Yuba River Charter School

MATH ASSESSMENTS

Grades 1–8

1998

First Grade Assessment

(Teacher Directed)

Students in first grade may not necessarily know how to read. For this reason, this test is given orally to a student by a teacher.

The rubric for scoring each task is listed under the task. This aligns as well as possible to the general rubric percentages of a **4** *(84-100%);* **3** *(60-84%);* **2** *(25-59%); and* **1** *(less than 24%).*

Parts of this assessment may be administered at various times throughout the year (perhaps after a concept is learned or after the completion of a math main lesson block). It is advisable to administer it in parts so a student will not tire.

MATERIALS NEEDED TO CARRY OUT THE ASSESSMENT:

- 3 blank sheets of paper
- Crayons
- 2 x 2 number squares (index card weight) containing the counting numbers 1-30, plus several blank squares
- 12 counting stones
- 30 counting objects (cubes, beans, rocks)
- Small stuffed animal or wax figurine
- 5 glass jars of various sizes and shapes and a pitcher of water
- Attachment 1: Patterns to use for Assessment C1

A1 - Rote Counts to 100

Ask student to count out loud. If they count with ease to 20, interrupt them saying, "Now, I will say a number, and I want you to keep counting from that number. 27." Check whether they can "turn the next ten" by giving them "49" or "87" or "68."

Scale: **4** Counts with ease far beyond 100.
3 Counts to 100, skipping several numbers.
2 Counts to 50, skipping several numbers.
1 Counts to 20, skipping several numbers.

A2 - Demonstrates 1:1 Correspondence to 30 and Labels with a Number

Task 1: Ask student to walk forward, counting one number with each step to 30, e.g., "1" (step), "2" (step). When the student reaches 30, ask her to walk backwards, counting down from 30, e.g., "30" (step), "29" (step)—back to 1.

Task 2: Give a student 30+ beans or beads and ask him to count them out. Demonstrate that you would like him to put his finger on one, push it away from the pile, and count "one." "Next return to the large pile, put your finger on another, and so on." When he has finished counting out the beans, he should count them backwards, returning the beads to the original pile in the same way. Some students prefer to count by twos; this is fine, as long as their count is accurate.

Scale: **4** No missteps; no mistakes in counting out objects. Often a student will volunteer to count by threes or fours as well as by ones or twos. (Mark this on the assessment.)
3 Occasionally step or count is mismatched with number spoken. Student can step and count backwards with good regularity.
2 Student is unable to step backwards and "count down from 30"; is successful counting up. Student sometimes mismatches step or bead counting with rote counting (will count "26-27-28," but only step one step or push one bead).
1 Count rarely matches step; has difficulty stepping down the count; count rarely corresponds to motion of pushing bean or bead.

A3 - Reads and Writes 2-Digit Whole Numbers

Task 1: Give the student a sheet of paper and ask her to write down the numbers you say. First dictate the numbers (randomly) 0-9, then dictate several 2-digit numbers.

Task 2: Show the student 3 one-digit number squares and 3 two-digit number squares. Ask the student to read the numbers.

Scale: **4** Student can write and read all numbers without any reversals.
3 Student writes all one-digit numbers or writes 2/3 two-digit numbers (note reversals). Can read all the numbers.
2 Student writes and reads all one-digit numbers with ease (note reversals). Can read 1/3 two-digit numbers. Reverses in reading, e.g., "12" for "21."
1 Student misreads or miswrites at least 1 one-digit number (note reversals). Student is confused reading or writing two-digit numbers.

A4 - Breaks Down a Two-Digit Number into Ones and Tens

Teacher shows the student a two-digit number square and asks, "Can you tell me how many tens and how many ones are in this number?" If the student is successful, offer her two more numbers (as a check for consistency of the concept).

Scale: **4** Student completes task.
3 Student has the idea, but cannot complete the task successfully, e.g. for 21, says "One ten and 2 ones."
2 Student cannot complete the task.
1 Student cannot complete the task.

A5 - Student Orders Numbers to 30

Student is given a set of numbers squares, 1-10, displayed in random order, and asked to put them in sequential order. If this task is completed, the student is given the numbers 11-30 and asked to continue the task.

Scale: **4** Student orders all numbers correctly.
3 Student orders numbers 1-30 with < 8 mistakes in sequence.
2 Student orders 1-10, cannot order numbers 11-30.
1 Student cannot order numbers 1-10.

A6 - Compares Numbers to Show Greater Than, Less Than, Equal to 30

Teacher chooses 6 numbers to lay in front of the student on the table. (The teacher writes a duplicate of one of these 6 numbers on a blank card and keeps the duplicate in her hand.) She asks the student to show her all the numbers that are greater than the number she holds in her hand; those less than that number; and any number equal to the number in her hand.

Scale: **4** Student is 100% accurate.
3 Student identifies these relationships with 85% accuracy.
2 Student identifies these relationships with 60% accuracy.
1 Student is unable to complete the task.

A7 - Skip Counts Number Families 2, 3, 5 and 10 to the 12th Multiple

Teacher asks student to count by 2s (stops the counting at 24). "Can you count by anything else? For example, can you count by 5s? (stops the counting at 60); 10s? (stops the counting at 120). How about counting by 3s?"

Scale: **4** Student can skip count by 2s, 5s, 10s and 3s with no mistakes.
3 Student can skip count by 2s, 5s and 10s with no mistakes.
2 Student can skip count by 2s and either 5s or 10s with < 3 mistakes
1 Student can skip count by 2s.

A8 - Can Regroup Objects to Show Different Representations of the Same Sum to 12

Teacher offers student 5 objects and asks, "Can you show me two ways of making 5 with these (beans, stones, beads)?" If the student is successful, the teacher will continue adding several more objects until 12 is reached, continuing to ask the student to show different ways of making _____ (7, 9, 12).

