Ellen's stool was ___ inches longer than Bob's.

7. Joe bought four cents' worth of candy. He gave the storekeeper ten cents. He received ___ cents change.


9. Arthur is 7 years old. His brother is 5 years older. His brother is ___ years old.

Go back and think over each problem again. Be sure you are right.

A better way to find the answer is to multiply, like this:

\[2 \times 3 = 6\]
\[3 \times 2 = 6\] is read "3 times 2 equals 6."

Read: \[1 \times 2 = \] \[0 \times 2 = \]
\[4 \times 2 = 8\] \[5 \times 2 = 10\] \[2 \times 2 = 4\]

1. Harry said: "I'll take 4 apples. They will cost 4 times 2¢, or ___ cents."

2. Two apples would cost ___ cents.

3. Five apples would cost ___ cents.

4. \[3 \times 2 = 6\] \[4 \times 2 = 8\] \[5 \times 2 = 10\]

5. \[2 \times 2 = 4\] \[1 \times 2 = 2\] \[0 \times 2 = 0\]

Study these division facts:

\[10 \div 2 = 5\] is read "10 divided by 2 equals 5."

\[5 \div 2 = \] \[3 \div 2 = \]
\[6 \div 2 = \] \[4 \div 2 = \]

\[2 \div 0 = \] \[8 \div 0 = \]
\[2 \div 0 = \] \[10 \div 0 = \]

Another division sign is \(\div\).

We divide to find out.

\[2 \div 8 = \]
\[2 \div 0 = \]

We say, "2 into 8, 4."

To the teacher: Allow time for most of the pupils to finish. Normally this will be about 14 minutes. The norm for problem tests is five problems correct with a 10-minute time allowance. This first test, however, is made slightly easier than standard to establish confidence.
At the Toy Store

When we multiply, we always get a product. 2 x 6 = 12. 12 is the product of 2 x 6.

Study these products:

2 X 6 = 12
6 X 2 = 12
2
6

10. 7 dolls would cost __$. If rubber balls cost 5$ each, 1 ball would cost __$. 2. Two balls would cost __$. 3. 2 x 5$ = __$. 4. Study these multiplication facts. Put in answers where they are needed. 5 x 5 = 5 5 = 5 5 = 5 5

Counting by 5's

4. Study these multiplication facts. Put in answers where they are needed. 5 x 5 = 5 5 = 5 5 = 5 5

5. Jack wanted to count his marbles. He put them in a row. How many groups of 5 could he make if he had 10 marbles?

Using 5 in Multiplication and Division

Study these products:

5 x 3 = 15
5 x 10 = 50
5 x 8 = 40
5 x 9 = 45

Learn these division facts:

5 5 5 5 5
15 50 40 45

9. Marie had 15$. She could buy __ apples.

Tony, the fruit man, sells apples at 5$ each.

1. 4 apples cost __$. 2. 8 apples cost __$. 3. 6 apples cost __$. 4. 7 apples cost __$. 5. 9 apples cost __$. 6. 5 apples cost __$. 7. 3 apples cost __$. 8. 10 apples cost __$. 10. Tom had 45$. He could buy __ apples.

Have you ever counted this way: 5, 10, 15? Very likely you did not know it, but you were multiplying when you counted that way. You were saying:

One 5 is 5.

Two 5's are 10.

Three 5's are 15.

1. If rubber balls cost 5$ each, 1 ball would cost __$. 2. Two balls would cost __$. 3. 2 x 5$ = __$. 4. Study these division facts. Write the answers where they are needed.

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Three 5's are 15.

1. If rubber balls cost 5$ each, 1 ball would cost __$. 2. Two balls would cost __$. 3. 2 x 5$ = __$. 4. Study these division facts. Write the answers where they are needed.

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Learn these division facts:

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Tony, the fruit man, sells apples at 5$ each.

1. 4 apples cost __$. 2. 8 apples cost __$. 3. 6 apples cost __$. 4. 7 apples cost __$. 5. 9 apples cost __$. 6. 5 apples cost __$. 7. 3 apples cost __$. 8. 10 apples cost __$. 10. Tom had 45$. He could buy __ apples.
1. The balloon man came down the street. He had 8 balloons. He carried one half \( \frac{1}{2} \) of them in each hand. How many balloons did he have in each hand?

\[ \frac{1}{2} \times 8 = 4 \]

2. Bob was given 6 story books for his birthday. He placed them in two piles on the shelf. Each pile had \( \frac{1}{2} \) of the books. How many books were there in each pile?

\[ \frac{1}{2} \times 6 = 3 \]

3. When we divide a number by 2, we find \( \frac{1}{2} \) of it.

4. If you divide 20 crayons into five equal groups, each group has one fifth \( \frac{1}{5} \) of the crayons.

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If you divide 20 crayons into five equal groups, each group has one fifth \( \frac{1}{5} \) of the crayons.

1. If 3 people came, Eleanor and Edward would collect \( 3 \times 3 \frac{1}{2} \), or \( \frac{9}{2} \).

2. If 4 people came, they would collect \( 4 \times 3 \frac{1}{2} \), or \( \frac{14}{2} \).

3. If 2 people came, they would collect \( 2 \times 3 \frac{1}{2} \), or \( \frac{7}{2} \).

4. If 3 people came, they would collect \( 3 \times 3 \frac{1}{2} \), or \( \frac{9}{2} \).

If you multiply a number by 1, the number does not change.

If you multiply a number by 0, the answer is always 0.

Multiply:

5. \[ \frac{3}{4} \times \frac{4}{3} \times \frac{1}{3} \times \frac{2}{3} \times \frac{2}{3} \]

6. Shirley had 20 crayons. She placed them in groups of 4 each, like this:

7. One rainy afternoon Eleanor and Edward decided to buy more material with the money they made from the puppet show.

8. How many 3\( \frac{1}{2} \) spools of thread could they buy for 9\( \frac{1}{2} \)?

Answer:

9. How many 4\( \frac{1}{2} \) dolls could they buy for 12\( \frac{1}{2} \)?

Answer:

10. How many 4\( \frac{1}{2} \) dolls could they buy for 12\( \frac{1}{2} \)?

Answer:

Study these division facts:

\[ \frac{1}{3} \div \frac{2}{3} = \frac{4}{3} \]

\[ \frac{3}{3} \div \frac{3}{3} = \frac{3}{3} \]

\[ \frac{3}{3} \div \frac{4}{3} = \frac{3}{4} \]

\[ \frac{1}{4} \div \frac{4}{3} = \frac{3}{0} \]

Divide:

11. \[ \frac{4}{4} \div \frac{4}{4} = \frac{4}{0} \]

12. \[ \frac{3}{3} \div \frac{3}{3} = \frac{3}{3} \]

13. \[ \frac{3}{15} \div \frac{3}{15} = \frac{3}{15} \]
The boys who lived on Third Street made a basketball court.

1. There were 16 boys. On Monday 9 of the boys came to play, and — of them did not come.

2. They sold magazines at 5¢ each to buy a basketball. Bill sold 10 magazines. He received —.

3. Jim said: "We need 5 boys for a team. If we can get 20 boys out, we can have — teams."

4. One team scored 8 goals in the first game and 9 goals in the next. That was — goals all together.

5. Each goal counted 2 points.
9 goals would be — points.
6 goals would be — points.
5 goals would be — points.
3 goals would be — points.
4 goals would be — points.

6. The boys played 18 games during the year. They won one half of their games. That is — games.

7. ½ of 12 = ½ of 2 =
8. ½ of 10 = ½ of 10 =
9. ½ of 16 = ½ of 14 =
10. ½ of 4 = ½ of 8 =
11. ½ of 6 = ½ of 5 =
12. 8 + 3 = 2 × 7 =
13. 11 - 3 = 3 + 6 =
14. 20 ÷ 2 = 3 × 4 =
15. 5 × 8 = 10 - 6 =
16. 12 + 3 = 8 + 8 =
17. 7 + 3 = 10 + 2 =
18. 2 + 2 = 3 × 0 =

3. 3 × 4 = 30 + 4.

4. 10 PENNIES
5. 10 PENNIES
11 is 10 + 1. 12 is 10 + 2.
14 is 10 + 4. 20 is 10 + 10.
34 is 30 + 4.

Units and Tens

34 is 3 tens and 4 ones, or units.
57 is 5 tens and 7 units.
1. 39 is — tens and — units.
2. 20 is — tens and — units.
24 is 2 tens and 4 units.
3. +3 +3 +3 +3 +3 84
27 = 2 tens and 7 units
When you add 3 to a number that ends in 4, the answer ends in 7.
3. 34 44 54 64 84
+3 +3 +3 +3 +3
4. 64 31 40 53 62
+5 +7 +2 +1 +3

Column Addition

1. Mary said: "I have 2 large china dolls, 3 small china dolls, and 5 cloth dolls. How many dolls is that all together?"
Mary wrote the numbers like this:
3. 6 1 8 9 6 9
1 1 6 7 1 4 5
6 3 2 1 3 1
4. 7 4 9 2 7 9
4 4 5 1 4 2 4
4 3 6 5 6 2

First she added the 5 and the 3. She got 8. Then she added the 2 to the 8. The sum is 10. Mary had — dolls.
5. 5 + 3 + 3 = 2 + 6 + 5 =
6. 1 + 5 + 4 = 2 + 1 + 7 =
7. 3 + 2 + 4 = 3 + 4 + 7 =
8. 3 + 3 + 6 = 3 + 1 + 6 =
9. 1 + 1 + 8 = 4 + 3 + 2 =

2. Charles has 8 red marbles, 1 blue marble, and 3 white marbles. He has — marbles all together.
1. Some children earned money by selling flowers from their garden. Helen earned a nickel and a dime. All together she earned ___ cents.

2. Bob earned two nickels. He earned ___ cents in all.

3. Add: 5¢ 8¢ 5¢ 16¢ 5¢
   2¢ 3¢ 7¢ 2¢ 14¢

4. A nickel is worth ___ cents.
   A dime is worth ___ cents.
   A dime is worth ___ nickels.

Add:

5. \[\frac{23}{4} \times 6 = \frac{18}{4} \times 1 = \frac{14}{4} \]
6. \[\frac{43}{5} \times 6 = \frac{81}{5} \times 6 = \frac{40}{5} \]
7. \[\frac{45}{2} \times 7 = \frac{73}{4} \times 5 = \frac{52}{4} \times 5 \]

8. Popcorn costs 5¢ a bag. Louis had 15¢. He could buy ___ bags of popcorn.

A boat ride on the river costs 25¢. It takes 25 pennies to make 25¢.

A twenty-five-cent piece is called a quarter, you know. A quarter is worth 5 nickels.

9. A five-cent piece is called a ___ cent piece.

10. A ten-cent piece is called a ___ cent piece.

11. A twenty-five-cent piece is called a ___ cent piece.

12. The sign \( \$ \) means ___.

13. A quarter is worth ___ nickels.

14. A quarter is worth ___ dimes and a nickel.

15. Write in another way: eight cents, ___ three cents, ___ forty cents, ___ twelve cents, ___ ten cents, ___ sixteen cents.

16. 2 pt. = 1 qt.

Pints and Quarts

Ann went to the store for a quart of milk. The grocer gave her 2 pint bottles. He said: "I have no quart bottles left. Will 2 pints be all right?"

Ann said, "Yes, that's all right, because 2 pints make one quart."

The short way to write pint or pints is pt.

The short way to write quart or quarts is qt.

Read this: 2 pt. = 1 qt.

1. Jack had a party. The ice cream came in pint packages. There were 6 packages. That was ___ quarts.

2. How many pints are there in each of these cans?

3. \[\frac{3}{4} \text{ qt.} = \_ \text{ pt.} \quad \frac{1}{2} \text{ qt.} = \_ \text{ pt.} \]
4. \[\frac{1}{4} \text{ qt.} = \_ \text{ pt.} \quad \frac{5}{4} \text{ qt.} = \_ \text{ pt.} \]
5. \[\frac{2}{5} \text{ qt.} = \_ \text{ pt.} \quad \frac{6}{5} \text{ pt.} = \_ \text{ qt.} \]
6. \[\frac{4}{5} \text{ qt.} = \_ \text{ pt.} \quad \frac{8}{5} \text{ pt.} = \_ \text{ qt.} \]

Mixed Drill

7. \[40 + 8 = 13 - 8 = 27 + 2 = \]
8. \[2 \text{ qt.} = \_ \text{ pt.} \quad 4 \text{ pt.} = \_ \text{ pt.} \]
9. \[12 \text{ pt.} = \_ \text{ qt.} \quad 16 \text{ pt.} = \_ \text{ qt.} \]
10. \[2 \times 9 = 3 \times 4 = 0 \times 5 = \]
11. Add: 4¢, 2¢, 5¢
Dozens

Mildred was having a party for her sister's birthday. She invited ten children. She said: "There will be 12 of us at the party. That will be a dozen."

One dozen = 12

Mildred said: "I have bought one dozen bananas. That will be one banana for each of us."

1. We have only 7 chairs. We shall have to borrow __ chairs.

2. Mildred bought one dozen cookies and made one dozen more. They would have __ dozen cookies to eat at the party.

3. They had one dozen lanterns left over from last year. Mildred bought 6 more lanterns. They had __ lanterns all together.

4. Mildred bought 10 prizes. That was __ less than one dozen.

5. They bought 1 dozen candles in a box. They needed only 6 for the cake. There were __ candles left.

Using 6's

The children had a treasure hunt. One girl found a little bag of peanuts. There were 6 peanuts in the bag. She found

$1 \times 6$, or 6, peanuts.

6. One of the boys found 2 bags. Each bag had six peanuts in it. He found

$2 \times 6$, or ___, peanuts.

$6 \times 2 = 12$  
$6 \times 2 = 12$  
$6 \times 1 = 6$

7. Multiply:

1  
6  
6

6  
1  
2

0  
6  
6

Mildred had one dozen cookies on a plate. If she divided them equally among 6 children, each child would get 2 cookies.

12 divided by 6 equals 2.

8. If 6 bananas are divided equally among 6 children, each child will get __ banana.

9. __  
 __  
 __  
 __  
 __  
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10. __  
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11. __  
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12. __  
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 __

The Cooking Club met every Saturday. The girls liked to work in the kitchen.

1. One day 4 of the girls decided to make applesauce. Mrs. Green had 12 apples. She divided them equally among the girls. Each girl received ___ apples.

2. The kettle held 6 quarts of water. They filled it ½ full. They used ___ quarts of water.

3. There were 20 girls in the club. Only part of them could work at the same time in the kitchen. They divided themselves into 5 equal groups, with ___ girls in each group.

4. The recipe for cream puffs called for 4 eggs. Lucy made ½ as many cream puffs as the recipe called for. She used ___ eggs.

5. There were 10 jars of fruit on the shelf. The girls used 4 jars of the fruit for jam. There were then ___ jars left.

Add:

7. 26 57 42 71 82
   __ 3 2 5 6 4

8. 41 32 66 93 46
   __ 7 4 2 3 1

9. 3 6 4 9 7 8
   5 2 4 2 2 1
   __ 4 7 5 2 6 3

10. 8 5 2 6 1 7
    1 7 5 3 6 2
    __ 6 2 2 5 1 6

Subtract:

11. 13 11 12 16 10 9
    __ 7 3 5 7 3 6

12. 14 10 6 11 17 8
    __ 9 2 5 6 8 4
Grace had a playhouse in the attic. One day her mother said: "You may have this old window shade to make small shades for your playhouse windows. Can you measure the windows?"

Grace looked at her ruler.

There are 12 inches in 1 foot.

She thought, "Each of the numbers on a ruler marks 1 inch."

There are 12 inches in 1 foot.

This is the short way to write it:

12 in. = 1 ft.

1. The side windows of the playhouse were each 12 inches wide. Each window was——foot wide.

2. The two windows together were——feet wide.

3. 7 ft. +——ft. = 9 ft.

4. 8 in. - 4 in. =——in.

5.——ft. + 5 ft. = 7 ft.

6. 8 in.——in. = 3 in.

7. 12 in. 9 ft. 13 in. 9 ft.

-5 in. + 3 ft. - 4 in. + 9 ft.

in. ft. in. ft.

Using a Ruler

Grace measured her dolls. One of them was a foot tall. The other doll was 6 inches tall. The first doll was——inches taller than the other one.

9. Grace had 6 inches of red ribbon and 6 inches of blue ribbon. She had——foot of ribbon.

10. 7 + 9 = 10 - 9 = 14 - 9 =

11. 9 + 7 = 13 - 4 = 5 + 6 =

12. 7 + 7 = 12 - 7 = 15 - 6 =

13. 5 + 8 = 12 - 3 = 14 - 6 =

14. 6 ft. + 5 ft. =——ft.

15. 12 ft. - 8 ft. =——ft.

16. 3 ft. + 8 ft. =——ft.

17. 11 ft. - 2 ft. =——ft.

18. 9 ft. + 3 ft. =——ft.

19. 14 in. - 7 in. =——in.

20. 4 in. + 5 in. =——in.

21. 13 in. - 6 in. =——in.

22. 3 in. + 7 in. =——in.

23. 7 in. + 4 in. =——in.

24. 4 in. + 9 in. =——in.

25. 11 ft. - 4 ft. =——ft.

Second Progress Test

Work all the examples on this page. Do not spend too much time on one example. If you cannot do it, go on to the next. Do not hurry. Work TEST 1 and then go right on. Be careful to see what you are to do.

TEST 1 — ADD

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TEST 2 — SUBTRACT

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-2 10 9 8 7 6 5 4 3 2 1 0

TEST 3 — MULTIPLY

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TEST 4 — DIVIDE

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TEST 5 — FIND THE FRACTIONAL PARTS

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To the teacher: Subtests may be timed separately, one minute each. Call attention each time to the operation to be performed.
Read each problem carefully. Do not spend too much time on one problem. If you cannot work it, go on to the next. Do not hurry. Be sure you understand what each problem asks you to find.

1. There were 8 children at a party, but 2 went home early. There were ___ children left.

2. John put a nickel and a dime in his bank. He put in ___ cents.

3. Five boys are needed for each basketball team. For 2 teams ___ boys are needed.

4. There are 5 caramels in each package. Harry wants enough caramels to give one to each of 15 boys. He should buy ___ packages.

5. Mrs. Smith had 7 eggs. She bought a dozen more. Then she had ___ eggs.

6. Helen and her mother started on a 15-mile drive. When they had gone 7 miles, Helen said, "We still have ___ miles to go."

7. Last week James went to the store three times for a neighbor. He received a nickel each time. He earned ___ cents all together.

8. Marie bought 10¢ worth of candy. She found that there were 5 pieces of candy in the bag. She had paid ___¢ for each piece.

9. With 30 cents you can buy ___ yards of 5-cent ribbon.

10. With 30¢ you can buy ___ yards of 5-cent ribbon.

11. Sam saved 43 stamps. His Uncle Jack gave him 20 more. How many stamps had he then?

Answer: ___

Go back and think over each problem again. Be sure you are right.
Six children were at a fair. They stopped at the souvenir stand.

Rose bought an elephant and a monkey. She added to see how much they cost. She began at the right. She thought, "6 and 7 are 13.," and wrote the 3 under the 6. She added the 1 to the next column. Then she thought, "1 and 1 are 2," and wrote the 2. Rose spent 23 cents.

1. Don bought a cane and a pencil. Don spent 25 cents.

2. June bought a toy umbrella and a boat. June spent 26 cents.

3. Fred bought a cane and a monkey. They cost 10 cents.

4. Kate had 10 cents. She bought a boat. She had 4 cents left.


6. Fred said: "I have 17 cents. I'll take an elephant." How much money had he left? Answer: 6 cents.

7. 8 + 6 = 9 + 7 =

8. 3 + 6 = Add 7 and 6. 6 + 5 =

9. Add 9 and 2. 6 + 5 =

10. 18 - 9 = 5 and 3 are 11.

