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MATH

MATH 200
Teacher's Guide

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MATH SCOPE & SEQUENCE
Grade 2

UNIT 1

NUMBERS AND WORDS TO 100
• Numbers and words to 100
• Operation symbols: +, −, =, >, <
• Add and subtract
• Place value and fact families
• Story problems

UNIT 2

ADD/SUBTRACT AND EVEN/ODD
• Numbers and words to 200
• Add, subtract, even and odd
• Skip count 2s, 5s, and 10s
• Ordinal numbers, fractions, and money
• Shapes

UNIT 3

ADD WITH CARRYING TO THE 10s PLACE
• Add with carrying to the 10s place
• Subtract
• Flat shapes, money, a.m./p.m.
• Rounding to the 10s place
• Standard measurements

UNIT 4

NUMBERS/WORDS TO 999, AND GRAPHS
• Numbers and words to 999
• Addition, subtraction, and place value
• Calendar
• Measurements and solid shapes
• Making change

UNIT 5

ADD/SUBTRACT TO THE 100s PLACE
• Data and bar graphs and shapes
• Add and subtract to the 100s place
• Skip count 3s and place value to the 100s
• Add fractions
• Temperature

UNIT 6

SUBTRACT WITH BORROWING FROM 10s
• Measurements
• Time and money
• Subtract w/ borrowing from the 10s place
• Add and subtract fractions
• Perimeter

UNIT 7

ADD WITH CARRYING TO THE 100s PLACE
• Add with carrying to the 100s place
• Fractions as words
• Number order in books
• Rounding and estimation

UNIT 8

VOLUME AND COIN CONVERSION
• Addition, subtraction, and measurements
• Group counting and "thinking" answers
• Convert coins
• Directions – north, south, east, and west
• Length and width

UNIT 9

AREA AND SQUARE MEASUREMENT
• Area and square measurement
• Add three 2–digit numbers with carrying
• Add coins and convert to cents
• Fractions and quarter inches

UNIT 10

REVIEW
• Rules for even and odd numbers
• Round numbers to the 100s place
• Digital clocks and sensible answers
• Add three 3–digit numbers

STRUCTURE OF THE MATH CURRICULUM

The Math curriculum is conveniently structured to provide one Teacher's Guide containing teacher support material with answer keys and ten workbooks for each subject. The workbook format of the curriculum allows the student to read the textual information and complete workbook activities all in the same booklet. The easy-to-follow numbering system lists the grade as the first number(s) and the last two digits as the number of the series. For example, the Language Arts workbook at the 1st grade level, 5th book in the series would be Language Arts 0105.

Each workbook is divided into three to five sections and begins with an introduction or overview of the booklet as well as a series of specific learning objectives to give a purpose to the study of the curriculum. The introduction and objectives are followed by a vocabulary section, which may be found at the beginning of each section. Vocabulary words are used to develop word recognition and should not be confused with the spelling words introduced in Language Arts. The student should learn all vocabulary words before working the sections to improve comprehension, retention, and reading skills.

Each activity or written assignment has a number for easy identification, such as 1.1. The first number corresponds to the section and the number to the right of the decimal is the number of the activity.

Teacher checkpoints, which are essential to maintain quality learning, are found at various locations throughout the curriculum. The teacher should check 1) neatness of work and penmanship, 2) quality of understanding (tested with a short oral quiz), 3) thoroughness of answers (complete sentences and paragraphs, correct spelling, etc.), 4) completion of activities (no blank spaces), and 5) accuracy of answers as compared to the answer key (all answers correct).

The self test questions in grade 2 are also number-coded for easy reference. For example, 2.015 means that this is the 15th question in the self test of Section 2. The first number corresponds to the section, the zero indicates that it is a self test question, and the number to the right of the zero the question number.

The test is packaged at the back of each workbook. It should be removed and put aside before giving the booklet to the student for study.

Answer and test keys in grade 2 have the same numbering system as the workbook. The student may be given access to the answer keys (not the test keys) under teacher supervision so that they can score their own work.

A thorough study of the Scope & Sequence by the teacher before instruction begins is essential to the success of the student. The teacher should become familiar with expected skill mastery. The teacher should also preview the objectives that appear at the beginning of each workbook for additional preparation and planning.

TEACHING SUPPLEMENTS

The sample weekly lesson plan and student grading sheet forms are included in this section as teacher support materials and may be duplicated at the convenience of the teacher. There are also two number charts and fact cards for student use.