11. 8 from 10 is 12 less 3 is

12. 5 and 8 = 8 and 3 are 17.

13. 3, 5, and 4 = and 6 = 12

14. 2 more than 8 is

15. The total of 5 and 5 is

16. Subtract 8 from 11.

You know that 5 and 8 are 13. Do you see that 15 and 8 are 23?

1. Jack saved 5 stamps for his stamp book. He was given 6 new ones. He then had 11 stamps.

2. Tom had 15 stamps. He bought 6 more. He then had 21 stamps.

Write the sums:

3. 5 and 7 are 15 + 7 =

4. 3 and 9 are 13 + 9 =

5. 2 and 8 are 12 + 8 =

6. 9 + 19 + 7 = 17 + 18 + 2

7. 9 + 19 + 6 = 16 + 17 + 4

8. 8 + 7 = 18 = 7 = 2

9. 5 + 9 = 15 + 9 =

10. 6 + 7 = 16 + 7 =

11. 7 + 7 = 14 + 7 =

For more practice turn to DRILL 10b on p. 143.
More Adding by Endings

Write the sums:

1. 5 17 27 37
   7 5 5 5

2. 9 19 29 39
   6 6 6 6

3. Harry reviewed 27 of his spelling words on Monday and 7 more on Tuesday. He reviewed ___ words all together.

4. 8 18 28 38 48
   4 4 4 4 4

Add:

5. 5¢ 15¢ 25¢ 35¢
   6¢ 6¢ 6¢ 6¢

6. 6¢ 16¢ 26¢ 36¢
   7¢ 7¢ 7¢ 7¢

7. Ann picked 29 red roses and 6 white roses. That was ___ roses in all.

8. 19 + 4 = 29 + 4 =

9. 16 + 6 = 26 + 6 =

10. 39 + 4 = 36 + 6 =

11. 15 + 7 = 25 + 7 =

12. 19 + 5 = 39 + 5 =

13. You know that 5 and 8 are 13. Write these sums:
    15 + 8 = 25 + 8 =
    35 + 8 = 45 + 8 =

14. Jim’s scores were 49 and 6 when he played beanbag. His total score was ___.

Add:

15. 7 17 27 37 47
    7 7 7 7 7

16. 6 16 26 36 46
    6 6 6 6 6

For more practice turn to DRILL 10b on p. 143.

17. Bill said: “My scores in the beanbag game were 39 and 8. My total score was ___.”

18. 6¢ and 9¢ = ___¢

19. 26¢ and 9¢ = ___¢

20. 34¢ and 9¢ = ___¢

21. 15¢ and 7¢ = ___¢

22. 24¢ and 8¢ = ___¢

23. 17¢ and 6¢ = ___¢

24. 29¢ and 6¢ = ___¢

Buying Lunch at School

Every day some of the children buy their lunch at school. They like to find how much they should pay the cashier. See if you can tell.

1. Sam’s order
   Soup
   Sandwich
   Milk
   Peas
   Total

2. Dot’s order
   Meat
   Rolls
   Fudge
   Milk
   Total

3. Fred’s order
   Rolls
   Meat
   Soup
   Baked apple
   Total

4. Bud’s order
   Soup
   Rolls
   Baked apple
   Milk
   Total

5. Mary’s order
   Sandwich
   Milk
   Cake
   Ice cream
   Total

6. Tom’s order
   Rolls
   Meat
   Soup
   Baked apple
   Total

Before lunch Jack had been studying fractional parts. When he came to the lunchroom, he said to his friends, “Let’s have a fractional lunch.” Here are some of the things they ordered:

- ½ of an orange
- ⅓ of a melon
- ¼ of a quart of milk
- ⅓ of a loaf of bread
- ⅓ of a brick of ice cream
- ⅓ of a cake
- ⅓ of a bar of chocolate
Twenty-four Hours in a Day

"‘Tis 7 P.M.," the old clock said, "Time for you to go to bed."
And then twelve hours passed away
When again the clock was heard to say,
"It’s 7 A.M.; sleepy head,
Scamper quickly out of bed;
Twelve hours to sleep,
Twelve to work and play
Make twenty-four hours in a day."

1. June said: "I sleep 12 hours every night. If I am awake 12 hours, too, there must be ___ hours in a day."

2. In March there are 12 hours of daylight. If we spend 5 hours in school, we have ___ hours of daylight each day out of school.

A short way to write hour is hr.

3. 5 hr. 8 hr. 4 hr. 9 hr.
   + 3 hr. + 7 hr. + 4 hr. - 5 hr.

Billy said: "Midnight comes at 12 o'clock. I know how to write 12 o'clock midnight a short way. It is 12 P.M."

"I know what hour comes next after midnight," said Anne. "It is 1 o'clock in the morning. It is written like this: 1 A.M."

4. Write these hours the short way:
   2 o'clock in the morning, ___
   4 o'clock in the morning, ___
   8 o'clock in the morning, ___
   11 o'clock in the morning, ___

   Laura said: "We eat lunch at 12 o'clock noon. 1 o'clock in the afternoon is written 1 P.M."

5. Write these afternoon and evening hours the short way:
   2 o'clock in the afternoon, ___
   4 o'clock in the afternoon, ___
   7 o'clock in the evening, ___
   9 o'clock in the evening, ___

6. Henry goes to bed at 8 o'clock. He sleeps ___ hours before midnight.

7. 3 2 1 8 3 6
   5 6 8 4 7 5
   9 3 6 5 2 7

Everyone liked to pick apples in Grandfather’s orchard. It was fun to see who could pick most.

Helen said: "I picked 66 apples. Fred picked 42. I shall subtract to find how many more I picked than Fred. First I shall subtract the tens. Then I shall subtract the units."

   66
   - 42
   ----
   24

"I picked 24 more apples than Fred."

1. Grandfather picked 58 apples. How many more did he pick than Fred?

   Answer: ___

2. Agnes picked 77 apples. How many more apples did Agnes pick than Helen?

   Answer: ___

3. Aunt Sara picked 89 apples. How many more did she pick than Agnes?

   Answer: ___

4. Father picked 56 apples. How many more did he pick than Fred?

   Answer: ___

For more practice turn to DRILL 11b on p. 144.

Picking Apples

5. Which person picked the most apples?

6. Which one picked the fewest apples?

We subtract to find the difference between two numbers.

Find the differences:

7. 57 45 69 69 83
   25 21 10 32 23

8. 84 76 87 79 86
   33 14 63 46 40

9. 57 63 84 49 89
   32 51 24 13 55

We subtract to find how much larger one number is than another.

Samples: 74 74 74
   62 72 2
   12 2 72

Subtract:

10. 89 79 29 65 67
    19 21 16 4 27

11. 68 59 69 47 98
    37 14 61 37 58

12. 58 88 78 96 67
    54 60 13 34 63

13. 76 54 82 65 40
    2 44 31 20 10

For more practice turn to DRILL 20a on p. 146.
The girls who belonged to Esther's club had a balloon dance. Each girl needed 3 balloons.

1. How many balloons would 5 girls need? $5 \times 3 =$ 
   Study these multiplication facts:
   $\begin{align*}
   3 & \times 6 = 18 \\
   3 & \times 7 = 21 \\
   3 & \times 8 = 24 \\
   \hline
   18 & \\
   21 & \\
   24 &
   \end{align*}$

2. How many balloons would 6 girls need? $6 \times 3 =$ 

3. How many balloons would 7 girls need? $7 \times 3 =$ 
   Each balloon cost 3¢.

4. 7 balloons cost ___¢.
   6 balloons cost ___¢.
   5 balloons cost ___¢.

5. $3 \times 7 =$ 
   $2 \times 3 =$ 

6. $1 \times 4 =$ 
   $8 \times 2 =$ 

7. $3 \times 6 =$ 
   $2 \times 5 =$ 

8. $7 \times 3 =$ 
   $5 \times 3 =$ 

9. $5 \times 1 =$ 
   $1 \times 3 =$ 

10. $2 \times 6 =$ 
    $3 \times 7 =$ 

11. $5 \times 0 =$ 
    $9 \times 2 =$

12. Irene had 18¢. She could buy ___ balloons.

   Study these multiplication facts:
   $\begin{align*}
   6 & \times 6 \\
   7 & \times 7 \\
   8 & \times 8 \\
   \hline
   36 & \\
   49 & \\
   64 &
   \end{align*}$

13. Sally had 21¢. She could buy ___ balloons.

14. Kate had 15¢. She could buy ___ balloons.

15. $3 \times 3 = 9 \\
    3 \times 6 = 18 \\
    3 \times 9 = 27 \\

16. $6 \times 12 = 72 \\
    3 \times 21 = 63 \\
    5 \times 10 = 50 \\

17. $3 \times 15 = 45 \\
    3 \times 24 = 72 \\
    3 \times 30 = 90 \\

18. $18 \div 3 = 6 \\
    7 \times 3 = 21 \\
    21 \div 3 = 7 \\

19. $15 \div 3 = 5 \\
    6 \times 3 = 18 \\
    12 \div 3 = 4 \\

20. $4 \times 3 = 12 \\
    3 \div 3 = 1 \\
    4 \times 5 = 20 \\

Add:

21. $2 \times 3 = 6 \\
    4 \times 2 = 8 \\
    8 \times 6 = 48 \\
    3 \times 4 = 12 \\

22. $8 \times 9 = 72 \\
    1 \times 2 = 2 \\
    4 \times 3 = 12 \\
    2 \times 1 = 2 \\

For more practice turn to DRILL 11b on p. 144.
Some boys saw these 4 piles of pennies. Each pile had 5 pennies in it.

Fred said, "Let's count them to find how many there are all together."

Jack said, "We can add them."

He wrote:

\[
\begin{array}{cccc}
5 & 5 & 5 & 5 \\
\end{array}
\]

20

Harry said, "The best way is to multiply." He thought:

\[
\begin{array}{cccc}
5 & 5 & 5 & 5 \\
\end{array}
\]

\[
\begin{array}{cccc}
\times4 & \times4 & \times4 & \times4 \\
20 & 20 & 20 & 20 \\
\end{array}
\]

Multiplication is used to find the total, or how much all together. Multiplication is like addition, but it is often much quicker.

Harry could multiply because all the piles were the same size.

1. If each box holds 4 crayons, in 3 boxes there are ___ crayons.

2. Marie bought 8 apples that cost 2¢ each. They cost ___ cents all together.

3. If there are 3 rows of desks with 5 desks in each row, there are ___ desks all together.

4. At 2¢ each 4 tops will cost ___¢.

5. Three 8-cent loaves of bread will cost ___¢.

6. Mary sleeps 10 hours each night. In 5 nights she gets ___ hours' sleep.

7. Four nickels are worth ___ cents.

8. Seven quarts are equal to ___ pints.

9. Add:

\[
\begin{array}{cccc}
2 & 0 & 1 & 5 \\
2 & 0 & 1 & 5 \\
2 & 0 & 1 & 5 \\
\end{array}
\]

\[
\begin{array}{cccc}
5 & 3 & 4 & 4 \\
5 & 3 & 4 & 4 \\
5 & 3 & 4 & 4 \\
\end{array}
\]

10. Multiply:

\[
\begin{array}{cccc}
2 & 0 & 1 & 5 \\
4 & 4 & 4 & 4 \\
\end{array}
\]

\[
\begin{array}{cccc}
5 & 3 & 4 & 4 \\
5 & 3 & 4 & 4 \\
\end{array}
\]

11. Divide:

\[
\begin{array}{cccc}
4 & 8 & 4 & 0 \\
4 & 4 & 4 & 4 \\
\end{array}
\]

4)12

12. Subtract:

\[
\begin{array}{cccc}
4 & 8 & 12 & 16 \\
4 & 4 & 4 & 4 \\
\end{array}
\]

\[
\begin{array}{cccc}
24 & 28 & 24 & 28 \\
4 & 4 & 4 & 4 \\
\end{array}
\]
What Division Means

1. Mary has 15¢. Each ride on the merry-go-round costs 5¢. Mary can ride ___ times.
   Think, "5 into 15," or, "15 ÷ 5."
   Answer: ___ rides

2. Bob has 10¢. How many 2¢ stamps can he buy?
   Think, "How many times can Bob buy a 2¢ stamp?"
   Answer: ___ stamps

3. How many nickels are there in 50 cents?
   Answer: ___ nickels

4. Twelve boys want to play ball. How many boys should be on each side?
   Think: "There are 2 sides. 12 ÷ 2 = ?"
   Answer: ___ boys

5. How many 3-cent stamps can Ned buy for 24 cents?
   Answer: ___ stamps

6. Sharing Things Equally

   7. A farmer gave three boys a dozen apples. What was each boy's share?
      Think, "Divide the 12 evenly among the 3 boys."
      Answer: ___ apples

   8. Two boys mowed a large lawn for two dollars. What was each boy's share of the money?
      Answer: ___ dollar

   9. Four boys had a strip of 12 merry-go-round tickets. How many rides could each boy have?
      Answer: ___ rides

10. Five boys bought a 35¢ ball. What was each boy's share of the cost?
    Answer: ___¢

Multiplication Combinations You Have Studied

1. 4 x 2 =
   11. 8 x 4 =
   2. 2 x 8 =
   12. 9 x 3 =
   3. 4 x 1 =
   13. 5 x 1 =
   4. 0 x 5 =
   14. 6 x 5 =
   5. 3 x 2 =
   15. 7 x 4 =
   6. 3 x 4 =
   16. 8 x 3 =
   7. 4 x 0 =
   17. 9 x 5 =
   8. 9 x 5 =
   18. 1 x 3 =
   9. 5 x 5 =
   19. 2 x 8 =
   10. 10 x 2 =

Division Combinations You Have Studied

1. 1/4 of 4 =
   11. 2/5 of 8 =
   2. 1/2 of 6 =
   12. 4/20 of 12 =
   3. 1/4 of 4 =
   13. 5/20 of 12 =
   4. 1/2 of 12 =
   14. 5/30 of 10 =
   5. 1/5 of 10 =
   15. 6/0 of 2 =
   6. 10 + 2 =
   16. 6/2 of 10 =
   7. 15 + 3 =
   17. 3/30 of 2 =
   8. 24 + 4 =
   18. 6/12 of 2 =
   9. 15 + 5 =
   19. 2/28 of 4 =
   10. 45 + 5 =
   20. 3/21 of 2 =

1 - 10
11 - 20
21 - 30
31 - 40
41 - 50
Read these problems carefully. Mark an M if you should multiply. Mark an D if you should divide. Then write the answer.

Sample: How many 2-cent stamps can you buy for 10 cents? \( D \) 5 stamps

1. How much will three 5-cent apples cost?

2. Four boys had a basket of apples. There were 20 apples all together. How many apples should each boy have?

3. If each baseball team needs nine players, how many players will be needed for two teams?

4. Fred set out 5 rows of tomato plants. There were 8 plants in each row. How many plants did he set out?

5. John can carry 4 bricks at a time. How many trips will he have to make to carry 24 bricks to his father?

6. Three dimes are equal to how many cents?

7. If Molly saves 3 cents a day, how long will it take her to save 30 cents?

**Multiplication and Division Problems**

**Mixed Drill**

1. Multiply: \( \frac{9}{3} \)

2. \( 9 + 9 = \)

3. \( 17 - 9 = \)

4. \( 5 \times 45 \)

5. \( 4 \times 7 = \)

6. Subtract: \( 7 \) from 16.

7. \( 17 + 8 = \)

8. \( 18 + 6 = \)

9. Add: \( \frac{5}{5} \)

10. \( 2 \times 6 \)

11. Divide: \( 21 \) by 3.

12. \( 4 \div 28 \)

13. \( \frac{1}{2} \) of 27 =

14. \( \frac{1}{2} \) of 25 =

15. \( \frac{15}{15} \)

16. Multiply: \( 7 \) by 3.

17. \( 3 \times 9 \)

18. Add: \( 6, 8, 5, 7 \)

19. \( \frac{1}{2} \) of 28 =

20. \( 36 \)

---

**Third Progress Test**

**Name:**

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<tr>
<th>TEST 1 — ADD</th>
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<th>TEST 3 — MULTIPLY</th>
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<th>TEST 5 — FIND THE FRACTIONAL PARTS</th>
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<th>TEST 11 — ADD</th>
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To the teacher: In the Third Progress Test the subtests may be timed separately if comparisons with standards are desired. If the teacher: In the Third Progress Test the subtests may be timed separately if comparisons with standards are desired. It is for the first four subtests is 1 minute each. Test 11 requires 2 minutes. The standards are as follows: Test 1, 11 right; Test 2, 13 right; Test 3, 6 right; Test 4, 10 right; Test 5, 9 right; and Test 11, 9 right.
Read each problem carefully. Do not spend too much time on one problem. If you cannot work it, go on to the next. Do not hurry. Be sure you understand what each problem asks you to find.

1. Harry bought a 5-cent pencil and a 15-cent notebook. He spent ___ cents.

2. Jack had 17 cents when he left home. When he reached the store, he had only 12 cents. He had lost ___ cents.

3. If each marble costs 2 cents, you can buy ___ marbles for 10 cents.

4. At 5 cents a can, 3 cans of beans will cost ___ cents.

5. Gladys is reading a story that is 18 pages long. She has read 6 pages and has ___ pages yet to read.

6. If you learn 4 new spelling words a day, it will take ___ days to learn 20 new words.

7. Last year Anna's dog weighed 4 pounds. Now it weighs 12 pounds. It has gained ___ pounds.

8. Mrs. Simpson uses 2 quarts of milk each day. In seven days she uses ___ quarts.

9. Mr. Benson sold a dozen eggs. He had 9 eggs left. Mr. Benson had ___ eggs at first.

10. Mrs. Simpson uses 2 quarts of milk each day. In seven days she uses ___ quarts.

11. Louise had 32 pennies. She placed them in piles of 4. There were ___ piles of pennies.

You should be sure of these multiplication facts:

\[
\begin{array}{ccc}
4 & 4 & 4 \\
8 & 9 & 10 \\
32 & 36 & 40 \\
\end{array}
\]

1. Miss Hunter had 4 boxes of Christmas bells. There were 10 bells in each box. There were ___ bells all together.

\[4 \times 10 = \]

2. Write the products:

\[
\begin{array}{cccc}
10 & 4 & 9 & 4 \\
4 & 4 & 4 & 6 \\
\end{array}
\]

3. \[9 \times 4 = \quad 4 \times 7 = \quad 4 \times 8 = \quad 4 \times 10 = \]

Be sure you know these division facts:

\[
\begin{array}{ccc}
10 & 8 & 9 \\
4 \div 40 & 4 \div 32 & 4 \div 36 \\
\end{array}
\]

The answer in division is called the quotient.

Find the quotients:

\[
\begin{array}{ccc}
4 & 32 & 40 \div 4 = 4 \div 36 \\
4 & 40 & 32 \div 4 = 4 \div 28 \\
\end{array}
\]

7. There were 36 children in Mae's room. One fourth of them were in the school play. There were ___ children in the play.

8. \[\frac{1}{4} \text{ of } 16 = \quad \frac{1}{4} \text{ of } 8 = \]

9. \[\frac{1}{4} \text{ of } 40 = \quad \frac{1}{4} \text{ of } 32 = \]

10. \[\frac{1}{4} \text{ of } 24 = \quad \frac{1}{4} \text{ of } 28 = \]

11. \[\frac{1}{4} \text{ of } 20 = \quad \frac{1}{4} \text{ of } 12 = \]

12. \[\frac{1}{4} \text{ of } 4 = \quad \frac{1}{5} \text{ of } 10 = \]

13. \[18 \div 2 = 4 \times 8 = \]

14. \[\frac{1}{4} \text{ of } 15 = \quad \frac{1}{5} \text{ of } 12 = \]

15. \[\frac{1}{4} \text{ of } 36 = 12 \div 3 = \]

16. \[3 \times 7 = \quad \frac{1}{5} \text{ of } 27 = \]

17. \[\frac{1}{5} \text{ of } 14 = \quad \frac{1}{5} \text{ of } 40 = \]

18. \[\frac{1}{5} \text{ of } 9 = \quad \frac{1}{5} \text{ of } 20 = \]

19. \[2 \times 2 = \quad \frac{1}{5} \text{ of } 10 = \]

20. \[3 \div 24 \quad 3 \div 18 \quad 2 \div 16 \]

21. \[4 \times 7 = \quad 9 \times 4 = \]

22. \[5 \div 20 \times 10 \quad \times 2 \quad \times 4 \]

Go back and think over each problem again. Be sure you are right.
Mr. Davis was taking Bob and Betty for a ride. Bob said, "Father has only one gallon of gasoline."

Betty said: "That makes me think of something I learned today:

4 quarts = 1 gallon

Father has 4 quarts of gasoline."

The short way to write gallon or gallons is gal.

1. 4 qt. = _ gal. 12 qt. = _ gal.
2. 8 qt. = _ gal. 16 qt. = _ gal.
3. Mr. Davis bought 3 gallons of oil. That was — quarts of oil.
4. Bob said: "Father bought 5 gallons of gasoline every day for seven days. He bought — gallons all together."
5. 2 gal. = — qt. 4 gal. = — qt.
6. 3 gal. = — qt. 5 gal. = — qt.
7. 6 gal. = — qt. 7 gal. = — qt.

You remember this:

2 pints = 1 quart

10. 4 qt. = — pt. 8 pt. = — qt.

9. Mr. Davis' gasoline tank holds 15 gallons of gasoline. His tank was empty. He bought 10 gallons. It would take — more gallons to fill the tank.

10. When they reached home, Bob said, "We used half of the gasoline that we bought." That is — gallons.

11. 4 gal. = 4 pt. 4 gal. = 4 pt.

\[ \begin{align*}
4 \text{ gal.} & \times 4 \text{ pt.} = 4 \text{ qt.} \\
+3 \text{ gal.} & \times 3 \text{ pt.} = 3 \text{ pt.} \\
+4 \text{ pt.} & = 4 \text{ pt.} \\
\end{align*} \]

12. 11 qt. = 15 pt. 14 gal. = 14 gal.

\[ \begin{align*}
11 \text{ qt.} & \times 1 \text{ pt.} = 11 \text{ pt.} \\
-8 \text{ qt.} & \times 9 \text{ pt.} = -72 \text{ pt.} \\
15 \text{ pt.} & = 15 \text{ pt.} \\
\end{align*} \]

13. 5 \times 10 = 50 4 \times 8 = 32 1 \times 3 = 3 7 \times 4 = 28 5 \times 9 = 45

14. 9 \times 4 = 36 5 \times 5 = 25 3 \times 9 = 27 8 \times 5 = 40

15. 5 \times 7 = 35 6 \times 3 = 18 4 \times 0 = 0 7 \times 3 = 21

16. 2 \times 6 = 12 5 \times 1 = 5 8 \times 3 = 24 9 \times 2 = 18

17. 6 \times 5 = 30 \times 3 = 15 \times 4 = 12

18. 4 \times 8 = 32 \times 9 = 27

1. Irene sold 6 bunches of radishes from her garden at 3¢ each. She earned —¢.
2. Harry sold 6 magazines at 5¢ each. He received —¢.
3. Six girls gave a play. They each sold 4 tickets. All together they sold — tickets.

For more practice turn to DRILL 3a on p. 141.

Multiplying 6's

Write the products:

4. \[
\begin{align*}
6 & \times 3 = 18 \\
4 & \times 6 = 24 \\
5 & \times 5 = 25 \\
6 & \times 6 = 36 \\
2 & \times 10 = 20 \\
3 & \times 7 = 21 \\
7 & \times 4 = 28 \\
4 & \times 9 = 36 \\
\end{align*}
\]

1. 6 \times 5 = 30 \times 3 = 15 \times 4 = 12
2. 2 \times 7 = 4 \times 6 = 5 \times 8 = 40
3. 5 \times 6 = 3 \times 7 = 3 \times 6 = 18
4. 4 \times 8 = 4 \times 9 = 2 \times 10 = 20
5. 6 \times 2 = 4 \times 7 = 0 \times 5 = 0

1. 3 gal. = — qt. 5 gal. = — qt.
2. 3 gal. = — qt. 7 gal. = — qt.
3. 6 gal. = — qt. 8 gal. = — qt.

You remember this:

2 pints = 1 quart

10. 4 qt. = — pt. 8 pt. = — qt.

9. Mr. Davis' gasoline tank holds 15 gallons of gasoline. His tank was empty. He bought 10 gallons. It would take — more gallons to fill the tank.

10. When they reached home, Bob said, "We used half of the gasoline that we bought." That is — gallons.

11. 4 gal. = 4 pt. 4 gal. = 4 pt.

\[ \begin{align*}
4 \text{ gal.} & \times 4 \text{ pt.} = 4 \text{ qt.} \\
+3 \text{ gal.} & \times 3 \text{ pt.} = 3 \text{ pt.} \\
+4 \text{ pt.} & = 4 \text{ pt.} \\
\end{align*} \]

12. 11 qt. = 15 pt. 14 gal. = 14 gal.

\[ \begin{align*}
11 \text{ qt.} & \times 1 \text{ pt.} = 11 \text{ pt.} \\
-8 \text{ qt.} & \times 9 \text{ pt.} = -72 \text{ pt.} \\
15 \text{ pt.} & = 15 \text{ pt.} \\
\end{align*} \]

13. 5 \times 10 = 50 4 \times 8 = 32 1 \times 3 = 3 7 \times 4 = 28 5 \times 9 = 45

14. 9 \times 4 = 36 5 \times 5 = 25 3 \times 9 = 27 8 \times 5 = 40

15. 5 \times 7 = 35 6 \times 3 = 18 4 \times 0 = 0 7 \times 3 = 21

16. 2 \times 6 = 12 5 \times 1 = 5 8 \times 3 = 24 9 \times 2 = 18

17. 6 \times 5 = 30 \times 3 = 15 \times 4 = 12

1. Irene sold 6 bunches of radishes from her garden at 3¢ each. She earned —¢.
2. Harry sold 6 magazines at 5¢ each. He received —¢.
3. Six girls gave a play. They each sold 4 tickets. All together they sold — tickets.

For more practice turn to DRILL 3a on p. 141.
Dot’s mother gave her some pieces of old ribbon. When some of her friends came to play, Dot said, “Let’s have a ribbon counter like the one in the store.”

Jane said, “I’ll take one yard of that pink ribbon.”

1. Dot picked up the yardstick. She placed it on the ribbon and said: “A yardstick is one yard long. There are 36 inches in a yard. I’ll give you _ inches of the pink ribbon.”

2. Ann said, “I need 8 inches of yellow ribbon for my doll’s sleeves, 6 inches for her collar, and 7 inches for her skirt.” How many inches is that? Answer: _

3. How many inches less than a yard did Ann want? Answer: _

4. Dot had 46 inches of blue ribbon. Rose bought one yard. There were _ inches of blue ribbon left.

5. The red ribbon was 3¢ a yard. Janet paid _¢ for 5 yards.

Look at a yardstick in your school-room or look at Dot’s yardstick at the top of the page. Do you see that the yardstick is divided into 8 equal parts? Find _/, _/, and _/.

6. Draw a line through the mark that says “_/.” There are _ inches in a fourth of a yard.

7. There are _ inches in a half yard. (Look at the yardstick.)

8. There are _ inches in a whole yard.

9. The price of the green ribbon was 16¢ a yard. For one quarter yard Eva paid _¢.

10. 36 inches + 5 inches = _ inches

11. 1 yard + 8 inches = _ inches

12. 1 yd. - 4 in. = _ in.

13. 1 yd. - 24 in. = _ in.

14. 1 yd. + 1 ft. = _ in.

15. 1 ft. + 1 ft. = _ in.

16. 1 ft. - 12 in. = _ in.

17. 12 in. + 3 in. = _ in.

18. 12 in. - 8 in. = _ in.

19. 12 in. + 1 ft. = _ in.

20. 12 in. - 1 ft. = _ in.

21. 12 in. x 12 in. = _ in.

22. 12 in. x 1 in. = _ in.

23. 12 in. x 12 in. = _ in.

24. 12 in. x 1 in. = _ in.

25. 12 in. x 12 in. = _ in.

26. 12 in. x 1 in. = _ in.

27. 12 in. x 12 in. = _ in.

28. 12 in. x 1 in. = _ in.

29. 12 in. x 12 in. = _ in.

30. 12 in. x 1 in. = _ in.

31. 12 in. x 12 in. = _ in.

32. 12 in. x 1 in. = _ in.

33. 12 in. x 12 in. = _ in.

34. 12 in. x 1 in. = _ in.

35. 12 in. x 12 in. = _ in.

36. 12 in. x 1 in. = _ in.

37. 12 in. x 12 in. = _ in.

38. 12 in. x 1 in. = _ in.

39. 12 in. x 12 in. = _ in.

40. 12 in. x 1 in. = _ in.

41. 12 in. x 12 in. = _ in.

42. 12 in. x 1 in. = _ in.

43. 12 in. x 12 in. = _ in.

44. 12 in. x 1 in. = _ in.

45. 12 in. x 12 in. = _ in.

46. 12 in. x 1 in. = _ in.

47. 12 in. x 12 in. = _ in.

48. 12 in. x 1 in. = _ in.

49. 12 in. x 12 in. = _ in.

50. 12 in. x 1 in. = _ in.

51. 12 in. x 12 in. = _ in.

52. 12 in. x 1 in. = _ in.

53. 12 in. x 12 in. = _ in.

54. 12 in. x 1 in. = _ in.

55. 12 in. x 12 in. = _ in.

56. 12 in. x 1 in. = _ in.

57. 12 in. x 12 in. = _ in.

58. 12 in. x 1 in. = _ in.

59. 12 in. x 12 in. = _ in.

60. 12 in. x 1 in. = _ in.

61. 12 in. x 12 in. = _ in.

62. 12 in. x 1 in. = _ in.

63. 12 in. x 12 in. = _ in.

64. 12 in. x 1 in. = _ in.

65. 12 in. x 12 in. = _ in.

66. 12 in. x 1 in. = _ in.

67. 12 in. x 12 in. = _ in.

68. 12 in. x 1 in. = _ in.

69. 12 in. x 12 in. = _ in.

70. 12 in. x 1 in. = _ in.

71. 12 in. x 12 in. = _ in.

72. 12 in. x 1 in. = _ in.

73. 12 in. x 12 in. = _ in.

74. 12 in. x 1 in. = _ in.

75. 12 in. x 12 in. = _ in.

76. 12 in. x 1 in. = _ in.

77. 12 in. x 12 in. = _ in.

78. 12 in. x 1 in. = _ in.

79. 12 in. x 12 in. = _ in.

80. 12 in. x 1 in. = _ in.

81. 12 in. x 12 in. = _ in.

82. 12 in. x 1 in. = _ in.

83. 12 in. x 12 in. = _ in.

84. 12 in. x 1 in. = _ in.

85. 12 in. x 12 in. = _ in.

86. 12 in. x 1 in. = _ in.

87. 12 in. x 12 in. = _ in.

88. 12 in. x 1 in. = _ in.

89. 12 in. x 12 in. = _ in.

90. 12 in. x 1 in. = _ in.

91. 12 in. x 12 in. = _ in.

92. 12 in. x 1 in. = _ in.

93. 12 in. x 12 in. = _ in.

94. 12 in. x 1 in. = _ in.

95. 12 in. x 12 in. = _ in.

96. 12 in. x 1 in. = _ in.

97. 12 in. x 12 in. = _ in.

98. 12 in. x 1 in. = _ in.

99. 12 in. x 12 in. = _ in.

100. 12 in. x 1 in. = _ in.
The pupils in Peggy's class had a library corner in their schoolroom. The teacher said: "We have 38 books about wild animals and 24 books about pets. How many animal books have we?"

June said, "I will add to find out." She wrote the example on the board. 38
She said: "8 and 4 are 12. 24 Write the 6. Carry the 1 to the next column. 1 and 3 are 6. Write the 6."

Answer: 62 books

1. Tom read 25 stories about Indians and 16 stories about cowboys. How many stories did Tom read?

Answer:

2. There are 15 books on one shelf and 19 books on another shelf. How many books are on both shelves?

Answer:

For more practice turn to DRILL 10b on p. 143.

3. Marion read 13 stories about animals and 17 stories about fairies. How many stories did Marion read?

Answer:

4. The library had 18 books about children in other lands. The fourth grade borrowed 8 of them. How many were left?

Answer:

Checking Addition

The sum is 82. To be sure you are right, add the numbers again. If you added down, check by adding up. Put a check mark (✓) after the sum to show that you have added twice.

Add and check:

5. 34 91
   29 18 33 78

6. 15 19 23 17
   76 32 48 26

7. 84 55 18 50
   16 38 44 17

8. 1 ft. = ___ in. 1 ft. = ___ in.
9. 5 yd. = ___ ft. 1 ft. = ___ in.
10. 1⁄2 yd. = ___ in. 3 yd. = ___ ft.
11. 6 ft. = ___ yd. 30 ft. = ___ yd.

Add and check:

12. 29 34 56 62 27
    13 16 25 19 24

13. 23 17 38 29 26
    48 45 45 54 27

Checking Subtraction

First 39
Second 39
-15 step -15 step 15
24 4 24

Check: 4+5=9 2+1=3

Put a check mark (✓) after the 39 to show that you have added to check the subtraction.

Subtract and check:

14. 26 37 46 54 86
    -13 12 25 31 65

15. 76 65 77 89 28
    24 32 35 55 15
Alma, William, and Harry are saving money to buy birthday presents. The banks show how much money each has. Alma has saved 8 cents.

1. William has saved _ cents.

2. Harry has saved _ cents.

Alma wants to buy a knife. It will cost 35 cents. How much money does she need? What is the difference between 35 and 8?

3. The 8 is larger than the 5. You cannot take 8 from 5.

4. Harry wanted to buy a 75-cent baseball glove. He said, "I must save only 9 cents more." Do you see that he was correct? Work the subtraction example.

5. Subtract and check:

   5. 34 76 76 55 55
       -25 -8 -28 -6 -16
       90 68 09 39 39
       68 44 15 4 4
       68 44 15 4 4

   6. 83 83 68 68 44
       74 45 49 25 09
       64 41 30 19 06
       64 41 30 19 06

   7. 92 92 47 47 66
       -3 33 -8 -38 -47
       89 59 19 28 19
       76 53 21 10 10
       76 53 21 10 10

   8. 85 37 41 50 75
       60 22 02 25 57
       60 22 02 25 57

   50 The answer is 23, not 33, because 7 is more than 0 and I had to change a number in the tens column.

   4. William wants to buy a 50-cent baseball bat. He still has to save _ cents.

   This is the way William worked the example. He thought:

   50 I see: 0 I think: 10
   -27 -7 -7 3

   2. Marion said: "There were 23 purple pansies. I picked 6 of them." There were still purple pansies in the garden.

   3. Helen's aunt gave her 35¢ for some roses. She spent 8¢. She had _¢ left.

   4. A garden hat that Marion wanted cost 45¢. She had only 9¢. She said, "I will save _¢ more."

   Subtract and check:

   6. 46 73 35 62 90
       -9 7 6 7 4
       37 66 29 56 46
       37 66 29 56 46

   7. 48 21 37 52 27
       -25 9 17 28 16
       23 12 18 24 11
       23 12 18 24 11

   8. 20 79 30 61 68
       -5 14 16 14 29
       15 65 14 42 39
       15 65 14 42 39

   For more practice turn to DRILL 21a on p. 146.

   1. Helen picked 27 yellow pansies. She gave 8 of them to a friend. She had _ pansies left.

   2. Marion said: "There were 33 purple pansies. I picked 6 of them."

   3. Helen said, "There were 33 purple pansies in the garden.

   4. A garden hat that Marion wanted cost 33¢. She had only 9¢. She said, "I will save _¢ more."

   Subtract and check:

   5. 34 76 76 55 55
       -25 -8 -28 -6 -16
       90 68 09 39 39
       68 44 15 4 4
       68 44 15 4 4

   6. 83 83 68 68 44
       74 45 49 25 09
       64 41 30 19 06
       64 41 30 19 06

   7. 92 92 47 47 66
       -3 33 -8 -38 -47
       89 59 19 28 19
       76 53 21 10 10
       76 53 21 10 10

   8. 85 37 41 50 75
       60 22 02 25 57
       60 22 02 25 57

   For more practice turn to DRILL 20b on p. 146.
Problems about Measures

1. Molly bought a card of buttons. The card had one dozen buttons on it. Molly gave Jane half the buttons. Jane received ___ buttons.

2. ½ dozen = ____ dozen
   ¼ dozen = ____ dozen
   1 dozen = ____ dozen

3. 1 dozen = ____ dozen
   2 dozen = ____ dozen

4. Mrs. Jenkins takes 2 quarts of milk each day. That is the same amount as ___ pints.

5. Mrs. Brice buys 10 pints of milk each week. That is the same as ___ quarts. (Think: “2 pints = 1 quart. 10 pints are how many times 2 pints?”)

6. Add down and check up:
   3. 54
   8. 33
   12. 48
   13. 66
   14. 46
   24. 59
   25. 98
   32. 76
   47. 86
   58. 68
   69. 89
   70. 90
   For more practice turn to DRILL 11b on p. 144.

The Girls’ Store

8. Sally had so many buttons that she counted them and put them in separate boxes. She marked the boxes like this:

   HUNDREDS
   TENS
   UNITS

Sally had 200 buttons
   and 40 buttons
   and 3 buttons.

9. Sally had ____ buttons in all.

Sally sold 7; so she had ___ left.

10. 3 6 4
    14 5
    42 8
    5 9 0
    -9
    -9
    -9

11. 1 6 2
    7 3 4
    3 4 7
    1 6 1
    -5
    -8
    -8

12. 1 1 1
    1 8 3
    1 4 8
    1 3 6
    -5
    -8
    -8

Rapid Drill

13. 52
    64
    41
    72
    47
    -6
    -5
    -2
    -9

14. 6 6
    4 6
    5 6
    5 1
    8 4
    -4
    -9
    -5
    -5

15. 2 0
    7 0
    5 0
    6 0
    4 0
    -9
    -8
    -4
    -7

For more practice turn to DRILL 11a on p. 146.
Reviewing Multiplication and Division

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<td>$6 \times 10 = 9 \times 4 =$</td>
<td>11.</td>
<td>$8 \times 10 = 5 \times 4 =$</td>
<td>12.</td>
<td>$10 \times 5 = 2 \times 4 =$</td>
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<tr>
<td>4.</td>
<td>$6 \times 8 = 4 \times 8 =$</td>
<td>14.</td>
<td></td>
<td>15.</td>
<td>$6 \times 8 = 4 \times 10 =$</td>
</tr>
<tr>
<td>5.</td>
<td>$4 \times 9 = 7 \times 6 =$</td>
<td>15.</td>
<td></td>
<td>16.</td>
<td>$6 \times 9 = 3 \times 4 =$</td>
</tr>
<tr>
<td>6.</td>
<td>$32 \div 4 = 36 \div 4 =$</td>
<td>16.</td>
<td></td>
<td>17.</td>
<td>$4 \div 6 = 3 \div 3 =$</td>
</tr>
<tr>
<td>7.</td>
<td>$24 \div 6 = 36 \div 6 =$</td>
<td>18.</td>
<td></td>
<td>19.</td>
<td>$3 \div 9 = 4 \div 3 =$</td>
</tr>
<tr>
<td>8.</td>
<td>$48 \div 6 = 42 \div 6 =$</td>
<td>19.</td>
<td></td>
<td>20.</td>
<td>$6 \div 6 = 3 \div 2 =$</td>
</tr>
</tbody>
</table>

For more practice turn to DRILL 4b on p. 142.