The student grading sheet is provided for those who desire to follow the suggested guidelines for assignment of letter grades as previously discussed. The student's self test scores should be posted as percentage grades. When the workbook is completed, the teacher should average the self test grades, multiply the average by .25, and post the points in the box marked self test points. The workbook percentage grade should be multiplied by .60 and posted. Next, the teacher should award and post points for written reports and oral work. A report may be any type of written work assigned to the student whether it is a workbook or additional learning activity. Oral work includes the student's ability to respond orally to questions that may or may not be related to workbook activities or any type of oral report assigned by the teacher. The points may then be totaled and a final grade entered along with the date that the workbook was completed.

INSTRUCTIONS FOR MATH

The Math curriculum is structured so that the daily instructional material is written directly into the workbooks. However, because of the variety of reading abilities at this grade level, the second grade math Teacher's Guide contains additional instructional material to help the teacher prepare and present each lesson effectively. As the year progresses, students should be encouraged to read and follow the instructional material as presented in the workbooks to develop independent study habits. The teacher should introduce the workbook to the student, set a required completion schedule, complete teacher checks, be available for questions regarding both content and procedures, administer and grade tests, and develop additional learning activities as desired.

The remainder of the Teacher's Guide includes the following teacher aids:

1) Introduction of Skills
2) Additional Activities

For each unit:
3) Materials Needed
4) Objectives
5) Teacher Instruction
6) Answer Keys
7) Alternate Tests

After the last unit:
8) Math Terms Glossary
9) Conversion Charts

The Introduction of Skills is a more detailed overview of skills than that presented in the *Scope and Sequence*. The Math Terms includes a glossary of mathematics terms and a table of measurements. The Teacher Instruction Pages contain guidelines for teaching each lesson. Additional learning activities provide opportunities for problem solving, encourage the student's interest in learning, and may be used as a reward for good study habits.

Math is a subject that requires skill mastery. But skill mastery needs to be applied toward active student involvement. The Teacher Instruction Pages list the required or suggested materials used in the workbook lessons. These materials include items generally available in the school or home. Pencils, paper, crayons, scissors, paste and/or glue stick are materials used on a regular basis. Construction paper, beads, buttons, and beans can be used for counting, sets, grouping, fractions, and patterning. Measurements require measuring cups, rulers, and empty containers. Boxes and similar items help in the study of solid shapes.

Any workbook assignment that can be supported by a real-world experience will enhance the student's ability for problem solving. There is an infinite challenge for the teacher to provide a meaningful environment for the study of math. It is a subject that requires constant assessment of student progress. Do not leave the study of math in the classroom.

MATH 200 INTRODUCTION OF SKILLS

Introduction of Skills is a quick reference guide for the teacher who may be looking for a rule or explanation that applies to a particular skill or to find where or when certain skills are introduced in the workbooks. The first number after the skill identifies the unit, and the second number identifies the section.

CONCEPT	UNIT	SECTION
Addition		
facts to 18	201	1
1-digit number added to 10s n/c*	201	2
2 numbers 2-digits n/c	201	2
3 numbers 1-digit	201	4
3 numbers 2-digits n/c	201	4
1-digit number added to 10s w/c*	203	2
2 numbers 2-digits w/c	203	2
2 numbers 3-digits n/c	204	2
2 numbers 3-digits w/c 1s or 10s place	204	5
	207	4
2 numbers 3-digits w/c 1s and 10s place	208	4
3 numbers 2-digits w/c	209	1
3 numbers 3-digits n/c	210	1
checking answers	202	3
no carry boxes	210	3
Directions		
north, south, east, west	208	4
Even and odd		
numbers	202	1
rules to add and subtract	209	5
Expanding numbers		
(see place value)		
Families of facts		
addition and subtraction	201	4
Fractions		
part of an object or set	202	4
addition	205	3
subtraction	206	4
writing in words	207	1
Graphs (Charts)		
gathering and posting data	205	1

CONCEPT	UNIT	SECTION
Measurements		
dozen	205	5
linear		
inch	203	2
one-half inch	203	2
one-quarter inch	209	2
(square inches)	209	1
feet, yards	204	3
perimeter, area	206	3
	209	1
length, width	208	3
temperature (Fahrenheit)	205	3
time		
calendar: days, weeks, months, years	204	5
to hour, half hour, five minutes	202	2
to minute	206	1
a.m., p.m.	203	4
digital clock	210	3
volume: cups, pints, quarts, gallons	208	5
weight: ounces, pounds	206	1
Money		
add and subtract	208	4
pennies, dimes, nickels	202	4
dollars	203	3
dollar sign and decimal point	203	3
quarters	204	2
making change	204	5
Number line		
add or subtract to 18	203	1
Number order		
to 100	201	1
to 200	202	1
to 999	204	1
to 1,000	210	1