Mixed Drill

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$27 - 7 = 26 + 7 =$</td>
<td>9.</td>
<td>$1 \div 20 = 1 \div 4 =$</td>
<td>4.</td>
<td>$\frac{1}{3} \div 35 =$</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>10.</td>
<td>Subtract:</td>
<td></td>
<td>5.</td>
</tr>
<tr>
<td>3.</td>
<td>Divide 36 by 4.</td>
<td>11.</td>
<td>Add:</td>
<td>7.</td>
<td>$34 = 9 =$</td>
</tr>
<tr>
<td>4.</td>
<td>$\frac{1}{3} \div 35 =$</td>
<td>12.</td>
<td>$6 = 7 \times 8 =$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>13.</td>
<td>Add:</td>
<td>8.</td>
<td>$3 \div 24 =$</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9.</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10.</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11.</td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.</td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13.</td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14.</td>
</tr>
<tr>
<td>12.</td>
<td>$6 = 7 \times 8 =$</td>
<td>15.</td>
<td>$6 \div 36 =$</td>
<td>16.</td>
<td>$2 \div 3 =$</td>
</tr>
<tr>
<td>13.</td>
<td>$9 = 4 \div 4 =$</td>
<td></td>
<td></td>
<td></td>
<td>17.</td>
</tr>
<tr>
<td>14.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18.</td>
</tr>
<tr>
<td>15.</td>
<td>$3 \div 24 =$</td>
<td></td>
<td></td>
<td></td>
<td>19.</td>
</tr>
<tr>
<td>16.</td>
<td>$2 \div 3 =$</td>
<td></td>
<td></td>
<td></td>
<td>20.</td>
</tr>
</tbody>
</table>

Fourth Progress Test

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST 2 — SUBTRACT</td>
<td>TEST 3 — MULTIPLY</td>
<td>TEST 4 — DIVIDE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>2</td>
<td>17</td>
<td>13</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST 10 — ADD</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST 20 — SUBTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

To the teacher: In the Fourth Progress Test the subtests may be timed separately if comparisons with standards are desired. If the
Read each problem carefully. Do not spend too much time on one problem. If you cannot work it, go on to the next. Do not hurry. Be sure you understand what each problem asks you to find.

1. Dorothy had 4 paper dolls. She cut out 3 more. Then she had __ paper dolls.
2. Hazel had room in her garden for 3 rows of pansy plants with 4 plants in each row. She had 12 cents; so she could use __ plants.
3. Ruth went to buy some 3-cent stamps. She had 12 cents; so she could buy __ stamps.
4. Charles has been promised a watch when he is 12 years old. He is only 8 now; so he has __ years to wait.
5. Mr. Simon gave a dime to each of his 4 children. He gave away __ cents.
6. Beth needed 16 little cakes for her party. She needed __ more than 1 dozen.
7. John bought a 25-cent knife. He gave the storekeeper 50 cents and received __ cents in change.
8. Fred had a gallon of paint in one can and 2 quarts in another. He had __ quarts of paint.

Go back and think over each problem again. Be sure you are right.
A Skating Party

1. Children from the Franklin School had a skating party. There were 325 children in all. Only 83 of them were girls. There were ___ boys.

2. Tickets to get on the pond were 10¢ each. It cost 6 boys ___.

3. Some children left early to catch a train. 38 boys and 8 girls left. ___ children went home early.

4. Helen counted the girls' snow suits. She said: "There are 8 blue suits, 7 red ones, and 9 brown ones. There are ___ snow suits all together."

5. Add down and check up:
   2¢  3  1  6¢  1
   2¢  4  7  3¢  2
   6¢  7  3  6¢  6
   5¢  3  8  4¢  8

6. 28¢ + 8¢ = ___¢ 48¢ + 8¢ = ___¢

   Find the differences and check:
   7. 48¢  69¢  21¢  26¢
   24¢  15¢  9¢  8¢

---

<table>
<thead>
<tr>
<th>Steps in Addition</th>
<th>No Carrying</th>
<th>Carrying Once</th>
<th>Carrying</th>
<th>Carrying More than Once</th>
<th>No Carrying</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 36 15 23</td>
<td>69 20</td>
<td>148 54 25 40 30 12</td>
<td>834 741 230 200</td>
<td>120 472 357 565</td>
<td></td>
</tr>
<tr>
<td>2. 23 22 54</td>
<td>25 148 665 638 543</td>
<td>523 125 160</td>
<td>394 132 414 307</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 48 26</td>
<td>69 95 61</td>
<td>120 472 357 565</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 19 8 19</td>
<td>23 14 15 2 5 17</td>
<td>178 625 919 368</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. 47 56 97</td>
<td>23 83 80</td>
<td>966 923 346 397</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 22</td>
<td>64</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

A New Step in Subtraction

Ray had 457 pennies in his bank. He spent 181 of them. How many pennies did he have left?

Follow each step in the subtraction. Notice that you must change a number in the hundreds column, because 5 in the tens column is less than 8.

For more practice turn to DRILL 21d on p. 147.

4. 18 ÷ 3 = 5 x 8 = 6 x 7 =

6. 654 — 436 = 8 x 6 =

8. Add:
   1. Joe's father weighed 155 pounds. His uncle weighed ___ pounds more than my uncle.
Guessing Weights

Sue guessed that her father weighed 242 pounds. He said: "You have made a poor guess. I weigh 65 pounds less than that." Sue said, "I'll subtract to see how much you weigh."

1. Sue's mother weighed 112 pounds. Bob said, "I thought you weighed only 98 pounds." Sue's mother weighed ___ pounds more than Bob thought.

2. Sue weighed 78 pounds. Sue weighed ___ pounds less than her father.

3. Together Sue and her father weighed ____ pounds.

4. Sue's mother weighed 112 pounds. Bob said, "I thought you weighed only 98 pounds." Sue's mother weighed ___ pounds more than Bob thought.

5. Bob weighed 109 pounds. He said: "I hope to gain 16 pounds this year. Then I shall weigh ___ pounds."

Add:

6. 474
   208
   682

7. 89
   86
   175

Subtract:

8. 769
   143
   626

9. 307
   134
   173

10. 235
    47
    188

Remember to check each example.

For more practice turn to DRILL 21e on p. 147.

Selling Newspapers

1. Harry sold 357 papers during July. He sold 68 of them the first week. He sold ___ papers during the other weeks.

2. Peter sold 338 papers. Tom sold only 99. Peter sold ___ more papers than Tom.

3. Harry sold ___ more papers than Peter.

4. Together Harry and Peter sold ___ papers.

Subtract and check:

5. 362
   94
   268

6. 237
   79
   158

For more practice turn to DRILL 21e on p. 147.
The pupils of Lee School had a school bank. They learned many things about money.

10¢ = 1 dime; 50¢ = 5 dimes

54¢ = 5 dimes and 4 cents

1. 32¢ = ___ dimes and ___ cents
2. 85¢ = ___ dimes and ___ cents
3. 29¢ = ___ dimes and ___ cents
4. 3 dimes and 4¢ are ___ cents.
5. 2 dimes and 5¢ are ___ cents.
6. 4 dimes and 2¢ are ___ cents.
7. 5 dimes and 6¢ are ___ cents.
8. 6 dimes and 2¢ are ___ cents.
9. 44¢ 82¢ 84¢ 53¢ ...
   - 13¢ - 26¢ - 55¢ - 48¢

10. 24¢ 45¢ 14¢ 39¢
    + 36¢ + 49¢ + 68¢ + 49¢

For more practice turn to DRILL 10b on p. 143.

11. Helen needed 41¢ for a ticket to camp. She had 25¢ in the bank. How much more did she have to save?
Answer: ___ ¢

12. Mary put 15¢ in the bank on Monday, 25¢ on Tuesday, and 10¢ on Wednesday. How much money is that?
Answer: ___ ¢

13. Jack had 35¢ in the bank. He took out 18¢ to buy a knife. How much had he left?
Answer: ___ ¢

14. 32 cents
15. 50 cents

They learned to use the dollar sign ($) and the decimal point (.) and to place a zero (0) before an amount of money less than 10¢. They know that 7 cents can be written in these three ways:

7 cents 7¢ .07

16. 5 cents
17. 3 cents
18. 2 cents

Problems about Buying

Sam read the price tag on the scooter that he wanted. It said “five dollars.” You may write “five dollars” in these two ways:

$5 or $5.00

The sign in front of the 5 is called the dollar sign. The dot after the 5 is called the decimal point. We read the dot “and.” We say, “Five dollars and no cents.”

In running their bank the pupils of Lee School learned to write amounts of money in more than one way.

25 cents 25¢ $ .25

14. 32 cents
15. 50 cents

The bicycle tire cost one dollar and twenty cents.

One dollar and twenty cents = $1.20

3. Six dollars and fifty cents = ___
4. Nine dollars and eighty cents = ___

5. The cost of a tire and sled is ___

6. The cost of a pair of roller skates and a scooter is ___

7. Tom had $3.85 in his bank. He bought a pair of roller skates and had ___ left.

8. Jim earned $2.60. He bought a sled. How much did he have left?
Answer: ___

9. Kenneth was given $5.35 for his birthday. He bought a scooter. How much did he have left?
Answer: ___

Answer: ___

11. Find the differences:

$8.95 $3.84 $7.65
3.20 3.42 1.04

12. $7.75 $6.23 $7.23
2.00 1.25 4.63

Find the sums:

$9.57 $7.25 $6.42
3.28 3.16 5.27

Remember to check each example.
The children at Ward School had a school bank, too.

1. Dot said, “I put $1.30 in the bank today and $1.05 in last week.” That is all together.

2. Jack had 38¢ in the bank. He took out 91. He has left in the bank.

3. Don wanted a book that cost $1.48. He had 59¢ in the bank. He needed to save ____ more.

4. Play tickets cost 5¢ each. Jean had 30¢ in the bank. She could buy ____ tickets.

5. Kate took 25¢ out of the bank. She spent 12¢ for candy. She had ____ left.

6. Tom put 15¢ in the bank on Monday, 8¢ on Tuesday, and 9¢ on Wednesday. That is all together.

Write in two other ways:

9. Ten dollars and nine cents,

10. $2.19 - 1.85 = 47¢ - 38¢ = $3.96 - 1.78

11. $7 + $5 + $9 = 59¢ + 16¢ =

12. $5.26 + $3.30 = $2.24 + $1.6 =

13. $1.75 - $.38 = $2.75 - $2.00 =

14. $4.95 - 2.68 = $3.96 - 1.77 = $8.14 - 3.08

15. Add:

   $7.5$8  78
   3.96  96
   6.28

Adding United States Money

1. Roy bought a pad for 5¢, crayons for 9¢, a ruler for 4¢, and an eraser for 5¢. He spent ____.

2. $5¢ + 4¢ = 6¢
   $8¢ + 9¢ = 8¢
   $3¢ + 5¢ = 8¢
   $7¢ + 4¢ = 9¢

3. 16 cents + 5 cents =

4. 34 cents + 8 cents =

5. 19 cents + 8 cents =

Subtracting United States Money

A football that Bob wanted cost $4.00. He had $1.75. How much more money did he need?

1. Paul had $6.00. He spent $2.95 for a sweater. Then he had ____ left.

2. $8.05 - 1.75 = 5.30 - 5 = $2.50

3. $9.09 - 4.76 = $4.33 = $7.03

4. $7.50 - 2.65 = $4.85 = $5.32

5. $8.20 - 2.67 = $5.53 = $9.00

Bob needed $2.25 more.
In United States money we have cents, nickels, dimes, and quarters. We also have a 50-cent piece, which we call a half dollar. In money problems you must know how to write the amounts.

Sample:

<table>
<thead>
<tr>
<th>Amount</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cent</td>
<td>1¢</td>
</tr>
<tr>
<td>Quarter</td>
<td>25¢</td>
</tr>
<tr>
<td>Dime</td>
<td>10¢</td>
</tr>
<tr>
<td>Nickel</td>
<td>5¢</td>
</tr>
<tr>
<td>Half Dollar</td>
<td>50¢</td>
</tr>
<tr>
<td>Dollar</td>
<td>$1</td>
</tr>
</tbody>
</table>

When you write money, you sometimes use the cent sign (¢). Sometimes you use the dollar sign ($) and the decimal point (.). The decimal point separates the dollars from the cents.

$15.61 is read "fifteen dollars and sixty-one cents." The decimal point says "and."

6. Read these numbers. What does the decimal point say?

<table>
<thead>
<tr>
<th>Number</th>
<th>Decimal Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.25</td>
<td>$5.02</td>
</tr>
<tr>
<td>$7.00</td>
<td>$9.98</td>
</tr>
</tbody>
</table>

7. Julia had $1.25. She spent $1.17. She had $ left. (Julia wrote the figures as they are at the right. She put one decimal point just below the other.)

8. Harry spent $2.30, $1.21, and $8.5. In all he spent $ . (Harry wrote all the decimal points in a straight line.)

9. Lucy bought a pair of skates. They cost $1.49. She gave the storekeeper $5.00. The correct change was $ .

10. James has saved $2.75. He wants to have $5.00. He must save $ more.

For more practice turn to DRILL 40a on p. 152.
Making Change

3. Fred bought a one-dollar ball and a 55-cent bat. He spent $_.

4. Fred paid for the ball and bat with a two-dollar bill. The correct change was $_.

5. Mary bought two dollars and thirty cents' worth of groceries. She paid for them with a five-dollar bill. The correct change was $_.

Mixed Drill

1. $24 + $7 =
2. $5 \times 8 =
3. $25 - $9 =
4. $15 \div 3 =
5. 18 + 3 =
6. 703 - 364 =
7. Add:
   4, 5, 7, 8
8. $9.00 \times 6 =
9. \frac{1}{2} \text{ of } 30 =
10. 8 \times 6 =
11. $9.00 - 4.79 =
12. 4 \times 4 \div 8 =
13. Add:
   $2, $4, $6, $3
14. 646 + 278 =
15. 3 \times 7 =
16. 37 + 7 =
17. 4 \times 5 =
18. $9.00 - $3.88 =
19. \frac{1}{2} \text{ of } 24 =

Fifth Progress Test

TEST 1 - ADD
2 6 9 4 7 3 6 8 7 9 5 8 8
3 2 5 6 7 6 9 4 4 8 6 8
8 7 3 8 6 7 9 7 5 5 9 9 4
3 7 9 6 4 9 6 8 5 7 9 5 8

TEST 2 - SUBTRACT
11 9 13 14 12 15 12 18 16
6 4 6 7 7 6 8 9 8
11 17 15 13 14 14 10 13 16
4 8 7 4 8 9 7 5 9

TEST 4 - DIVIDE
2 \div 4 3 \div 24 4 \div 12 5 \div 45 6 \div 36 4 \div 36 5 \div 25 6 \div 48 4 \div 28
3 \div 18 6 \div 60 4 \div 24 5 \div 50 6 \div 54 5 \div 40 4 \div 40 6 \div 42 4 \div 32

TEST 11 - ADD
5 5 5 5 2 7 9 4 2 5 5
5 7 2 9 4 2 5 6 3 9 5
7 2 4 4 4 3 6 3 9 5
3 3 7 2 8 2 5 5 2 7

TEST 21 - SUBTRACT
567 777 664 783 944 936 874 623 853 983
289 375 297 646 786 786 550 308 352 399 487

To the teacher: In the Fifth Progress Test the subtests may be timed separately if comparisons with standards are desired. If the subtests are timed separately, call attention to the type of operation to be performed when starting each subtest, e.g.: "Look at Test 1. At the end of 1 minute say, 'Stop — pencils up.'" The time for Tests 1, 2, and 4 is 1 minute each, and for Test 3 it is 2 minutes, and for Test 21 it is 3 minutes, and for Test 2 it is 5 minutes. The standards are as follows: Test 1, 18 right; Test 2, 18 right; Test 4, 5 right; Test 3, 16 right; Test 21, 5 right.
Read each problem carefully. Do not spend too much time on one problem. If you cannot work it, go on to the next. Do not hurry. Be sure you understand what each problem asks you to find.

1. Jack walked 2 miles on Monday and 4 miles on Tuesday. He walked __ miles on both days.


3. Walter earns 3 dollars a week. He earns ___ dollars in 5 weeks.

4. Frank bought groceries that cost $1.50. He paid for them with a $2.00 bill. He received ___ cents in change.

5. Peggy picked a dozen roses. If she made 3 equal bunches, each bunch would have ___ roses in it.


7. Some boys wanted to buy a $2.49 football. They collected $1.26. They needed $___ more.

8. Pauline weighs 45 pounds. If she gains 5 pounds, she will weigh ___ pounds.

9. You can buy ___ yards of 6-cent ribbon for 30 cents.

10. Seven boys sold some magazines. They received $28. If they divide the money equally, each boy will get $___.

11. Balloons cost 4¢ each. Sara bought ___ of them. They cost ___¢ all together.

12. Rose bought 1 balloon. The balloon cost ___¢.


Write the products:

1. $7 \times 7 = 49$
2. $7 \times 7 = 49$
3. $4 \times 7 = 28$
4. $9 \times 2 = 18$
5. $3 \times 7 = 21$
6. $7 \times 1 = 7$

Multiply:

1. $3 \times 9 = 27$
2. $7 \times 2 = 14$
3. $9 \times 3 = 27$
4. $7 \times 1 = 7$
5. $1 \times 8 = 8$

Dividing by 7

1. 21 pupils of the second grade will visit us tomorrow to see our play. If we seat 7 pupils in a row, we shall need ___ rows of chairs.

2. 5135 728 6336 777 248
3. $3 \div 60 = 545$
4. $6 \div 12 = 480$
5. $7 \div 14 = 480$
6. Billy divided 14 marbles among 7 of his friends. Each of his friends received ___ marbles.

7. 7. 21 pupils of the second grade will visit us tomorrow to see our play. If we seat 7 pupils in a row, we shall need ___ rows of chairs.

8. 515 728 6336 777 248
9. $3 \div 60 = 545$
10. $6 \div 12 = 480$
11. $7 \div 7 = 287$
12. $7 \div 4 = 777$

Write the quotients:

1. 217 369 478
2. $2 \div 24 = 369$
3. $3 \div 9 = 478$
4. $7 \div 7 = 777$
5. $6 \div 30 = 777$
6. $7 \div 7 = 287$
7. $7 \div 4 = 777$
8. $7 \div 7 = 287$
9. $7 \div 7 = 287$
10. $7 \div 7 = 287$
11. $7 \div 7 = 287$
12. $7 \div 7 = 287$

Go back and think over each problem again. Be sure you are right.
The calendar above shows the month of October for one year. In this year the first of October was on a Sunday.

1. October has ___ days.
2. The last day was on a ___.
3. The ninth of October was on ___.
4. The 25th was on ___.
5. The 12th was on ___.
6. The 6th was on ___.
7. The 7th was on ___.
8. A week has ___ days.
9. Two weeks = ___ days.
10. Three weeks = ___ days.
11. Four weeks = ___ days.
12. Five weeks = ___ days.
13. Six weeks = ___ days.
14. Multiply:
   7 \times 4 = 28
   5 \times 6 = 30
   7 \times 5 = 35

15. From one Sunday to the next Sunday is one week. It is ___ days.
16. It is ___ days from the 8th to the 15th.
17. It is ___ days from the 8th to the 22d.
18. October has ___ whole weeks and ___ days over.
19. 4 \times 7 + 3 = 31
20. The month of February usually has 4 weeks. February usually has ___ days.
21. In leap year February has 1 more day. 4 \times 7 + 1 = 29
22. Elmer spent 21 days in camp. That was ___ weeks.
23. Roy spent one week longer in camp than Elmer did. Roy spent ___ days in camp.
24. 7 \times 10 = 70
25. 7 \times 14 = 98

1. George had 7 turns in playing ring toss. His score was 6 each time. His total score was ___.
2. Popcorn costs 5 cents a bag. Sam bought 7 bags of it at the picnic. It cost ___.
3. Janet wants to make 7 bows for her dress. She needs 7 inches for each bow. She must have ___ inches of ribbon.