*n/c = no carrying   *w/c = with carrying

MATH 200 INTRODUCTION OF SKILLS

CONCEPT	UNIT	SECTION
Number sentences		
operation symbols as words	201	3
Number words		
zero to one hundred	201	1
to two hundred	202	1
to nine hundred ninety-nine	204	1
one thousand	210	1
Operation symbols		
+, −, =, ≠, >, <	201	3
Ordinal numbers		
to tenth	202	3
to twentieth	205	4
Place value		
ones and tens	201	2
hundreds	203	1
Problem solving		
adding or subtracting up to		
4-digits "mentally"	203	1
comparing lengths	204	4
identifying shapes	205	2
comparing temperature	205	3
comparing volume	208	5
comparing weight	206	1
why use standard measurements	203	2
number order in books	207	2
patterns		
identify, tell what comes next	201	4
sensible answers	210	4
Rounding		
to nearest 10	203	5
to nearest 100	210	5
Shapes		
lines, closed and curved	203	3
flat	201	5
solid	203	3

CONCEPT	UNIT	SECTION
Skip counting		
by 2s, 5s, 10s	202	1
by 100s	204	1
by 3s	205	2
rules for 2s, 5s, 10s	203	4
Story problems		
addition	201	4
subtraction	202	5
with money	203	3
with measurements	210	1
writing a problem	205	4
Subtraction		
facts to 18	201	2
1-digit from 10s n/b*	201	2
2 numbers 2-digits n/b	201	2
2 numbers 3-digits n/b	204	2
1-digit from 10s w/b*	206	2
2 numbers 2-digits w/b	206	2
2 numbers 3-digits w/b to 10s	209	2
checking answers	202	3
Zero as a place holder	205	3

*n/b = no borrowing *w/b = with borrowing

MATH 201

Unit 1: Numbers and Words to 100

TEACHER NOTES

MATERIALS NEEDED FOR UNIT
Required

- Cards (3 inches by 5 inches) printed with number symbols *0* through *9* and number words *zero* through *nineteen*, also *twenty*, *thirty*, *forty*, and so on through *one hundred*. Several sets would be useful. (Cereal boxes are an excellent source of cardstock.)
- Cards with operation symbols: plus (+), minus (−), equal (=), not equal (≠), greater than (>), less than (<).
- Fact cards for addition and subtraction through *18*
- Counters for *ones* and *tens*—these may be cardstock strips (2 inches by 5 inches); one color for *ones*, another color for *tens*. (Popsicle sticks also work well as counters.)
- Objects for counting—beads, beans, buttons, etc.
- Crayons, construction paper, scissors

Objectives

1. I can read and write numbers to 100.
2. I know addition and subtraction facts to 18.
3. I can learn place value for ones and tens.
4. I can follow oral instruction.
5. I can add and subtract to tens place.
6. I know operation symbols +, −, =, ≠, >, <.
7. I can write number sentences.
8. I can write fact families.
9. I can solve story problems in addition.
10. I can recognize patterns and tell what comes next.
11. I can recognize flat shapes.

TEACHER NOTES

Discuss the *Objectives* in the Introduction.

Section 1 – Number Symbols and Words to 100

1. Activities 1.1 through 1.6 – Have the students practice with cards, reading and putting number symbols and words in number order (1 through 19). Complete activities 1.1 through 1.6.
2. Activity 1.7 – Introduce addition fact cards through *18*. Set aside facts that the students have not mastered and practice several times a week.

3. Activities 1.8 through 1.10 – Show the students several examples of two-digit numbers (twenty-three, 23) on the board. Have them use combinations of number symbol and word cards to form numbers and words through *100*. Remind them about the hyphen that joins the tens place and ones place.

4. Complete Self Test 1.

Section 2 – Subtraction Facts

1. Activity 2.1 – Introduce subtraction fact cards through *18*. Set aside facts that the students have not mastered and practice several times a week.

2. Activities 2.2 through 2.4 – Introduce counters for ones and tens. Be sure students understand that the tens counter is equal to *10* ones counters. Have students illustrate various numbers *1* to *99* using counters (37 = 3 tens counters and 7 ones counters). Use the counters to illustrate ones place and tens place. Have the students say the numbers aloud for Activity 2.2 before circling tens place and ones place. Dictation develops the students' ability to follow oral instructions.