1. John had 35 cabbage plants. He placed them in 7 rows in his garden. There were ___ plants in each row.
2. If you divide 42 pennies into piles of 7 each, you will have ___ piles of pennies.
3. Dorothy's mother made 28 small cookies for a tea party. If 7 girls were at the party, each girl could have ___ cookies.
1. Mr. Davis took Bob and Betty in his car to the country. They wanted to go sledding. Bob watched the speedometer to see how far they went. They drove two feet miles yards. (Underline the correct answer.)

2. The trip to the country and back was 4 miles. Betty said, "If we went sledding every day for a week, we should travel —— miles in the car."

3. One of the boys measured the distance the sleds covered in going down the hill. He probably used a foot rule, yardstick. (Underline the correct answer.)

4. The hill was 10 yards long. That is —— feet long.

5. Bob and Betty had a race down the hill. Bob's sled won by 12 inches. Betty said, "That is just —— foot."

6. Bob said: "I wish we still had the sled that Daddy used to have. It was 9 feet long." The sled was —— yards long.

7. 27 ft. —— yd. 18 ft. —— yd.
8. 4 weeks —— days 14 days —— weeks
10. 3 gal. —— qt. 6 yd. —— ft.
11. 12 ft. —— yd. 15 ft. —— yd.
12. 50¢ —— nickels 10¢ —— dime
13. 4 qt. —— gal. 7 gal. —— qt.
14. 24 qt. —— gal. 4 yd. —— ft.
15. 40¢ —— nickels 10¢ —— nickels
16. 20 qt. —— gal. 2 yd. —— ft.
17. 24 hr. —— day 36 in. —— yd.
18. 9 yd. —— ft. 20¢ —— dimes
19. 8 qt. —— gal. ½ dozen ——
20. 6 ft. —— yd. 3 yd. —— ft.

1. Each of the 7 boys who belonged to the Stamp Club had 9 unusual stamps given to him. That is —— stamps all together.

    \[
    \begin{array}{ccc}
    7 & \times & 9 \\
    \hline
    56 & \times & 63 \\
    \hline
    70 & \times & 9
    \end{array}
    \]

2. Doris bought 7 small 10¢ dolls. They cost —— all together.

3. On Mr. Blum's fruit stand there were seven small baskets with eight fine red apples in each basket. There were —— apples all together.

4. Mrs. Long brought 56 stamps from France. She divided them equally among 7 boys who belonged to the Stamp Club. Each boy was given —— stamps.

5. Dresses for the small dolls that Doris bought cost 7¢ each. She said: "I have 63¢. I can buy —— dresses."

6. Write the quotients:

   \[
   56 \div 7 = 63 \div 7 = 70 \div 7 =
   \]

   What sign is missing?

   Sample:

   \[
   \begin{array}{c}
   5 - 4 = 20 \\
   5 \times 4 = 20
   \end{array}
   \]

   Divide:

   \[
   \begin{array}{c}
   7 \div 6 \\
   7 \div 7 \\
   7 \div 9 \\
   7 \div 8 \\
   7 \div 10
   \end{array}
   \]

   More about Multiplying 7's

   Multiply:

   \[
   \begin{array}{cccc}
   4 & 7 & 6 & 7 \\
   9 & 6 & 1 & 4 \\
   3 & 0 & 7 & 7 \\
   \end{array}
   \]

   5.

   \[
   \begin{array}{cccc}
   4 & 8 & 6 & 10 \\
   2 & 7 & 8 & 7 \\
   3 & 7 & 1 & 6
   \end{array}
   \]

   6.

   \[
   \begin{array}{cccc}
   10¢ & 3¢ & 1¢ & 4¢ \\
   9¢ & 5¢ & 7 & 7
   \end{array}
   \]

   7.

   \[
   \begin{array}{cccc}
   7 \times 9 = & 6 \times 8 = & 2 \times 10 = \\
   7 \times 10 = & 7 \times 5 = & 7 \times 0 = \\
   3 \times 8 = & 8 \times 7 = & 7 \times 7 = \\
   5 \times 9 = & 7 \times 3 = & 1 \times 7 = \\
   4 \times 7 = & 6 \times 7 = & 7 \times 2 = \\
   \end{array}
   \]
One day Jane and Ed were counting trees in the orchards. Ed said: "There are 3 rows of peach trees. I counted 23 trees in each row. I wonder how many trees there are in 3 rows." Jane said, "Let's add to find out." Jane wrote this:

Ed said: "I know a better way. We can multiply." He thought, "Three 3's are 9." He wrote the 9 under the 3.

He thought, "Three 2's are 6." He wrote 6 under the 2.

Answer: 69 trees

1. There were 14 apple trees in each of 2 rows. How many apple trees were there in all?
Answer: ____________

2. How many more peach trees than apple trees were there?
Answer: ____________

3. How many peach and apple trees were there all together?
Answer: ____________

There were 20 picnic tickets in each package. Bill wrapped 2 packages.

How many tickets is \( \frac{2}{4} \) that in all?

Bill thought: "Two 0's are 0. Two 2's are 4."

Answer: 40 tickets

2. Bernice had 3 dolls. She wanted to sew 10 buttons on each doll's coat. How many buttons did she need?
Answer: ____________

3. of 36 =

4. \( \frac{3}{6} \)

5. \$3.20 - \$0.09 =

6. \( \frac{22}{8} \)

7. \( \frac{3.8}{0.9} \)

8. \$19 + \$4 =

9. 901 \( \times 5 \)

10. \( 7 \times 9 = \)

11. \( 9 \times 5 = \)

12. Add:

13. Subtract:

14. \( \frac{1}{8} \) of \$27 =

15. \( \frac{7}{8} \)

16. \$1.24 \( \times 2 \)

17. Divide 63 by 7.

18. \( \frac{4}{3} \)

19. \$7.05 - 2.86

20. Add:

For more practice turn to DRILL 30b on p. 149.
Tom had a newsstand on the corner downtown. He kept a record of the papers he sold.

On Monday morning he sold 39 papers at $2 each. He multiplied to find how much money he received.

He thought, “Two 9’s are 18.” He wrote 8 under the 2. He carried 1 to the next column.

He thought, “Two 6’s are 12 and the 1 that I carried make 13.” He wrote the 3 and carried the 1.

He thought, “Two 1’s are 2 and the 1 that I carried make 3.” He wrote the 3.

He received $78.6.

1. On Monday evening Tom sold 25 papers at $3 each. How much money did he receive?

Three 5’s are 15.

Three 2’s are 6 and the 1 that I carried make 7.

He received $78.6.

Work the examples below. Remember to multiply first and then add.

3 x 9 + 2 is worked this way:

3 x 9 = 27
27 + 2 = 29

Here is Tom’s record for some other days. Find how much money Tom received.

2. 37
2 x 2
3 x 3

3. Multiply and check:

69 x 3
65 x 2
76 x 2
58 x 3

4. How many papers did Tom sell all together on Monday?

5. He sold 87 papers on Thursday and 59 papers on Friday. How many more did he sell on Thursday than on Friday?

Answer: 330

6. 128 x 3
215 x 4
229 x 3

7. 317 x 3
218 x 4
319 x 3

8. 278 x 3
316 x 5
423 x 6

9. 164 x 4
522 x 7
431 x 6

For more practice turn to DRILL 31a on p. 149.
More Multiplying with Carrying

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<tr>
<td>5.</td>
<td>802</td>
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<td></td>
<td>×7</td>
<td>600</td>
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<td>705</td>
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<td>6.</td>
<td>122</td>
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<td>×8</td>
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<td>×6</td>
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<td>×6</td>
<td>825</td>
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<td>9.</td>
<td>139+19=</td>
<td>7+8+9+9=</td>
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<td>7+8+9+9=</td>
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<td>10.</td>
<td>139+15=</td>
<td>470×5=</td>
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<td>470×5=</td>
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New Steps in Division

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<td>13</td>
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<td></td>
<td>3)39</td>
<td>4)8</td>
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<td>Proof:</td>
<td>13</td>
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<td>×3</td>
<td>39</td>
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<tr>
<td>3.</td>
<td>5)55</td>
<td>4)84</td>
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3. Janet lived in Linnville. The distance from there to Greenwood was 165 miles. Janet rode that distance by train 4 times last year. How many miles did Janet travel?

**Answer:**

There were 46 children in Grace's class. They were going to the park for a picnic. Two busses came to take them. How many children should get into each bus?

Grace divided to see. She thought: "2 into 4 is 2, 2 into 6 is 3."

**Answer:** 23 children in each bus

1. Bob said: "We have 22 boys. Let's pick 2 teams and play a game. How many boys would there be on each team?

**Answer:**

Add down and check up:

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<td>1</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
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For more practice turn to DRILL 40c on p. 152.

Another Step in Division

1. Sara had 7 oranges. She wanted to divide them equally between her 2 little sisters. She thought, "7 ÷ 2 = ?" We cannot divide 7 by 2 evenly. The next smaller number than 7 that we can divide evenly is 6.

2. Two into 6, 3. Write 3 above the 7.

**Answer:**


Write the 6 under the 7.

Subtract. 7 - 6 = 1.

One is smaller than 2. We cannot divide 1 by 2. So 1 is left over. It is the remainder.

Each child received oranges, and was left over.

2. Three boys cleaned the picnic tables. They found 8 peanuts. The teacher said, "Divide them equally among you." Each boy should get peanuts. There would be peanuts left over.

**Answer:**

For more practice turn to DRILL 40c on p. 152.
There were 78 girls on the playground. They were divided into 3 groups for a game. How many girls were there in each group?

3 into 7, 2. \( \rightarrow \) 26

2 \times 3 = 6. \( \rightarrow \) 6

7 \(-6=1\). Bring down the 8. \( \rightarrow \) 18

3 into 18, 6. \( 6 \times 3 = 18. \) \( \rightarrow \) 18

Answer: 26 girls

1. Divide and prove:

| 14 | 14 | 6/78 |
| 4 | 5/56 |
| 16 | 16 |

Carrying 2 or More

Edgar's book contained 95 pages. He planned to read it in 5 days. How many pages should he read each day?

Answer: 19 pages

2. Jean had 45 cents. She wanted it to last 3 weeks as spending money. How much could she allow for spending each week?

Answer: \( \rightarrow \) 45 cents

Divide and prove:

2/36 3/42 4/52

3. Divide and prove:

2/32 3/48 5/60

3. Henry had 84 marbles. He put an equal number of them into each of his three bags. How many marbles did he have in each bag?

Answer: \( \rightarrow \) 5/95

4. Divide and prove:

5/80 6/84 4/64

For more practice turn to DRILL 40d on p. 153.
Sixth Progress Test (Continued)

Read each problem carefully. Do not spend too much time on one problem. If you cannot work it, go on to the next. Do not hurry. Be sure you understand what each problem asks you to find.

1. Bob has 6 marbles. If he gives 2 away, he will have —— marbles left.

2. James said: "I have 5 marbles in my left hand. I have 3 marbles in my right hand." James had —— marbles in both hands.

3. One day 3 girls took a walk. On the way they bought 9 apples. If they shared the apples equally, each girl would get —— apples.

4. Mr. Andrews worked for 30 cents an hour. In 3 hours he earned —— cents.

5. Dick has a half dollar. He wants to buy a 75-cent baseball glove. He needs —— cents more.

6. Molly had 3 weeks’ vacation at camp. This was —— days.

7. Elwood’s father is going on a 14 days’ trip. He will be away —— weeks.

8. When Henry planted his little pine tree, it was 1 foot high. Now it is 17 inches high. It has grown —— inches.

9. Ruth had $2.00 in her bank. She put in 15 cents. Then she had $ —— in the bank.

Go back and think over each problem again. Be sure you are right.

1. Frank saved 8¢ each week for 3 weeks. He had —— ¢ then.

2. Frank bought 4 eight-cent loaves of bread. How much should he pay the storekeeper?

Answer: —— cents

3. 8 x 2 + 3 =

4. 8 x 4 + 4 =

Write the products:

5. 8 x 2 + 3 =

6. 8 x 4 + 4 =

7. 8 x 4 =

8. 8 x 1 =

9. 7 x 8 =

10. 6 x 4 =

11. 374

12. 256

Dividing by 8

1. Helen had a piece of ribbon that was 32 inches long. She cut it into 8 pieces of the same length. Each piece was —— inches long.

2. 3 ) 336

3. 8 ) 848

4. If Ida saved 3 cents each day, it would take —— days to save 24 cents.
90

Measuring Fruits and Vegetables

Ruth and Roy made a roadside store when they visited at Grandfather's farm.

Grandfather said: "Sell your fruits and vegetables by dry measure. You may use this quart box. It takes 8 quarts to make a peck."

The children kept thinking:

8 quarts = 1 peck

1. Mrs. Brown was their first customer. She said, "I'll take a peck of those peaches." The children filled the quart measure ______ times with peaches.

2. Mrs. White bought ______ peck of tomatoes. That is ______ quarts.

3. Fill the blanks:
   3 pk. = ______ qt.
   8 qt. = ______ pk.
   24 qt. = ______ pk.

4. Roy measured the beans to see how many they had to sell. He counted 16 quarts. Ruth said, "That is ______ pecks."

5. They sold 6 quarts of blackberries at 10 cents a quart. They received ______ for the berries.

6. Ruth said: "I sold 6 quarts of berries, 7 quarts of beans, 9 quarts of peas, and 9 quarts of tomatoes. I sold ______ quarts all together."

Still Another Step in Division

7. 1 2 4
   3 3 7 2
   2 5 4 6
   5 8 5 5

8. 4 8 5 6
   6 6 9 0
   7 8 4 7

9. 3 7 2 3
   2 9 8
   6 7 2 6

1. Jack put 8 nickels in his bank. That is ______¢.

2. 4¢ 8¢ 8¢ 8¢
   ______ x 8
   ______ x 5
   ______ x 0
   ______ x 7

3. 8¢ 3¢ 6¢ 5¢
   ______ x 3
   ______ x 9
   ______ x 8
   ______ x 7

4. How much change will you get from $2.00 if you spend $1.19?
   Answer:

5. At 5¢ each find the cost of:
   5. 8 pencils, ______¢
   6. 6 balls, ______¢
   7. 9 oranges, ______¢
   8. 4 rulers, ______¢

9. Add:
   7¢ 3¢ 7¢ 3¢ 6¢
   ______ x 2
   ______ x 5
   ______ x 8
   ______ x 6

10. $3.00 $1.00 $6.00
    Answer:

Dividing by 8

1. Harry had 56¢. How many 8¢ pencils could he buy?
   Answer:

2. Eight boys broke a window that cost 40 cents. Each boy had to pay ______ cents.

3. 56 ÷ 8 = ______ 40 ÷ 8 = ______

4. 24 ÷ 8 = ______ 48 ÷ 8 = ______

5. 8 ÷ 8 = ______ 16 ÷ 8 = ______

6. 24 ÷ 3 = ______ 48 ÷ 6 = ______

7. 8 | 16
   8 | 24
   8 | 8
   8 | 48
   8 | 56

8. 7 | 14
   4 | 40
   4 | 32
   4 | 56
   4 | 72

9. 3 | 48
   5 | 60
   5 | 72
   5 | 0

10. Irene reviewed 24 spelling words on Monday and 16 more on Tuesday. How many words is that?
    Answer:

11. 56 ÷ 8 = 0 ÷ 8 = 48 ÷ 8 = ______

12. $1.32 $4.07 $9.35
    ______ x 8
    ______ x 7
    ______ x 6
Fred's class were making desk calendars as gifts. They learned many things from the sheets of an old calendar which they had pinned up to study. They learned the number of days in each month.

1. January ---- days
2. February ---- days
3. March ---- days
4. April ---- days
5. May ---- days
6. June ---- days
7. July ---- days
8. August ---- days
9. September ---- days
10. October ---- days
11. November ---- days
12. December ---- days

2. Write the days of the week in the short way:
   Sunday __Sun.__ Wednesday __
   Monday __Thursday __
   Tuesday __Friday __
   Saturday __

The date on which the Pilgrims landed in America was December 26, 1620.

3. Write the date of the Declaration of Independence:
   July ___ "1776
   On what date is Halloween this year?
   October ___ 31 ___ "1776

4. Which month has the fewest days?

5. Which months have 30 days?

6. Which months have 31 days?

7. Marie said: "My cousin's birthday is March 10. I want to send her present a week early. I'll send it on ____________ "

8. Mrs. Robb uses 8 quarts of milk every week. That equals —— pints of milk.

9. The date on which the Pilgrims landed in America was December 26, 1620.

10. Which days in month have the fewest?

11. Which months have 30 days?

12. Which months have 31 days?

13. Marie said: "My cousin's birthday is March 10. I want to send her present a week early. I'll send it on ____________ "

14. Which month has the fewest days?

15. Which months have 30 days?
Janet received a watch for her birthday. She showed her friends at her birthday party how to tell time.

1. She pointed to the large clock in the hall. "Do you see the short hand?" she asked. "It is called the hour hand. How long will it take the short hand to move from 3 to 4?"
   Answer: ______ hour

2. The long hand is called the minute hand. It goes all around the clock in one hour. Which one moves faster, the hour hand or the minute hand?
   Answer: The ______ hand

3. How long will it take the minute hand to go all the way around the clock?
   Answer: ______ hour

4. How long will it take the hour hand to go all the way around the clock?
   Answer: ______ hours

5. When the long hand points to 12, the short hand tells what hour it is. What time is it by the clock in the picture?
   Answer: ______ o'clock

Remember that:
A.M. means in the morning.
P.M. means in the afternoon or evening.

6. Write in another way:
   6 o'clock in the evening, ______
   7 o'clock in the morning.
   Can you tell time? Write under each clock face the time it tells:
   10 minutes after 4 ———
   30 minutes after 3 ———
   15 minutes after 12 ———
   A quarter past 6 ———
   Half past 5 ———

7. —o'clock 8. —o'clock 9. —o'clock

8. Put A.M. or P.M. in the blanks:
   In March the sun rises at 6 ______
   We go to school at 9 ______
   We leave school at 4 ______

9. Add:
   75
   39
   68
   43
   29
   15
   30
   28

10. Subtract:
    $7.12
    1.07
    $6.35
    4.62
    $3.84
    1.26

11. Add:
    69
    46
    58
    73
    72
    69
    18

11. Subtract:
    42
    30
    107
    168
    38
    11
    99
    109

12. Divide:
    6 | 696
    64 | 568
    2 | 452

13. 3 | 972
    7 | 917
    5 | 755

1. June Ross and her mother were going to the city. They arrived at the station at 9 o'clock. The train was due at 9:20. That is 20 minutes after 9. How long did they have to wait for the train?
   Answer:

2. Mrs. Ross showed June the little minute spaces between the numbers. She said, "There are five minute spaces between each two numbers." How long does it take the minute hand to go from the number 3 to the number 6?
   Answer:

3. Write in a shorter way:
   10 minutes after 4 ——— 4:10
   20 minutes after 3 ———
   15 minutes after 12 ———
   10 minutes after 7 ———

4. Fifteen minutes is a quarter of an hour. Thirty minutes is half of an hour. Write in a shorter way:
   A quarter past 6 ———
   Half past 5 ———

5. From 3 o'clock to 5 o'clock is ______ hours.

6. From 9 o'clock to 12 o'clock is ______ hours.

For more practice turn to DRILL 21d on p. 147.
Using 9 in Multiplication and Division

1. Sally read 9 pages of her story book every day for a week. That made a total of ___ pages.

2. Miss May bought nine 5¢ prizes for a party. They cost ___.

3. Miss May bought nine 5¢ prizes for a party. They cost ___.

4. Irene had 54 books. She placed 9 of them on each shelf in her bookcase. There were ___ shelves of books.

5. Fred paid 27¢ for 9 oranges. Each orange cost ___.

6. How much change will you get from a 2-dollar bill if you spend 27¢? 

Study these facts:

1. 9
2. 3, 6, 9
3. 1, 2, 4, 8
4. 0
5. 9

For more practice turn to DRILL 3b on p. 141.