    Dictate:
    Listen and write in numbers.
    Listen and write. Circle the number in the tens place.

    16   26   59   70
    98   41   37   62

    Listen and write in words. (Hyphen should be included. Spelling must be correct.)
    Listen and write. Circle the word in the tens place.

twenty-seven	thirty-five
sixty-one	eighty-nine
forty-four	ninety-six
seventy-two	fifty-three

3. Activity 2.5 – Follow the illustration. Students should circle each set of tens, write how many, and then write the number of ones. They should use their counters to show how many tens and how many ones.

4. Activities 2.6 through 2.9 – Use the tens and ones counters to illustrate the number 63 (6 tens counters and 3 ones counters). Remind students that *nothing* is represented by the number symbol *0*. Have the students add *4* ones counters to the group of *3* ones counters. Add *6* tens counters to *no* tens counters. Combine the ones and tens counters and show they are equal to *67*. Use this method to illustrate addition and subtraction of the ones place and the tens place. The students may continue using the counters to illustrate the problems in Activities 2.6 through 2.9.

5. Complete Self Test 2.
    Listen and write in numbers.
    Listen and write. Circle the number in the tens place.

    12   39   57   82

    Listen and write in words. (Hyphen should be included. Spelling must be correct.)
    Listen and write. Circle the word in the tens place.

    twenty-three   forty-eight

Section 3 – Number Order

1. Activities 3.1 through 3.6 – Use the number symbol cards and number word cards to intro-duce these pages to the students. Place a number card(s) in front of them and ask them to find the number card(s) before and after. (32 would result in the students selecting cards showing 31 and 33.) Continue the exercise until the students show proficiency. Be sure to use both number and word cards. Complete Activities 3.1 through 3.6.

2. Activities 3.7 through 3.12 – Introduce the following operation symbols: plus (+), minus (−), equal (=), not equal (≠), greater than (>), less than (<). Use objects for counting and operation symbol cards to illustrate each one of the operation symbols. For greater than and less than, the students simply need to understand that the open side of the sign is always toward the larger number. Complete Activities 3.7 through 3.12. Continue to use counters, objects, and cards to help the students understand number order, number value, and number comparison.

3. Complete Self Test 3.

Section 4 – Fact Families

1. Activities 4.1 through 4.4 – Introduce the students to fact families. For Activity 4.1, point out the last fact family on the page and explain that sometimes fact families only have two facts. For Activity 4.4, students should select three numbers and write a fact family. Quiz students orally by giving them a subtraction fact (12 − 7 = 5) and ask for an addition fact in the same family (5 + 7 = 12). Students must have a good grasp of addition and subtraction facts to be successful at addition with carrying and subtraction with borrowing.

2. Activity 4.5 – Follow the 5-step instructions for story problems. Point out the word *together* as the key word in the story, telling the reader that this is an addition problem. Use objects for counting to represent items in story problems, if helpful to the students. All students should show answers as number facts.

3. Activity 4.6 – Pattern recognition develops students' problem-solving skills. Introduce stu-dents to patterns by giving them an example. Say the numbers *1*, *2*, *3*, *4,* and ask what comes next (*5*). Ask them to describe the pattern (counting in number order). Suggest patterns of greater than and less than, counting backward and forward, numbers grouped in fact families. Have the students identify the patterns in Activity 4.6 and show what comes next.

4. Activities 4.7 and 4.8 – Use objects for counting to introduce three-number column addition. Make sets of *3*, *1*, and *5*. Explain to the students that *3* and *1* are added together first and then the *5* is added. Do not allow them to count *1-2-3-4*, *5-6-7-8-9*. Have them illustrate addition of two-digit numbers by making sets of ones and tens. As the students add the two-digit numbers in Activity 4.7, emphasize that they should add the ones place first and the tens place second.

5. Complete Self Test 4.

Section 5 – Number Order

1. Activities 5.1 through 5.9 – Use the number symbol and number word cards to practice before and after. Show the students a number in number symbols and have them select the corresponding number word cards. Change the order and have them select number symbols for number words. Review the operation symbols. Complete Activities 5.1 through 5.9.

2. Activity 5.10 – Introduce flat shapes—circle, square, triangle, rectangle. Explain that these are also called two-dimensional shapes. Discuss the number of sides and corners (vertices) each shape has. Have the students use construction paper and scissors to cut out shapes in various sizes and colors to reacquaint them with the various shapes. Turn to Activity 5.10. Tell the students to locate and color each shape to match the shapes at the top of the page. Have them identify the corresponding colors and shapes on the houses and then draw lines connecting the shapes to the houses.

3. Complete Self Test 5.

Administer the Test.

The test is to be administered in one session. Give no help except with directions.
Evaluate the tests, and review areas where the students have done poorly.
Review the pages and activities that stress the concepts tested.
If necessary, administer the Alternate Test.

ANSWER KEYS

SECTION 1

1.1   0   1   2   3   4   5   6
          7   8   9   10

1.2   zero   one   two   three
          four   five   six   seven
          eight   nine   ten

1.3   4   3   6   5
          0   9   2   7
          10 8   1

1.4   11 12 13 14 15
          16 17 18 19 20

1.5   eleven   twelve   thirteen   fourteen
          fifteen   sixteen   seventeen eighteen
          nineteen twenty

1.6   b   c
          t   f
          m s
          r   g
          d   o
          e   p
          q   k
          n   a
          l   i
          h   j

1.7

9	16	11	9	5	13	7	5	10
1	8	4	11	14	6	8	10	7
13	9	7	12	11	15	14	7	3
10	13	10	16	10	9	6	14	10
4	11	14	17	11	2	2	15	12
8	12	7	6	10	15	7	10	8
13	16	11	3	6	11	9	18	8
8	8	11	5	15	3	4	13	9
12	9	4	12	5	7	6	9	17
8	5	9	12	12	14	6	13	10

1.8   10 20 30 40 50
          60 70 80 90 100

1.9   ten   twenty   thirty   forty
          fifty   sixty   seventy   eighty
          ninety   one hundred

1.10 16
           31
           67
           85
           49
           11
           70
           93
           forty-five
           sixty
           seventy-nine
           thirteen
           eighty-one
           thirty-six
           fifty-four
           one hundred

SELF TEST 1

1.01   sixteen   80
           forty-two   31
           eighty   16
           thirty-one   11
           seventy-five   75
           eighty-one   42
           eleven   60
           sixty   81

1.02   seventeen
           twenty-four
           eight
           thirty-seven
           sixty-five
           nineteen
           fifty-three
           twenty

1.03

9	11	17	7	7	10
10	15	7	10	11	7
9	7	8	14	12	6

SECTION 2

2.1

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

2.2

②7 ④5 ⑧3 ⑥1
①7 ⑤8 ①1 ⑨6
1② 7⑧ 3⑨ 4⑥
8⑨ 1⑤ 2② 7⓪

2.3

①6 ②6 ⑤9 ⑦0
⑨8 ④1 ③7 ⑥2

2.4

twenty-seven   thirty-five
sixty-one   eighty-nine
forty-four   ninety-six
seventy-two   fifty-three

2.5

1	7	17
2	3	23
2	7	27
0	4	4
4	3	43
2	8	28
4	6	46

2.6

49	35	55	67	29	75
37	79	68	98	62	86

2.7

88	56	48	86	97	52
69	47	66	84	95	79

2.8

46	32	54	28	65	70
33	75	62	60	93	47

2.9

65	53	14	63	81	82
46	16	44	72	21	54

SELF TEST 2

2.01

1	7	5	8	3	8
1	5	5	0	4	1
8	3	5	4	5	6

2.02

②3   ④8   ①1   ⑨6
1⑤   3⑦   8⑤   5⓪

2.03

28   67   54   32

2.04

①2   ③9   ⑤7   ⑧2

twenty-three   forty-eight

SECTION 3

3.1
15	85	12
22	10	99
74	19	49
4	62	36

3.2
23	13	100
52	27	64
90	52	20
32	40	77

3.3
79	34	16
44	99	49
28	4	22
20	82	91

3.4
thirteen
twenty-one
sixty-two
seventy-nine
ten
fifty-two
seventy
forty

3.5
forty-five
eighty-two
thirteen
eight
sixty-seven
forty
ninety-four
seventeen

3.6
twenty
forty-seven
ninety-one
sixty-eight
ten
seventy-four
thirty-six
ninety-nine

3.7
+	−
=	−
−	+
−	=
+/−	+
=	=
+	−
−	+
=	=
+	−

3.8
=	≠
≠	=
=	≠
≠	=
≠	≠
≠	≠
=	=
≠	≠

3.9
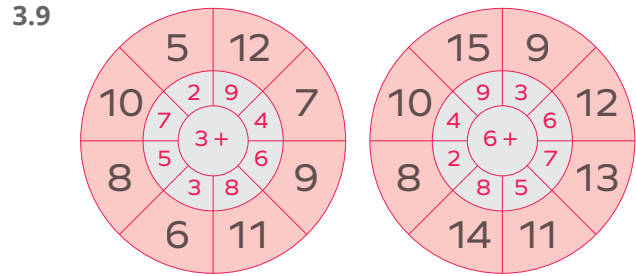
3.10
>	<
<	>
>	>
>	>
>	<
<	<
>	>
>	>