Multiplying 9’s

1. 3 × ___ = 27
2. 21 ÷ 3 = ___
3. 26 ÷ = ___
4. 20 ÷ = ___

Dividing by 9

1. 45 ÷ 9 = ___
2. 54 ÷ 9 = ___
3. 42 ÷ 6 = ___
4. 0 ÷ 9 = ___
5. 3 × ___ = 27
6. 3 ÷ 15 = ___
7. 3 ÷ 30 = ___

For more practice turn to DRILL 4b on p. 142.
**Multiplication**

The Harris family went to Great Pond to spend the summer. The regular train fare was $3.50. The children, Bob, Betty, and Joe, had to pay only half fare. This was $1.75.

1. The total fare for Mr. and Mrs. Harris was $...

2. The total fare for the children was $...

3. Each of the five Harrises bought a 50-cent lunch on the train. The lunches cost $... all together.

4. The Harrises planned to stay 9 weeks at Great Pond. That would be... days.

**Division**

5. Mr. Harris said: "The lake is 18 miles long. Our cabin is one third of the way from the end. It is... miles from the end of the lake."

6. Bob bought 15 pieces of candy. He shared them equally among the five. Each received... pieces.

7. Betty bought 30 oranges. She said, "That will be... oranges for each of us."

**Addition and Subtraction**

8. The total fare for Mr. and Mrs. Harris and the children was $...

9. The lunches cost $2.50. Mr. Harris paid for them with a five-dollar bill. The correct change was $...

10. The train ride was 175 miles long. After they had gone 98 miles, Betty said, "We have... miles still to go."

11. $3.25 + $4.00 = $1.05

12. $5.00 - $3.27 =

13. $1.17 + $2.82 =

14. $7.80 - $4.00 = $2.00


16. Add: 75, 8, 36, 9

**New 9 and 10 Combinations**

1. The Boy Scouts had a flag drill. There were 9 rows of boys with 10 boys in each row. All together there were... boys in the drill.

2. $9 \times 8 = 72$

3. $9 \times 9 = 81$

4. $9 \times 10 = 90$

5. $9 \times 8 + 2 = 73$

6. $9 \times 10 + 3 = 93$

7. $7 \times 8 = 56$

8. $7 \times 9 = 63$

9. $7 \times 10 = 70$

**Multiplication**

1. $7 \times 8 = 56$

2. $7 \times 9 = 63$

3. $7 \times 10 = 70$

**Write the products:**

1. $9 \times 7 = 63$

2. $9 \times 5 = 45$

3. $9 \times 9 = 81$

4. $9 \times 3 = 27$

5. $9 \times 8 = 72$

6. $9 \times 10 = 90$

7. $9 \times 7 = 63$

8. $9 \times 6 = 54$

9. $9 \times 9 = 81$

10. $9 \times 5 = 45$

**For more practice turn to DRILL 3c on p. 141.**

**Dividing by 9**

1. There were 72 small sandwiches in our lunch basket. If there are 9 boys at the picnic, each one should get... sandwiches.

2. $9 \div 9 = 1$

3. $9 \div 9 = 1$

4. $9 \div 9 = 1$

5. $9 \div 9 = 1$

6. Candy cost 40¢ a pound. Sara bought one fourth of a pound. She paid $... for it.

7. $4 \div 9 = $0.44

8. $4 \div 9 = $0.44

9. $4 \div 9 = $0.44

For more practice turn to DRILL 4c on p. 142.
### Multiplication Combinations

<table>
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<th>1</th>
<th>0 \times 0 = 2 \times 0 = 4 \times 3 = 6 \times 3 = 9 \times 3 = 100</th>
<th>11</th>
<th>3 \times 4 = 3 \times 5 = 3 \times 6 = 13.</th>
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<td>1 \times 10 = 2 \times 2 = 2 \times 6 = 2 \times 10 = 8 \times 2 = 8 \times 8 = 9 \times 10 = 10</td>
<td>16</td>
<td>8 \times 9 = 8 \times 10 = 9 \times 9 = 10 \times 10 =</td>
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### Mixed Drill

| 1 | 1. \$26 + \$4 = 2. \$9 \times 8 = 3. 5 \times \$20 = 4. 22 = 5. Subtract: 3 \frac{1}{8} = 6. 3 \text{pk.} = \text{qt.} 7. 9 \times \$9 = 8. 7 = 9. \frac{1}{2} \text{ of 42 = } 10. \$7.68 \times 9 = 11. 6 \frac{9.06 =} 12. 3 \frac{18}{6} = |
|---|---|---|---|---|---|---|---|---|---|
| 13 | 13. 16 \text{qt.} = \text{pk.} 14. \frac{1}{2} \text{ of 45 =} 15. 8 \times 4 = 16. \text{Subtract:} \$4.19 = \text{.79} = |
| 17 | 17. \text{Divide} 54 \text{by} 9. = 18. \$3 \times 8 = 19. \text{Multiply} 648 \text{by} 7. |

### Seventh Progress Test

**TEST 3 — MULTIPLY**

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**TEST 4 — DIVIDE**

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**TEST 12 — ADD**

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**TEST 21 — SUBTRACT**

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**TEST 31 — MULTIPLY**

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*To the teacher: In the Seventh Progress Test the subtests may be timed separately if comparisons with standards are desired. If the subtests are timed separately, call attention to the type of operation to be performed when starting each subtest, e.g., "Look at the subtest and for Tests 12, 21, and 31 it is 3 minutes each. The standards are as follows: Test 5, 10 right; Test 4, 10 right; Test 12, 5 right; Test 21, 5 right; Test 31, 4 right."*
Read each problem carefully. Do not spend too much time on one problem. If you cannot work it, go on to the next. Do not hurry. Be sure you understand what each problem asks you to find.

1. John had 8 marbles. He gave half of them to his brother. John gave his brother ___ marbles.

2. Fred had a half dollar. His mother gave him a dime. Then he had ___ cents.

3. Jane has 5 pencils. Jack has 2. Jane has ___ more pencils than Jack.


5. Joe spent 2 at his father's store. This was ___ cents.

6. In a test of 10 spelling words Sue had 3 words wrong and ___ words right.

7. Betty is 9 years old. Her father is 36 years old. He is ___ times as old as Betty.

8. If one ice cream cone costs 5 cents, a dozen cones will cost ___ cents.

9. Bob bought a 10-cent loaf of bread and a roast of meat that cost $1.15. He should give the storekeeper $. ___

Go back and think over each problem again. Be sure you are right.

Adding

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<th>103</th>
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<td>5</td>
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</table>

Subtracting

Subtract and prove by adding the remainder to the subtrahend. Place a check mark (v) beside the minuend when you have checked the example.

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<td>5</td>
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<td>$3.00</td>
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<tr>
<td>9</td>
<td>$3.45</td>
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For more practice turn to DRILL 22 on p. 148.
1. Dot and David Brown had a 500-mile airplane ride during vacation. When they had gone 248 miles, they changed to another airplane. They still had __ miles to ride.

2. A man weighed the Brown family before they started. On a sheet he wrote: 72 pounds, 154 pounds, 59 pounds, and 125 pounds. That was _ _ pounds all together.

3. There were 6 airplanes on the field. The pilot said the company owned 4 times that many altogether. The company owned _ _ airplanes.

4. Four airplanes left the field while the children were at the airport. Each airplane carried 10 passengers. In the four airplanes there were __ passengers.

5. Dot had 30¢. She wanted to buy some oranges. If the oranges cost 5¢ each, she could buy __ oranges.

6. Mrs. Brown bought 16 post cards. She said, "Each of us may have 4 of these cards to send." That was __ cards for each.

Add and prove:

| 7. | 376 | 672 | 19 |
| 18 | 891 | 478 |
| 491 | 16 | 48 |

| 8. | $9.62 | $6.00 | $2.71 |
| .84 | .39 | 3.04 |
| 1.75 | 8.46 | 5.60 |

Subtract and check:

| 9. | 402 | 700 | 900 |
| 386 | 148 | 272 |

| 10. | 500 | 709 | 340 |
| 361 | 562 | 185 |

| 11. | $3.25 | $5.00 | $4.70 |
| 1.96 | 2.95 | 1.69 |

| 12. | $7.90 | $3.05 | $4.22 |
| 1.75 | 2.68 | 3.49 |

Practice in Column Addition

| 1. | 15 + 6 = | 13 + 8 = | 25 + 9 = |
| 2. | 25 + 4 = | 15 + 8 = | 28 + 7 = |

Add up and check down. Place a check mark (✓) beside the sum when you are sure you are right.

| 6. | 65 | 21 | 65 | 13 | 3 |
| 73 | 8 | 17 | 3 | 39 |
| 5 | 17 | 18 | 24 | 72 |
| 42 | 14 | 29 | 81 | 18 |
| 16 | 2 | 65 | 72 | 4 |

| 7. | 172 | 214 | 46 | 121 |
| 53 | 160 | 128 | 347 |
| 800 | 509 | 316 | 218 |
| 231 | 622 | 483 | 579 |

In these problems the words printed this way will help you.

1. A wagon that Fred Perry wanted cost $7.00. During a sale it was $2.50 cheaper. The sale price was ___.

2. Fred bought the wagon at the sale price. He also bought a $2.00 book. He spent $ ___ in all.

3. Mr. Perry had 207 chickens. He sold 185 of them. Then he had only ___ chickens left.

Addition or Subtraction

4. Mr. Perry spent $1.78 for chicken feed. He spent 87 cents for paint for the chicken house. The total cost was ___.

5. He gave the storekeeper a five-dollar bill. The correct change was ___.

6. Mr. Perry had $1.43. He wanted to buy a sled that cost $2.50. He needed ___ more.

7. 27 + 83 + 7 + 19 + 84 = ___

8. 105 + 74 + 90 + 317 = ___

For more practice turn to DRILL 21 on p. 147.
On the Fourth of July Ruth and Roy went with their father and mother on a picnic to Sunny Beach. A sign near their home said:

"Sunny Beach — 207 miles."

1. After they had traveled for a while, their father said: "We have gone 32 miles. We still must travel ___ miles."

2. The children counted the cars that they passed. Ruth counted 45 from their own state. Roy counted 29 from other states. That was ___ cars all together.

3. A man at the gate was selling flags at 5¢ each. The children's father bought 7 of them for his car. The man said, "That will be ___".

4. Roy said: "There are four of us. We have 10 tickets for the merry-go-round. Each of us can have ___ rides, and there will be ___ tickets left."

Multiply and check:

5. \[
\begin{array}{cccc}
75 & 63 & 82 & 46 \\
\times 6 & \times 4 & \times 5 & \times 3 \\
\end{array}
\]

6. \[
\begin{array}{cccc}
175 & 398 & 810 \\
\times 9 & \times 7 & \times 8 \\
\end{array}
\]

7. \[
\begin{array}{cccc}
46.2 & 3.95 & 7.50 \\
\times 4 & \times 2 & \times 6 \\
\end{array}
\]

For more practice turn to DRILL 31b on p. 150.

Divide and check by multiplying the quotient by the divisor:

Sample:

\[
\begin{array}{cccc}
231 \text{ quotient} & 231 \text{ quotient} \\
\text{divisor 3693 dividend} & \times 3 \text{ divisor} & 693 \text{ dividend} \\
\end{array}
\]

1. Jack earned 62¢ each week for 4 weeks. In these 4 weeks he earned ___¢. (Be sure to show the decimal point in the answer.)

2. Jack spent 1.79$ of his money for a baseball glove. He had ___$ left.

3. $7.4 \times 68 \times 96 \\
\times 5 \times 3 \times 4 \\

4. $8.2 \times 45 \times 67 \\
\times 7 \times 9 \times 8 \\

Multiply United States Money

Work these examples. Remember to multiply first and then add:

5. \[
7 \times 8 + 4 = 6 \times 2 + 7 = 4 \times 10 + 9 = \\
\]

6. \[
9 \times 5 + 6 = 4 \times 8 + 3 = 7 \times 3 + 6 = \\
\]

7. Harry sold 200 papers. If he was paid 3¢ for each of his ___ papers, he received ___¢.

8. $2.50 \times 3.75 \times 1.25 \times 3.07 \\
\times 2 \times 4 \times 8 \times 9 \\

9. $3.00 \times 836 \times 903 \times 862 \\
\times \$0.8 \times \$0.3 \times \$0.05 \times \$0.2 \\

10. $3.64 \times 9.00 \times 8.06 \times 5.00 \\
\times 6 \times 5 \times 7 \times 9 \\

For more practice turn to DRILL 31b on p. 150.

See if You Can Get All the Answers Right

1. In three weeks Ruth saved 1.05¢, 85¢, and 2.00. In all she saved ___¢.

2. Ruth bought a new hat for 1.25$. She paid for it out of her savings and had ___¢ left.

3. Jerry needed 30 feet of rope. He said, "I must buy ___ yards."

4. At 5¢ a yard the rope would cost ___¢.

5. Twenty-five yards of ribbon at 2¢ a yard will cost ___¢.

6. \[
\frac{1}{4} \text{ of } 32¢ = \frac{1}{4} \text{ of } 27¢ = \frac{1}{4} \text{ of } 20¢ = \\
\]

7. \[
\frac{8.00}{3} \times 7.54 \times 7.3 \times 9.72 \\
\times 6 \times 4 \times 8 \\

8. \[
9)54 \times 7)72 \times 6)54 \times 7)49 \times 9)81 \\
9)248 \times 3)90 \times 9)90 \times 3)66 \times 4)80 \\
10. \[
3)36 \times 9)72 \times 6)36 \times 2)40 \times 5)35 \\
11. \[
8)80 \times 7)77 \times 3)96 \times 9)27 \times 6)12 \\
12. \[
$3.00 \times 5.00 \times 1.00 \times 2.00 \\
\times 0.45 \times 4.32 \times 0.98 \times 1.49 \\

\]
The doll that Marie wants costs $5.00. She has $1.57 in her bank. How much more must she save? (Always write the dollar sign and the decimal point.)

Answer: $3.43

1. Ellis wants a flashlight that costs $1.75 and a knife that costs $1.50. He must save $_


3. Max and David saw coaster wagons in a store downtown. They each cost $5.98. Two of these wagons would cost ___

4. $3.00

5. $9.00

6. $172 + $8 = of $9
Ann and Agnes often played that they were nurses. They had fun giving the dolls their medicine on time.

1. The baby in the first bed was given her medicine at 10 o'clock. She does not get it again for two hours. It will then be ____ o'clock.

2. One doll's chart showed that she had been in the hospital for 3 weeks. That is ____ days.

3. Ann said: "There are 60 minutes in an hour. There are ____ minutes in 2 hours."

4. The girls played hospital for 3 hours. That was ____ minutes.

5. Mrs. White said that the girls could play a half hour longer. Agnes said, "That is only ____ minutes."

6. Ann wanted a new bed for the hospital. It would cost $4.00. Ann had $1.75. She needed $____ more.

There are 60 minutes in an hour. The minutes are marked by 5's on the clock above.

This clock says 7:15 o'clock.

The small hand (hour hand) has passed 7. The minute hand points to 50 minutes. The clock says 7:50 o'clock.

What time is it?

1. 0 ÷ 6 = ____
2. 7 + 7 = ____
3. 50 ÷ 5 = ____
4. 12 + 2 = ____
5. 16 + 2 = ____
6. 18 ÷ 3 = ____
7. 24 ÷ 3 = ____
8. 8 × 4 = ____
9. 16 ÷ 4 = ____
10. 24 ÷ 4 = ____

Mixed Drill

1. 5 × 9 = ____
2. Divide 88 by 4. ______
3. 12 + 2 = ____
4. 21 ÷ 7 = ____
5. Divide $16 by 4. ______
6. 9 × $4 = ____
7. Subtract: 5 7 1 ______
8. 9 0 7 ______
9. Add: 3, 1, 3, 4, 9 ______
10. Add: $2 _____
11. 1 of 48 = _____
12. 5 0 0 _____
13. 3/8 4 3 _____
14. 4 3 8 ______
15. Multiply 732 by 8. _____
16. $5.2 2 ______
17. Subtract: $7.0 0 _____
18. ½ of $63 3. 4 7 ______
19. $3.8 4 9. 2 1 . 6 3 ______
20. $9.0 8 ______

Division Facts

1. 0 ÷ 6 = ___, 4 ÷ 6 = ___, 5 ÷ 10 = ___, 5 ÷ 20 = ___, 5 ÷ 40 = ___
2. 7 ÷ 7 = ___, 4 ÷ 4 = ___, 5 ÷ 25 = ___, 5 ÷ 35 = ___, 6 ÷ 24 = ___, 6 ÷ 12 = ___
3. 50 ÷ 5 = ___, 30 ÷ 3 = ___, 6 ÷ 18 = ___, 6 ÷ 48 = ___, 6 ÷ 30 = ___, 6 ÷ 42 = ___, 6 ÷ 54 = ___
4. 12 + 2 = ___, 14 ÷ 2 = ___, 7 ÷ 49 = ___, 7 ÷ 21 = ___, 7 ÷ 35 = ___, 7 ÷ 28 = ___, 7 ÷ 56 = ___, 7 ÷ 63 = ___
5. 16 + 2 = ___, 18 ÷ 2 = ___, 7 ÷ 14 = ___, 7 ÷ 42 = ___, 8 ÷ 32 = ___, 8 ÷ 48 = ___, 8 ÷ 16 = ___, 8 ÷ 72 = ___
6. 18 ÷ 3 = ___, 21 ÷ 3 = ___, 8 ÷ 24 = ___, 8 ÷ 64 = ___, 8 ÷ 40 = ___, 8 ÷ 56 = ___, 9 ÷ 36 = ___, 9 ÷ 27 = ___
7. 24 ÷ 3 = ___, 27 ÷ 3 = ___, 9 ÷ 81 = ___, 9 ÷ 54 = ___, 9 ÷ 18 = ___, 9 ÷ 72 = ___, 9 ÷ 45 = ___, 9 ÷ 63 = ___
Roy and his friends collected milk-bottle tops, which they washed and pressed out flat. They collected so many tops that they had to have some way to count them. Roy put them in piles of ten each. Ten of these piles of ten made a row of one hundred.

10 × 10 = 100

When the boys had several of these hundred rows, they placed them side by side. When they had ten hundreds, they had one thousand.

10 × 100 = 1000

The boys had painted some of the milk-bottle tops black. The hundred row in the middle of the picture shows four of the ten piles painted black. There are ten black tops in each pile.

1. There are _____ black milk tops in the middle picture.
2. In the large group of a thousand tops _____ whole rows are painted black.
3. Each of these black rows has _____ milk tops in it.
4. There are _____ black milk tops in the large picture.
5. 300 + 40 = _____ black tops all together

Write these numbers in figures:
1. Two thousand, 2000
2. Six thousand, 6000
3. Eight thousand, 8000
4. Nine thousand, 9000
5. Ten thousand, 10,000
6. 7 thousand, 7000
7. 3 thousand, 3000
8. 6 thousand, 6000
9. 9 thousand, 9000
10. 10 thousand, 10,000
11. 25 thousand, 25,000
12. 73 thousand, 73,000
13. Write in figures and then add:
   Five thousand 5000
   Six hundred 600
   Forty-two 42

Total

Read the total. It is just what you wrote. It is “five thousand, six hundred forty-two.”

Write these numbers aloud:
6357 6300 6057
6007 6300 6666
1001 6050 6666
10527 2020 3300
14280 14280 27000

Write the figures:
Six thousand, five hundred seventy, 6570
Four thousand, six hundred thirty-three, 4633
Two thousand, ten, 2010
Five thousand, sixty, 5060

Write the totals for each row.