3.11
13, 14, 16, 17, 18, 20
38, 39, 40, 42, 43, 44
74, 76, 77, 79, 80, 81

3.12
6 + 3 = 9
8 − 4 ≠ 3
12 > 11
54 < 56
13 − 7 = 6
4 > 0
6 + 2 ≠ 7
81 < 95
3 + 5 > 4 + 2
26 − 4 < 19 + 8

SELF TEST 3

3.01   12
45
seventy-four
thirty-three
100
60

3.02   =   +
−   ≠
≠   −

3.03   >   <
<   >

3.04   13 − 5 = 8
47 > 43
4 + 8 ≠ 11
65 < 75

SECTION 4

4.1   8   9, 14
8   5, 14
6   5, 9
2   9, 5

7, 8, 15   6, 6, 12
8, 7, 15   12, 6, 6
15, 7, 8
15, 8, 7

4.2   Suggested answers:

$$
\begin{array}{cccccc}
0 & 1 & 4 & 6 & 7 & 8 \\
+\ 6 & +\ 5 & +\ 2 & -\ 0 & -\ 1 & -\ 2 \\
\hline
6 & 6 & 6 & 6 & 6 & 6
\end{array}
$$

4.3   3, 9, 12   2, 7, 9
3, 9, 12   2, 7, 9
9, 3, 12   7, 2, 9
12, 3, 9   9, 2, 7
12, 9, 3   9, 7, 2

4, 7, 11   3, 5, 8
4, 7, 11   3, 5, 8
7, 4, 11   5, 3, 8
11, 4, 7   8, 3, 5
11, 7, 4   8, 5, 3

8, 9, 17   6, 7, 13
8, 9, 17   6, 7, 13
9, 8, 17   7, 6, 13
17, 8, 9   13, 6, 7
17, 9, 8   13, 7, 6

4.4   Suggested answers:
4, 6, 10   5, 9, 14
4, 6, 10   5, 9, 14
6, 4, 10   9, 5, 14
10, 4, 6   14, 5, 9
10, 6, 4   14, 9, 5

0, 5, 5
0, 5, 5   5, 0, 5
5, 0, 5   5, 5, 0

4.5
$$
\begin{array}{r}
6 \\
+\ 7 \\
\hline
13
\end{array}
$$
13 pets

$$
\begin{array}{r}
3 \\
+\ 9 \\
\hline
12
\end{array}
$$
12 sisters

$$
\begin{array}{r}
6 \\
+\ 8 \\
\hline
14
\end{array}
$$
14 people

4.6

$$\begin{array}{r} 4 \\ +\ 3 \\ \hline 7 \end{array}$$

4 < 5

$$\begin{array}{r} 14 \\ -\ 9 \\ \hline 5 \end{array}$$

thirty-four

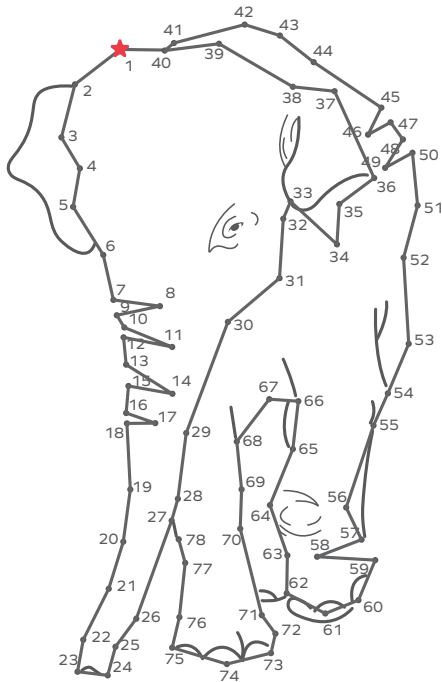$$\begin{array}{r} 76 \\ -\ 40 \\ \hline 36 \end{array}$$