### Eighth Progress Test

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To the teacher: The Eighth Progress Test the subjects may be timed separately if comparisons with standards are desired. If the columns are timed separately, call attention to the type of operation to be performed when starting each subject, e.g.: “Look at Test 1. It says, ‘Add.’”

Give the time for Test 2 is 3 minutes. The standards are as follows: Test 1, 1 minute; Test 2, 1 minute; Test 3, 1 minute; Test 13, 1 minute; Test 22, 1 minute. For Test 13 it is 4 minutes, and for Test 22 it is 3 minutes.
Eighth Progress Test (Continued)

Read each problem carefully. Do not spend too much time on one problem. Do not hurry. Be sure you understand what each problem asks you to find.

1. Agnes is 9 years old, and her brother is 11. He is — years older than Agnes.

2. Bert can walk 3 miles in an hour. In 2 hours he can walk — miles.

3. Helen made 10 jelly sandwiches. She also made 5 lettuce sandwiches. She made — sandwiches.

4. Vera went out to play at 4 o'clock. She could stay out 2 hours. Vera should go in at — o'clock.

5. Betty bought a dozen tiny cakes and shared them equally with her sister. Each girl received — cakes.

6. Elsie had a dollar bill. She bought a 50-cent doll. Elsie received — cents change.

7. Mrs. Jones gave Ellen 18 cents and sent her to the post office to buy 2-cent stamps. Ellen could buy — stamps.

8. Mrs. James made a dozen small cakes. If she sold them for 5 cents apiece, she received — cents for them.

9. Ellen is weaving a rug. It is to be one yard long. She has 23 inches finished and — inches to weave.

10. The children kept the temperature record for 6 school weeks of 5 days each. That was — days.

11. The temperature outdoors last night was 43°. Water freezes at 32°. If the temperature had dropped —°, water would have frozen.

12. Alma looked at the thermometer in the school yard. The temperature was 49°. Inside the building the temperature was 74°. How many degrees warmer was it in the building?

Answer: —

13. Mrs. James made a dozen sandwich for 60 cents apiece. If she sold them for 5 cents apiece, she received — cents for them.

14. Allen and Jerry kept a record of the temperature in their schoolroom. Temperature is measured by degrees. A thermometer is used to measure temperature. Yesterday the temperature in Ann and Jerry's room was 68 degrees. A short way to write 68 degrees is 68°.

1. Jerry said: "Each little space on the thermometer counts for 2 degrees. If the liquid in the glass goes up 7 spaces, it is —° warmer in our room."

2. Ann said, "If the liquid in the glass goes down 8 spaces, it is —° colder."

3. Write in the short way:
   Seventy-two degrees, 72°
   Sixty degrees, —
   Forty-four degrees, —
   Twenty-six degrees, —

4. At 9 o'clock the temperature was 68°. At 1 o'clock it was 72°. Was it warmer or colder at 1 o'clock? — How many degrees? —

5. On Wednesday the temperature in the room was only 60°. It should have been 68°. It was —° degrees too cold.
Kenneth's Sunday-school class went to the fair. Each boy had his own money to spend.

1. James had 45¢. It cost 5¢ to ride on the merry-go-round. How many times could James ride?
   Answer: __ __ __ __

2. Each ride lasted 5 minutes. How many times could James ride in half an hour?
   Answer: __ __ __ __

3. Four of the boys counted their money. One had 80¢, one had $1.25, another had $1.00, and the other had 64¢. How much did they have all together?
   Answer: __ __ __ __

4. The teacher had 95 tickets that could be used at the fair. He divided them equally among 5 boys. How many did each one get?
   Answer: __ __ __ __

5. Balloons cost 6¢ each. How many balloons could Kenneth buy for 72¢?
   Answer: __ __ __ __

6. Janet paid 80¢ for 4 cans of cherries. How much did each can cost?
   Answer: __ __ __ __

7. Paul's uncle had 600 stamps. He divided them equally between Paul and his brother. Each boy received 300 stamps.
   Answer: __ __ __ __

8. John had 96 stamps. If he pasted 8 of them on each page of his stamp book, how many pages would he use?
   Answer: __ __ __ __


10. Using Larger Divisors

   1. 6|722  7|84  7|98
   2. 7|91  8|88  6|60
   3. 7|70  6|96  6|84

   For more practice turn to DRILL 41a on p. 154.
Jean took 10 sandwiches to a picnic. There were 4 girls who ate together. If they divided the sandwiches equally, how many did each girl receive? How many were left over?

Answer: 2 and 2 sandwiches left over.

The girls in the club had 696 roses. Dot said, "Let's divide the roses so that we can put an equal number on each of these three tables." How many roses did they put on each table?

Answer: 121 flowers.

Betty's club was having a flower show. They had 484 flowers that they wanted to put on 4 tables. How many flowers should they have put on each table?

Answer: 121 flowers.

Jean said: "I sold $5.00 worth of tickets to the show. Jean sold $3.75 worth." How much more money did Jean take in than Rose?

Answer: ——

May's class had 126 chairs for a play. They placed 6 in each row. How many rows of chairs were there?

Answer: 21 rows.

The class divided into 4 teams to sell tickets. They had 168 tickets in all. Each team had tickets.

The first team sold 42 tickets. This was 8 tickets more than the second team sold. The second team sold tickets.

For more practice turn to DRILL 41b on p. 154.
Earning Money for the Baseball Team

Jack's baseball team sold papers to buy baseballs, gloves, and bats. The boys were divided into groups. Jack's group of 4 sold 476 papers in a week. How many papers did that make for each boy?

1. Three boys in Ed's group sold 384 papers all together. That was papers for each boy.

2. How many more papers did Jack's group sell than Ed's group?

Answer:

3. Henry said: "I sold 175 papers. Bob sold 3 times that many." How many papers did Bob sell?

Answer:

4. There were 6 boys in John's group. John said: "We sold more papers than any other group. We sold 786 of them. That was papers for each of us."

5. The baseballs which they bought cost $2.75. The gloves cost $4.75. How much did both the balls and the gloves cost?

Answer:

6. Mr. Burnett divided 660 marbles evenly among 5 children. Each child received marbles.

For more practice turn to DRILL 41d on p. 154 and DRILL 41e on p. 155.

More Division with Remainders

There are 365 days in most years. How many weeks are there?

Answer: 52 weeks and day left over

1. Leap year comes once in four years. It has 366 days. There are weeks and days left over in leap year.

2. Helen goes to school 5 days a week for 38 weeks. She goes to school days.

For more practice turn to DRILL 41d on p. 154 and DRILL 41e on p. 155.
The boys and girls in Fred's room make arithmetic problems about things they like to do. See if you can work their problems.

1. Tom said: "Our croquet set cost $4.75. Five of us saved money to buy it. Each of us had to pay____ toward it."

2. "Kate and I jump rope every day," said Sandra. "Today Kate jumped 100 times without missing. I jumped 89 times. Kate jumped____ more times than I did."

3. Jim liked to read. He said: "There are 140 pages in my new book. If I want to read an equal number of pages for 7 nights, I shall have to read____ pages each night."

4. "I saved 354 stamps," said Marvin. "If I share them equally with 2 of my brothers, each of us should get____ stamps."

5. "There were 54 girls on the playground today," said Helen. "We wanted to have 6 teams for races. There were____ girls for each team."

6. Fred said, "We have 44 boys in our football club. Only 1/4 of us can play against another club at one time. That is____ boys."

7. Betty told about her lemonade stand. She said: "I sold 19 glasses of lemonade at 5¢ a glass. That is____."
### Addition and Subtraction Review

1. Henry had $4.71 saved. He spent $2.98 for a baseball glove. How much did he have left?
   **Answer:**

2. Add:
   - 7 24
   - 5 7
   - 9 20
   - 6 9

3. $5.43 + $6.18 = $7.00
   - $2.00 - $5.96 - $3.85

4. $3.50 + $2.95 = $4.19
   - $1.45 - $1.78 - $3.65

5. Anna sold $5.00 worth of tickets to the play. Marie sold $3.75 worth of tickets. How much more money did Anna take in than Marie?
   **Answer:**

### Multiplication Review

1. The train fare to the scout camp is $6.75. How much will it cost 4 boys to go to the camp by train?
   **Answer:**

2. The scoutmaster at camp bought 4 gallons of milk. How many quarts of milk is that?
   **Answer:**

3. $3.01 \times 4 = 12.04$
   $9.86 \times 5 = 49.30$
   $3.94 \times 9 = 35.46$

4. $2.00 \times 3 = 6.00$
   $3.43 \times 6 = 20.58$
   $+479 \times 3 = 1437$

5. Write the products:
   - 7 6 8 2 7 3
   - 6 8 9 4 6
   - 5 9 6 8 7 5
   - 4 8 3 7 6
   - 9 4 6 9 8 9

6. $7 \times 8 + 6 = 62$
   $5 \times 9 + 7 = 52$
   $6 \times 2 + 4 = 16$
   $8 \times 8 + 2 = 66$

7. For more practice turn to DRILL 3c on p. 141.

### Ninth Progress Test

**Name:**

**Test 4 — Divide**

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<td>7/35</td>
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**Test 10 — Add**

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**Test 22 — Subtract**

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**Test 32 — Multiply**

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**Test 41 — Divide**

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To the teacher: In the Ninth Progress Test the subtests may be timed separately if comparisons with standards are desired. If the subtests are timed separately, full attention to the type of operation to be performed when starting each subtest, e.g., "Look at the teacher!" is necessary. The time for Test 10 is 1 minute, for Test 22 it is 3 minutes, for Test 32 it is 2 minutes, and for Test 41 it is 4 minutes. The standards are as follows: Test 4, 10 right; Test 10, 9 right; Test 22, 6 right; Test 32, 4 right; Test 41, 3 right.
Read each problem carefully. Do not spend too much time on one problem. If you cannot work it, go on to the next. Do not hurry. Be sure you understand what each problem asks you to find.

1. Betty earned 5 cents for going on an errand and 10 cents for helping her mother. Betty earned ___ cents.

2. Helen has 20 cents. She can buy ___ oranges at 4 cents apiece.

3. Dorothy had $1.75. If she spends $1.25 for a hat, she will have $___ left.

4. Mr. Owens bought the baseball team 9 new suits. Each suit cost $6. Mr. Owens spent $___ for the 9 suits.

5. A bus has seats for 24 children. If there are 4 children in the bus, there is room for ___ more children.

6. Mrs. Miller bought 2 blankets at $1.10 each. The blankets cost ___.

7. Three boys broke a window. It cost 87 cents to repair the window. Each boy's share of the cost was ___ cents.

8. One kind of bread costs 10 cents a loaf. Another kind costs 12 cents. The difference in cost is ___ cents.

9. On Monday afternoon the temperature was 70 degrees. On Tuesday it was 15 degrees warmer. The temperature was ___ degrees on Tuesday.

Go back and think over each problem again. Be sure you are right.
Walter paid $5.40 for his shoes. He said, "It took me 3 weeks to earn that money." How much did he earn each week? (Be sure to show the dollar sign and the decimal point.)

Answer: $1.80

1. Bob paid $1.20 for 3 pairs of socks that were just alike. How much did each pair cost?

Answer: _______

2. School dresses were $2.25 each. Mabel wondered how much three of them would cost. See if you can tell.

Answer: _______

3. Mrs. Wren bought $3.98 worth of clothing. She gave the clerk a $5 bill. How much change did she receive?

Answer: _______

4. Mrs. Barr had 360 gift coupons which the store gave. She divided them equally among 4 boys. How many coupons did each one get?

Answer: _______

5. Rose paid $0.75 for socks, $4.75 for shoes, and $1.95 for a dress. How much money did she spend?

Answer: _______

Add:

6. $16, $25, $14.75
7. $350, $216, $395

Subtract:

8. $24.50 from $50.00
9. $9.50 from $10.75
10. $8.00 from $4.00

Add and check:

11. $5.38 + $3.00 + $6.35 = $14.73
12. $3.95 + $4.50 + $3.79 = $12.24

Subtract and check:

13. Subtract $4.50 from $7.00.

Practice with Zeros in the Quotients

1. Four girls who belonged to Jean's club decided to buy a sewing box that cost $2.40. How much should each girl pay toward buying it?

Answer: _______

2. 7/2 1 0

3. 7 × 5 + 6 = 8 × 4 + 8 =
 9 × 3 + 4 = 6 × 3 + 3 =

4. Tom weighed 72 pounds in June. In December he weighed 80 pounds. How many pounds did he gain?

Answer: _______

Add and check:

11. ½ yd. = ____ in. 6 pt. = ____ qt.

Subtract and check:

12. Subtract $4.50 from $7.00.

Ted, Jerry, and Pete have earned $5.42 selling magazines. If they share the money equally, how much will each boy get?

Answer: $1.80 each and 2 cents left over

Divide:

1. 3) $6.90
2. 4) $5.21
3) $3.54

5. 8) 963
7) 212
9) 904

Zeros in the Dividends Again

5. 4) 760
5) 505
6) 900
7) 350

6. 8) 960
2) 720
7) 210
9) 900

Fill the blanks:

7. 7 ft. = ____ in. 4 qt. = ____ gal.
8. 2 weeks = ____ days 6 pt. = ____ qt.
9. 5 nickels = ____ quarter 36 in. = ____ yd.
10. 8 qt. = ____ gal. 3 ft. = ____ yd.
11. ⅛ yd. = ____ in. 6 pt. = ____ qt.
Using Zeros

Caroline paid $6.54 for 6 yards of dress material. How much did it cost a yard?

Answer:

$1.09

Bring down the 5.

6 )$6.54

Bring down the 5.

6 into 5, 0.

Write the 6 in the quotient. Bring down the 4.

6 into 42, 7.

Answer: It cost $1.09 a yard.

Louise went to the post office to buy 5¢ stamps. She had $5.25. How many stamps could she buy?

Answer:

2. After saving for three weeks Dan had $3.21. How much was that for each week?

Answer:

3. During vacation Henry worked every day except Sunday for a week. He earned 70¢ a day. How much did he earn in a week?

Answer:

4. Nut cookies cost 60¢ a pound. How much must Doris pay for 2 of a pound?

Answer:

Subtract $1.50 from $3.00.

For more practice turn to DRILL 41h on p. 156.

Division with Zeros

1. Peter paid $1.50 for 3 baseballs. That was —— cents for each.

2. How much would Kate have to pay for 4 handkerchiefs at 20¢ each?

Answer:


Division Review

Divide and prove:

1. The third grade had $1.70 to spend for their picnic. How many 5¢ ice cream cones could they buy?

Answer:

2. John had $3.75 in his bank. He deposited 5¢ more. How much money did he have then?

Answer:


Alma, Grace, and Jean often played in the house that Alma's father had built for them.

1. Alma saved $2.00 to buy new dishes. They cost $1.45. How much money did she have left?
   Answer: __ __

2. Jean washed the dolls' clothes. She washed 14 dresses, 12 socks, and 6 aprons. How many pieces of clothing is that in all?
   Answer: --- ---

3. Grace said, "I bought 6 doll hats for 60¢." How much did each hat cost?
   Answer: __ __

4. Jean's doll was 36 inches tall. How many feet is that?
   Answer: __ __

5. The thermometer in the playhouse read 80º. Grace said that the temperature should be 68º. How much too warm was the playhouse?
   Answer: ---

6. The girls played house for 2 hours. Alma wondered how many minutes there are in 2 hours. How many are there?
   Answer: __ __

7. Subtract and prove:
   \[ \begin{array}{cccc}
   \hline
   & & & \\
   $3.00 & $7.82 & $5.94 & \\
   1.99 & 1.76 & 3.78 & \\
   \hline
   \end{array} \]
   Answer: __ __

8. Roy's father paid $3.75 for 5 bushels of potatoes. How much did each bushel cost?
   Answer: __ __

9. Harry earns $3.95 a week in a grocery store. How much does he earn in 4 weeks?
   Answer: __ __

10. Mrs. Park's grocery order cost $3.59. If she gave the clerk a 5-dollar bill, how much change did she receive?
    Answer: __ __

11. Joe had $3.48 in his bank. His father gave him $2.45 and his aunt gave him $1.95 for his birthday. How much money did he have then?
    Answer: __ __

12. Bob wanted to buy his mother a gift that cost $5.50. He said: "It is 5 months until Mother's birthday. I should save each month for the gift."

13. Joe had $3.48 in his bank. His father gave him $2.45 and his aunt gave him $1.95 for his birthday. How much money did he have then?
    Answer: __ __

14. Irene saved $2.75. She wanted to buy a watch that cost $7.00. How much money did she still need?
    Answer: ---

Tell how many cents there are in:

15. Two quarters, ---; three quarters, ---

Tell how much change you should get:

16. If you have $3.00 and spend $2.75, ---

17. If you have $19.00 and spend $11.50, ---

18. If you have $20.50 and spend $4.89, ---

19. If you have $1.50 and spend $0.75, ---

20. If you have $3.90 and spend $2.75, ---
Grandfather had a large old clock that Dan and Doris liked very much. It had queer numbers on it. Grandfather said they were Roman numbers. You can see them on the clock in the picture above.

1. Write out our numbers for these:
   I is . II is . III is . IV is . V is . VI is . VII is . VIII is .
   X is . XI is . XII is .

2. Write the Roman numbers for:
   IX = . X = .

Sometimes, instead of IIII, the Roman number IV is used.

3. Write the time: o'clock o'clock

4. 7798 3579 5955

5. 4986 8968 8846

6. $8.75 \times 9 = $6.04 \times 9 = $7.50 \times 8 =

7. $6.40 \times 4 = $3.95 \times 6 = $4.72 \times 7 =

8. Add and check:
   $7.85 + 3.00 + 4.92 =
   $6.00 + 0.25 + 3.98 =
   $5.95 + 2.00 + 9.60 =

1. Walter sold 141 glasses of lemonade at 5¢ a glass. How much money did he take in? Answer:
2. Sweaters were $2.95 each. Mrs. Clark bought 3 of them. How much did they cost? Answer:
3. $5 \times 3 + 4 = 7 \times 5 + 1 =
4. $6 \times 5 + 1 = 9 \times 2 + 4 =
5. $7 \times 3 + 8 = 8 \times 6 + 2 =
6. $7.51 \times 3 = $6.04 \times 4 =

Dividing United States Money

1. Tom paid 75¢ for 3 tickets to the school play. How much did each ticket cost? Answer:
2. $5.00 \div 4 =
3. $1.40 \div 7 =
4. $6.95 \div 5 =
5. $3.72 \div 6 =

Multiplying United States Money

1. $9.60 \times 8 = $7.25 \times 2 = $1.15 \times 6 =
2. $2.04 \times 6 = $7.39 \times 3 = $4.85 \times 7 =
3. $6.07 \times 6 = $5.94 \times 7 = $3.89 \times 6 =
4. $9.55 \times 4 =

5. $3.65 \div 5 =
6. $3.84 \div 4 =
7. $2.40 \div 3 =
8. $6.36 \div 6 =
9. $7.49 \div 7 =

10. $5.37 \times 2 =
11. $3.72 \times 9 =
12. $3.18 \times 6 =
13. $3.00 \times 9 =
14. $9.55 \times 4 =
Review of Measures

1. 1 pk. = ___ qt. 2. 8 qt. = ___ pt. 3. 8 gal. = ___ qt. 4. 1 quarter = ___ cents
   2 nickels = ___ dimes = ___ cents
   3. 3 pk. = ___ qt. 4. 5 yd. = ___ ft. 5. 1 yd. = ___ ft. 6. 1 yd. = ___ in.
   7. 7 weeks = ___ days 8. 5 weeks = ___ days 9. 1 yd. = ___ ft. 10. 4 yd. = ___ ft.
   11. 7 dimes = ___ cents 12. 6 dimes = ___ cents

Tenth Progress Test

Name: _______________________

TEST 3 — MULTIPLY

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TEST 5 — FRACTIONAL PARTS

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<td>1/8 of 54 = 7</td>
<td>1/8 of 49 = 6</td>
<td>1/8 of 60 = 7</td>
<td>1/8 of 42 = 5</td>
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<tr>
<td>1/8 of 72 = 9</td>
<td>1/8 of 63 = 8</td>
<td>1/8 of 56 = 7</td>
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TEST 13 — ADD

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TEST 41 — DIVIDE

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |7/08|7/65|7/65|7/65|

TEST 42 — DIVIDE

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |7/490|4|000|7/749|5/545|9|954|

11. Subtract: $3.00$ $6.57$ $2.28$ $2.00$
12. $4.22$ $6.00$
13. $2.17$ $6.00$
15. Multiply $2.35$ by 3.
16. Add: $100$ $753$ $826$
17. 100 $753$ $826$
18. 9/127
19. 20. $600 ÷ 5$
Problems: Read each problem carefully. Do not spend too much time on one problem. If you cannot work it, go on to the next. Do not hurry. Be sure you understand what each problem asks you to find.