39

17

☺ or ☺☺☺

4.7

6	8	9	9	8	10
9	6	8	7	9	10
98	57	83	79	88	

4.8

no

SELF TEST 4

4.01 4, 5, 9
4, 5, 9
5, 4, 9
9, 4, 5
9, 5, 4

4.02 12   11   98   69

4.03 Mary has ②apples.
Jack has ④ apples.
How many apples do
Mary and Jack have altogether?

$$\begin{array}{r} 2 \\ +\ 4 \\ \hline 6 \end{array}$$ 6 apples

4.04 6 > 5
40

SECTION 5

5.1   four
ten
thirty-five
seventy-nine
twenty-six
forty-two
fourteen
sixty-four

5.2   forty   forty-one
sixteen   seventeen
seventy-two   seventy-three
ninety-eight   ninety-nine

5.3
fourteen ——— 19
fifty-nine ——— 49
forty-one ——— 59
nineteen ——— 14
forty-nine ——— 41

33 ——— sixty-six
63 ——— thirty-six
36 ——— sixty
60 ——— thirty-three
66 ——— sixty-three

5.4
7	13	12
10	6	15
17	10	8
8	16	16
12	12	9
7	3	4
9	9	9
12	14	2

5.5
4	9	2
6	4	4
8	8	5
3	7	5
4	2	0
2	9	7
9	3	6
5	1	4

5.6
7	15	9	10	13	12	9	14
16	4	5	18	12	4	7	8
6	10	11	10	12	14	1	11

5.7
1	6	5	0	3	9	5	9
3	8	6	8	2	8	9	6
9	0	4	4	9	7	0	0

5.8
=	–
≠	+
=	–
≠	=
=	
≠	
–	
≠	
+	
–	
≠	
=	

5.9   >
<
<
>
<
>
<
>

5.10 Teacher check

SELF TEST 5

5.01
thirteen ——— 23
thirty ——— 13
thirty-three ——— 30
twenty-three ——— 33

5.02
circle
triangle
rectangle
square

5.03
9	5
15	5
7	6
10	1

5.04 58, 60, 61, 63, 65, 66

5.05 ≠
–
>

TEST

1. fifty-seven ⟍⟋ 75
fifteen ⟍ 77
seventy-five 15
seventy-seven 55
fifty-five 57

2. twelve
eight
thirty-nine
fifty
sixty-two

3. 7   9   12   13   11
9   5   6   8   5

4. ⑦ 4   ⑧ 6   ⑨ 2

5. 6
6. 27 98   9   93 22   44

7. 17
sixty-nine
40
thirteen

8. 4, 8, 12
4, 8, 12
8, 4, 12
12, 4, 8
12, 8, 4

9. −
−
≠
<

10.   3
+ 5
   8   8 nickels

11. 14 − 6 = 8
13 < 23
9 + 7 ≠ 14
85 > 62

12. triangle
square
circle
rectangle

ALTERNATE TEST

1. thirty-six ⟍⟋ 13
sixty-three ⟍ 33
sixty-six 63
thirteen 66
thirty-three 36

2. eleven
seven
fifty-six
thirty
eighty-two

3. 10   12   9   11   7
7   7   5   8   3

4. ④ 6   ① 3   ⑧ 4

5. 2
6. 39 64   9   78 33   31

7. 13
seventy-nine
70
fourteen

8. 4, 7, 11
4, 7, 11
7, 4, 11
11, 4, 7
11, 7, 4

9. +
−
≠
>

10.   5
+ 4
   9   9 dimes

11. 13 − 4 = 9
47 > 37
16 < 17
5 + 0 ≠ 6

12. circle
rectangle
square
triangle

MATH 201

ALTERNATE TEST

Name _____

Date _____

My Score

40
50
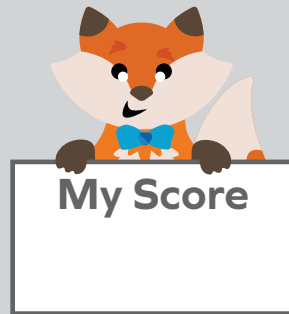
Each answer = 1 point, except where otherwise noted

1. **Match.**

thirty-six	▶	◀	13
sixty-three	▶	◀	33
sixty-six	▶	◀	63
thirteen	▶	◀	66
thirty-three	▶	◀	36

2. **Write in words.**

11 _____

7 _____

56 _____

30 _____

82 _____

3. **Write addition and subtraction facts.**

```
    7         8         9         5         4
  + 3       + 4       + 0       + 6       + 3
  ─────     ─────     ─────     ─────     ─────
```

```
   15         7         9        13        11
  − 8       − 0       − 4       − 5       − 8
  ─────     ─────     ─────     ─────     ─────
```

4. **Circle the tens place.**

4 6   1 3   8 4

5. **Write what comes next.**

5, 4, 3, _____

6. **Add or subtract.**

```
                      4        43
    32        41      2        20        75        57
  +  7      + 23    +  3      + 15      − 42      − 26
  ─────     ─────   ─────     ─────     ─────     ─────
```

7. **Write the number ...**

before. _____ 14

_____ eighty

after. 69 _____

thirteen _____

8. **Write a fact family.** (2 points)

4, 7, 11 _____ + _____ = _____

_____ + _____ = _____

_____ − _____ = _____

_____ − _____ = _____

9. **Circle the correct symbol.**

6 (+ , −) 5 = 11

14 (+ , −) 7 = 7

8 + 2 (= , ≠) 11

25 (> , <) 23

10. **Read the story. Work the problem.** (2 points)

Katie has five dimes.
Chad has four dimes.
How many dimes do they have altogether?

_____

11.   **Write the number sentence using symbols.**

Thirteen minus four equals nine.   _____

Forty-seven is greater than thirty-seven.

                                                            _____

Sixteen is less than seventeen.   _____

Five plus zero is not equal to six.   _____

12.   **Match.**

circle   ▶   ◀ ⬛

rectangle   ▶   ◀ ⬤

square   ▶   ◀ ▬

triangle   ▶   ◀ ▲

MATH TERMS GLOSSARY

acute angle .... An angle that is less than a right angle or less than 90 degrees.

addend .... A number to be added in an addition problem.

angle .... The distance between two rays or line segments with a common endpoint.

associative property .... No matter how numbers are grouped in addition and multiplication, the answer is always the same.

area .... The measurement of a flat surface.
$A = l \times w$ (rectangle);
$A = \pi r^2$ (circle);
$A = \frac{1}{2} b \times h$ (triangle).

average .... The total of a group divided by the number in the group.

bar graph .... A graph that uses bars to show data.

base (1) .... The bottom part of a geometric figure on which the figure rests.

base (2) .... The number used as a factor in exponential notation.

cancelling .... Simplifying a problem in multiplication or division of fractions within the problem.

cardinal numbers .... Numbers used for counting. 1, 2, 3, 4 …

Celsius .... Metric unit of measurement for temperature. Freezing, 0° C. Boiling, 100° C.

chart .... An arrangement of data in a logical order.

circle .... A continuous closed line always the same distance from a center point.

circle graph .... A circular graph that always represents the whole of the data.

circumference .... The distance around (perimeter) a circle.
$C = 2\pi r$ or $C = \pi d$

common denominator .... Fractions must have the same or common denominator to be added or subtracted.

compass .... An instrument having two hinged legs used for drawing circles, curved lines, and measuring distances.

composite number .... A number that can be divided by 1, by itself, and other numbers.

vertex	The point at which two rays or line segments meet.
vertical	Straight up and down. Perpendicular to the horizon.
volume	The measurement of space that a solid figure occupies. $V = l \times w \times h$
whole numbers	Digits arranged to represent a value equal to or greater than a whole.

METRIC CHART OF PREFIXES

(smallest)	milli-	a unit contains 1,000
	centi-	a unit contains 100
	deci-	a unit contains 10
	unit	unit (meter, liter, gram)
	deca-	contains 10 units
	hecto-	contains 100 units
(largest)	kilo-	contains 1,000 units

ENGLISH SYSTEM OF WEIGHTS AND MEASURES

LENGTH	WEIGHT	DRY MEASURE	LIQUID MEASURE
12 inches = 1 foot	16 ounces = 1 pound	2 cups = 1 pint	16 fl. ounces = 1 pint
3 feet = 1 yard	2,000 lbs. = 1 ton	2 pints = 1 quart	2 cups = 1 pint
36 inches = 1 yard		8 quarts = 1 peck	2 pints = 1 quart
5,280 feet = 1 mile		4 pecks = 1 bushel	4 quarts = 1 gallon
320 rods = 1 mile			

CONVERSION CHART

TO CONVERT	TO	MULTIPLY BY	TO CONVERT	TO	MULTIPLY BY
Linear Measure			**Linear Measure**		
centimeters	inches	.394	inches	centimeters	2.54
meters	yards	1.0936	yards	meters	.914
kilometers	miles	.62	miles	kilometers	1.609
Liquid Measure			**Liquid Measure**		
liters	quarts	1.057	quarts	liters	.946
Dry Measure			**Dry Measure**		
liters	quarts	.908	quarts	liters	1.101
Weight			**Weight**		
grams	ounces	.0353	ounces	grams	28.35
kilograms	pounds	2.2046	pounds	kilograms	.4536