1. Ellsworth had 6 apples. He shared them equally with his brother. Each boy had — apples.

2. Esther is 8 years old. In 6 years she will be — years old.

3. Helen needed enough eggs to fill 3 boxes. Each box held a dozen eggs. Helen needed — eggs to fill the 3 boxes.

4. Edith wants to buy a $.75 book. She has a half dollar and needs $ — more.

5. If 4 boys share the cost of a $1.60 baseball bat, each boy should pay $ —.

6. There were 25 pupils in Mary’s class, 13 boys and — girls.

Go back and think over each problem again. Be sure you are right.

---

**DRILL AND TEST EXERCISES**

**DRILL 1 — ADDITION FACTS**

1. 5 6 2 3 4 7 8 0 9 7 3 1 0
2. 3 4 5 3 5 1 9 5 0 2 3 9 4 1
3. 5 8 7 6 0 1 5 2 5 8 1 3 4
4. 0 7 1 4 0 3 5 9 7 6 2 2 2 4
5. 5 2 1 5 1 2 7 2 2 4

**DRILL 2 — ADDITION FACTS**

6. 8 9 3 8 2 1 4 1 9 4 1 6
7. 3 6 9 0 6 9 0 2 7 5 7 6
8. 7 2 8 3 2 8 2 9 6 9 4 9
9. 0 0 3 7 0 9 6 8 2 5 6 7 9
10. 8 9 7 8 4 4 5 9 7 3 4 8
11. 0 8 3 7 4 0 7 3 5 1 9 6
12. 4 5 7 8 6 3 5 4 0 8 0 8

---

To the teacher: To use the Drill and Test Exercises as consumable material, the pupil should place a wide sheet of paper below the top row of examples and then write the row number, in the upper left corner, followed by the answers. When one row has been completed, the work sheet should be folded under and the procedure repeated. The pupil will compare his answers with those on the answer key. At the discretion of the teacher the pupil may write his answers directly on the printed page.
### DRILL 4a — DIVISION FACTS (pages 26-50)

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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### DRILL 4b — DIVISION FACTS (pages 51-98)

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### DRILL 4c — DIVISION FACTS (pages 99-187)

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</table>

To the teacher: For short division the work sheet should be folded upward from the bottom. It should then be placed with the fold above the examples. As each row of answers is completed, the work sheet should be folded upward for the following row.
### DRILL 11a — ADDITION WITHOUT CARRYING

<table>
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<tr>
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<td>43</td>
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<td>20</td>
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### DRILL 11b — SINGLE-COLUMN ADDITION (Test II)

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### DRILL 12 — SINGLE-COLUMN ADDITION

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### DRILL 13 — THREE-COLUMN ADDITION

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### DRILL 14 — THREE-COLUMN ADDITION

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### DRILL 20b — SUBTRACTION BY ENDINGS (Test 20)

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### DRILL 21a — SUBTRACTION WITH CARRYING (OR BORROWING)

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<th>91</th>
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<tr>
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### DRILL 21b — SUBTRACTION USED IN DIVISION

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### DRILL 21c — SUBTRACTION WITHOUT CARRYING (OR BORROWING)

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<tr>
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### DRILL 21d — SUBTRACTION WITH ONE CARRYING (OR BORROWING)

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### DRILL 22a — SUBTRACTION WITH TWO CARRYINGS (OR BORROWINGS) (Test 21)

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### DRILL 22b — SUBTRACTION USED IN DIVISION

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<tbody>
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### DRILL 22c — SUBTRACTION WITH TWO CARRYINGS (OR BORROWINGS)

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<th>972</th>
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<tbody>
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### Drill 21a - Subtraction with Two Carryings (or Borrowings)

<table>
<thead>
<tr>
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<td>830</td>
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<td>872</td>
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### Drill 21b - Subtraction with Two Carryings (or Borrowings)

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### Drill 21c - Subtraction with Zeros

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### Drill 22 - Subtraction with Zeros

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<td>549</td>
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<td>502</td>
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### Drill 22c - Multiplication Without Carrying

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<td>121</td>
<td>312</td>
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<tr>
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<td>223</td>
<td>41</td>
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### Drill 22d - Multiplication with Zeros Without Carrying

<table>
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### Drill 23 - Subtraction, Mixed Review

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### Drill 23a - Multiplication with One Carrying

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<th>4</th>
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### Drill 23b - Subtraction, Mixed Review

<table>
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<tbody>
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<td>705</td>
<td>395</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>861</td>
<td>671</td>
<td>673</td>
<td>820</td>
<td>950</td>
<td>471</td>
<td>378</td>
<td>503</td>
<td>692</td>
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### Drill 23c - Multiplication with One Carrying

<table>
<thead>
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<td>2</td>
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<td>952</td>
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### Drill 23d - Multiplication with One Carrying

<table>
<thead>
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<th>10</th>
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<td>346</td>
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<tr>
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<td>378</td>
<td>503</td>
<td>235</td>
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</table>
DRILL 31b - MULTIPLICATION WITH ZEROS AND CARRYING

1. 104 \times 14 = 140
2. 809 \times 7 = 5663
3. 302 \times 7 = 2114
4. 405 \times 6 = 2430
5. 200 \times 2 = 400

DRILL 31c - MULTIPLICATION WITH TWO CARRYINGS

1. 813 \times 2 = 1626
2. 739 \times 4 = 2956
3. 953 \times 3 = 2864
4. 708 \times 4 = 2832
5. 396 \times 4 = 1584
6. 934 \times 2 = 1868

DRILL 31d - MULTIPLICATION, MIXED REVIEW (Test 31) (pages 100 to 138)

1. 458 \times 7 = 3206
2. 900 \times 5 = 4500
3. 689 \times 4 = 2756
4. 698 \times 5 = 3490
5. 960 \times 4 = 3840
6. 584 \times 5 = 2920
7. 470 \times 7 = 3290
8. 630 \times 4 = 2520
9. 953 \times 9 = 8577
10. 847 \times 4 = 3388
11. 360 \times 5 = 1800
12. 500 \times 6 = 3000
### DRILL 40a — DIVISION WITHOUT CARRYING

<table>
<thead>
<tr>
<th>Example</th>
<th>Quotient</th>
<th>Divisor</th>
<th>Remainder</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>32</td>
<td>3)96</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>2348</td>
<td>3)63</td>
<td>4</td>
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</tbody>
</table>

### DRILL 40b — DIVISION WITH ZEROS

<table>
<thead>
<tr>
<th>Example</th>
<th>Quotient</th>
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<th>Remainder</th>
</tr>
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<tbody>
<tr>
<td>5.</td>
<td>20</td>
<td>4)80</td>
<td>5</td>
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<tr>
<td>6.</td>
<td>2340</td>
<td>8)27</td>
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</table>

### DRILL 40c — UNEVEN DIVISION

<table>
<thead>
<tr>
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<th>Remainder</th>
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<tbody>
<tr>
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<td>6</td>
<td>3</td>
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<tr>
<td>10.</td>
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<td>5</td>
<td>5</td>
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### DRILL 40d — DIVISION WITH CARRYING

<table>
<thead>
<tr>
<th>Example</th>
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<th>Divisor</th>
<th>Remainder</th>
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<tbody>
<tr>
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<td>3</td>
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<tr>
<td>2.</td>
<td>5685</td>
<td>4)96</td>
<td>4</td>
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</tbody>
</table>

### DRILL 40e — DIVISION WITH CARRYING AND REMAINDERS

<table>
<thead>
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<th>Remainder</th>
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<tbody>
<tr>
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<tr>
<td>4.</td>
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</tbody>
</table>

### DRILL 40f — DIVISION WITH ONE CARRYING

<table>
<thead>
<tr>
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<th>Remainder</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
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<td>7)9</td>
<td>3)64</td>
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<tr>
<td>6.</td>
<td>3972</td>
<td>2)328</td>
<td>2)298</td>
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To the teacher: If this and the following pages are to be used as nonconsumable material, it will be necessary for the pupil to copy the examples before working them.
### DRILL 41a — DIVISION WITH ZEROS

1.  
   \[
   \begin{array}{cccccccc}
   & 1 & 1 & 0 \\
   7) & 7 & 7 & 0 \\
   7 & \hline
   & 2 & 6 & 0 & 8 \\
   2 & \hline
   & 3 & 9 & 0 & 0 \\
   3 & \hline
   & 4 & 4 & 8 & 0 \\
   4 & \hline
   & 6 & 8 & 0 & 0 \\
   6 & \hline
   & 2 & 0 & 4 & 0 \\
   2 & \hline
   & 9 & 0 & 0 & 0 \\
   9 & \hline
   \end{array}
   \]

2.  
   \[
   \begin{array}{cccccccc}
   & 3 & 9 & 6 & 0 \\
   5) & 5 & 0 & 5 \\
   5 & \hline
   & 2 & 4 & 0 & 0 \\
   2 & \hline
   & 6 & 6 & 0 & 6 \\
   6 & \hline
   & 8 & 0 & 0 \\
   8 & \hline
   & 3 & 9 & 0 & 3 \\
   3 & \hline
   & 4 & 0 & 8 \\
   4 & \hline
   \end{array}
   \]

### DRILL 41b — DIVISION WITH TWO-Figure Quotients

3.  
   \[
   \begin{array}{cccccccc}
   & 4 & 2 \\
   4) & 1 & 6 & 8 \\
   4 & \hline
   & 5 & 2 & 5 & 0 \\
   5 & \hline
   & 8 & 5 & 6 & 8 \\
   8 & \hline
   & 5 & 1 & 5 & 0 \\
   5 & \hline
   & 3 & 2 & 4 & 6 \\
   3 & \hline
   & 8 & 7 & 2 & 0 \\
   8 & \hline
   & 2 & 1 & 6 & 4 \\
   2 & \hline
   \end{array}
   \]

4.  
   \[
   \begin{array}{cccccccc}
   & 7 & 5 & 6 & 7 \\
   6) & 3 & 6 & 0 \\
   6 & \hline
   & 9 & 8 & 1 & 0 \\
   9 & \hline
   & 3 & 2 & 1 & 9 \\
   3 & \hline
   & 2 & 1 & 4 & 0 \\
   2 & \hline
   & 6 & 3 & 0 & 0 \\
   6 & \hline
   & 4 & 2 & 8 & 8 \\
   4 & \hline
   \end{array}
   \]

### DRILL 41c — DIVISION WITH TWO-Figure Quotients AND CARRYING

5.  
   \[
   \begin{array}{cccccccc}
   & 3 & 2 & 5 & 2 \\
   3) & 8 & 4 \\
   3 & \hline
   & 8 & 3 & 8 & 4 \\
   8 & \hline
   & 5 & 4 & 7 & 5 \\
   5 & \hline
   & 7 & 3 & 9 & 2 \\
   7 & \hline
   & 3 & 2 & 8 & 8 \\
   3 & \hline
   & 8 & 4 & 8 \\
   8 & \hline
   \end{array}
   \]

6.  
   \[
   \begin{array}{cccccccc}
   & 6 & 1 & 4 & 4 \\
   6) & 9 & 6 & 2 & 1 \\
   6 & \hline
   & 6 & 4 & 7 & 4 \\
   6 & \hline
   & 4 & 3 & 5 & 6 \\
   4 & \hline
   & 9 & 4 & 3 & 2 \\
   9 & \hline
   & 7 & 3 & 4 & 3 \\
   7 & \hline
   \end{array}
   \]

### DRILL 41d — DIVISION WITH TWO-Figure Quotients AND REMAINDERS

7.  
   \[
   \begin{array}{cccccccc}
   & 4 & 2 & 6 & 9 \\
   4) & 6 & 7 \\
   4 & \hline
   & 5 & 3 & 2 & 4 \\
   5 & \hline
   & 8 & 1 & 8 \\
   8 & \hline
   & 5 & 4 & 3 & 6 \\
   5 & \hline
   & 2 & 1 & 9 & 7 \\
   2 & \hline
   & 7 & 5 & 3 & 7 \\
   7 & \hline
   \end{array}
   \]

8.  
   \[
   \begin{array}{cccccccc}
   & 6 & 4 & 6 & 1 \\
   3) & 2 & 2 & 9 \\
   3 & \hline
   & 6 & 1 & 7 & 2 \\
   6 & \hline
   & 7 & 5 & 9 & 1 \\
   7 & \hline
   & 9 & 4 & 8 & 1 \\
   9 & \hline
   & 8 & 7 & 9 & 7 \\
   8 & \hline
   \end{array}
   \]

### DRILL 41e — DIVISION WITH TWO-CARRYINGs

9.  
   \[
   \begin{array}{cccccccc}
   & 3 & 6 & 6 \\
   2) & 7 & 1 & 2 \\
   2 & \hline
   & 4 & 9 & 5 & 5 \\
   4 & \hline
   & 3 & 8 & 2 & 2 \\
   3 & \hline
   & 5 & 7 & 2 & 5 \\
   5 & \hline
   & 2 & 7 & 5 & 8 \\
   2 & \hline
   & 4 & 9 & 5 & 2 \\
   4 & \hline
   \end{array}
   \]

10.  
    \[
    \begin{array}{cccccccc}
    & 3 & 8 & 6 & 7 \\
    3) & 8 & 9 & 8 & 4 \\
    3 & \hline
    & 6 & 8 & 2 & 2 \\
    6 & \hline
    & 5 & 6 & 9 & 5 \\
    5 & \hline
    & 7 & 9 & 5 & 2 \\
    7 & \hline
    & 6 & 8 & 9 & 4 \\
    6 & \hline
    \end{array}
    \]

### DRILL 41f — DIVISION WITH TWO-CARRYINGs AND REMAINDERS

11.  
    \[
    \begin{array}{cccccccc}
    & 2 & 6 & 8 \\
    3) & 8 & 0 & 6 & 1 & 8 \\
    3 & \hline
    & 4 & 8 & 7 & 9 \\
    4 & \hline
    & 8 & 9 & 9 & 5 \\
    8 & \hline
    & 2 & 7 & 9 & 7 \\
    2 & \hline
    & 5 & 6 & 6 & 4 \\
    5 & \hline
    & 6 & 9 & 8 & 7 \\
    6 & \hline
    \end{array}
    \]

12.  
    \[
    \begin{array}{cccccccc}
    & 3 & 8 & 6 & 7 \\
    3) & 8 & 9 & 8 & 4 \\
    3 & \hline
    & 6 & 8 & 2 & 2 \\
    6 & \hline
    & 5 & 6 & 9 & 5 \\
    5 & \hline
    & 7 & 9 & 5 & 2 \\
    7 & \hline
    & 6 & 8 & 9 & 4 \\
    6 & \hline
    \end{array}
    \]

### DRILL 41g — DIVISION, MIXED REVIEW (Tot 41)

13.  
    \[
    \begin{array}{cccccccc}
    & 3 & 2 & 2 & 5 \\
    3) & 5 & 6 & 7 & 0 \\
    3 & \hline
    & 3 & 5 & 8 & 5 \\
    3 & \hline
    & 9 & 6 & 4 & 8 \\
    9 & \hline
    & 4 & 6 & 3 & 2 \\
    4 & \hline
    & 6 & 5 & 7 & 0 \\
    6 & \hline
    \end{array}
    \]

14.  
    \[
    \begin{array}{cccccccc}
    & 6 & 7 & 9 & 2 \\
    8) & 8 & 9 & 2 & 0 \\
    8 & \hline
    & 7 & 6 & 2 & 3 \\
    7 & \hline
    & 5 & 4 & 2 & 5 \\
    5 & \hline
    & 8 & 6 & 0 & 8 \\
    8 & \hline
    & 7 & 9 & 7 & 3 \\
    7 & \hline
    \end{array}
    \]

15.  
    \[
    \begin{array}{cccccccc}
    & 3 & 2 & 5 & 2 \\
    5) & 6 & 5 & 7 & 0 \\
    5 & \hline
    & 3 & 5 & 8 & 5 \\
    3 & \hline
    & 9 & 6 & 4 & 8 \\
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### FOURTH PROGRESS TEST (Pages 59-60)

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### FIFTH PROGRESS TEST (Pages 73-74)

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### TEST 22

| 396  | 746             |
| 125  | 506             |
| 512  | 157             |
| 337  | 221             |
| 283  | 49             |

### PROBLEMS

| 1    | 2            |
| 4    | 6            |
| 7    | 9            |
| 3    | 5            |
| 6    | 8            |
| 10   | 13           |

### NINTH PROGRESS TEST (Pages 125-126)

| 2    | 5            |
| 10   | 3            |
| 8    | 7            |
| 18   | 9            |
| 7    | 9            |
| 31   | 51           |

### TEST 4

| 23   | 53            |
| 22   | 73            |
| 1904 | 1032          |
| 1706 | 1813          |

### PROBLEMS

| 1    | 5            |
| 4    | 3            |
| 7    | 9            |

### TEST 10

| 79   | 22            |
| 69   | 52            |
| 98   | 60            |
| 22   | 43            |
| 90   | 35            |
| 31   | 51           |

### TEST 22

| 94   | 250           |
| 678  | 408           |
| 103  | 222           |
| 640  | 94            |
| 71   | 417           |

### TEST 32

| 5440 | 432           |
| 4020 | 1755          |
| 7264 | 1872          |
| 4500 | 6354          |

### PROBLEMS

| 1    | 5            |
| 4    | 2            |
| 7    | 9            |
| 85   | 9            |

### TENTH PROGRESS TEST (Pages 137-138)

| 9    | 27            |
| 36   | 25            |
| 40   | 33            |
| 36   | 30            |
| 54   | 80            |
| 60   | 48            |

### TEST 5

| 42   | 27            |
| 36   | 40            |
| 49   | 72            |
| 100  | 28            |
| 64   | 81            |
| 30   | 80            |
| 60   | 48            |

### TEST 13

| 91   | 368            |
| 1344 | 1193          |
| 520  | 1584          |
| 2228 |              |

### TEST 41

| 71   | 143           |
| 231  | 169           |
| 454  | 117           |
| 123  | 127           |
| 354  | 83           |

### TEST 42

| 320  | 309           |
| 407  | 70            |
| 238  | 100           |
| 107  | 109           |
| 50   |              |

### TEST 60

| $0.75 | $0.25         |
| $0.25 | $0.35         |
| $1.50 | $1.12         |
| $2.40 | $0.22         |
| $0.03 | $0.50         |
| $0.14 |              |

### PROBLEMS

| 1    | 3            |
| 4    | 8            |
| 12   |              |

### Tables of Measures

| 12 inches = 1 foot | 60 minutes = 1 hour |
| 36 inches = 1 yard | 24 hours = 1 day  |
| 3 feet = 1 yard    | 7 days = 1 week    |

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- 0.2
- 1.50
- 10.09

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**United States money (1946-1950):**
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**United States money (1946-1950):**
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