Scale:
4 Can regroup up to 12.
3 Can regroup up to 8.
2 Can regroup up to 6.
1 Does not understand the concept of regrouping.

B1 - Knows Addition and Subtraction Math Facts to 12

Handwrite 5 math questions selected from this set (3 addition, 2 subtraction). Write 2 horizontally and 3 vertically and ask the student to write the answers. Provide counters and invite the student to use them, if they would like, to assist in coming to the correct answer.

12-3; 8+4; 7-5; 2+8; 11-4; 9+3; 10-6; 7+3; 6-5; 2+3; 9-4; 10+2; 8-6; 5+7; 5-2

(Note reversals in the answers. Note if student could answer horizontal but not vertical or vice-versa.)

Scale:
4 All correct.
3 4/5 correct.
2 2-3/5 correct.
1 1/5 correct.

B2 - Can Represent on paper a Sum or Product to 12 in Algorithmic Form in a variety of ways (e.g., 4+4, 6+2, 7+1) both Horizontally and Vertically

Ask the student to write the following dictated algorithm.
2 + 10; 4 x 3; 9 + 3; 6 x 2

Ask the student, "Do you know the answer to these questions? You may use counters to help you figure them out." When (and if) the student realizes that they all have a common answer of 12, ask the student, "Can you show me one more way to make 12?"

Scale:
4 Solves all 4, generates 5th.
3 Can solve 4/4 problems without manipulatives, cannot generate fifth problem.
2 Can solve 3/4 problems without manipulatives, guesses 4th answer; cannot generate fifth problem.
1 Using manipulatives, student can solve 2/4 problems, cannot generate the fifth problem.

B3 - Can Show the Relationship Between all 4 Processes by Acting Out Number Stories with Real Objects or by Writing an Algorithm that Illustrates the Story

Tell the two classic tales below or make up your own stories. Ask the student to represent, either with counters or with number sentences, the two questions in each story. Be sure to repeat the story if the student needs to hear it another time.

"The Ugly Duckling was swimming on the pond with 6 little ducklings, their mother, and a beautiful swan. **(1)** How many birds were swimming in the pond? Three little ducklings padded up on the shore to talk to a lizard sitting there. **(2)** How many birds were in the pond now?"

"A good witch had enchanted two sisters. Each time the good sister spoke, a rose and ruby would fall from her lips. Each time the naughty sister spoke, a scorpion and a toad would leap out of her mouth. This morning the good sister spoke 5 times. **(1)** How many rubies fell from her lips this morning? The bad sister only spoke 2 times. **(2)** How many toads and scorpions leapt out of her mouth?"

Scale:

4 Student answers all questions correctly, with or without the help of manipulatives. He can represent the answer in algorithmic form.

3 Student answers 3/4 questions correctly, either with or without the help of manipulatives. She can represent the answer in algorithmic form.

2 Student is eager to answer the questions, using manipulatives, but 1-2/4 answers are wrong.

1 Student cannot answer any questions, with manipulatives or algorithms, and is confused.

B4 - Knows the Different "Jobs" of Addition, Subtraction, Multiplication and Division

Teacher gives the student 12 stones and ask the student to show the different situations in the following story which she is going to tell. She says she will stop and tell the student when it is time to show. She instructs the student that if she doesn't need to use the stones to answer her (the teacher's) questions, she can just give her the answer orally.

Prince(ss) [Student's name] met a little elf, a Brownie, one day. He was sitting on a log. Covering his lap was a great heap of beautiful, rose quartz stones. The Brownie told her/him that she would find a special surprise at home if s/he would give away these stones fairly to the first four children she met. *How many stones will she give to each child? If she follows the Brownie's instructions, what will she be doing with the 12 stones? (Adding? Subtraction? Dividing? Multiplying?)*

She found a poor little boy, about three years old, a bit down the road. He was digging with a stick in the dry dirt of his front yard. "Here!" s/he said to him, "I have a gift for you." *She gave him _____ stones. How many did she have left? Did you (add, subtract, multiply or divide) to see how many you had left?*

On she went and wonder of wonders, she came to three little girls who looked exactly the same. They were dressed similarly in white dresses, except one had a red-checked, one a blue-checked, and one a yellow-checked pinafore. "Here, little girls," she said, "here are 3 lovely stones for each of you. Let's see, 3 x 3 equals _____." *Did she (Add? Subtract? Divide? Multiply?) to find the answer?*

Now she had done just what the Brownie asked her/him to do. S/he had given away all twelve stones. When s/he reached her/his house, her/his mother called, "Come quickly _____ and see the gift our Little Puss has for us." S/he ran into the kitchen, and there, in a basket by the stove, were many rosy quartz stones in the basket with Mama Kitty: one bunch of 6 stones lying in a heap, one group of 4 stones, and another group of 3 stones. ***How many in all? How did you find out how many stones there were? Did you add? Subtract? Divide? Multiply?***

But no, the stones began to move and to make tiny mewing sounds. They were newborn kittens, not stones! As they moved toward Mama Kitty, _____ saw that one of them stayed very still— the 13th was not a kitten at all; it was a beautiful quartz stone, just for her.

Scale: **4**   Can manipulate stones and knows all 4 processes.
              3   Can manipulate stones for 3 or 4 processes, but only can identify 2/4 processes.
              2   Can manipulate stones 3 or 4 times, but knows only 1-2 of the operations being performed.
              1   Knows how to manipulate the stones 2/4 times, but cannot identify the operation being performed.

B5 - Can Solve Mentally or in Writing Problems Using all 4 Processes (up to 12)

Give the student a fresh piece of paper. Based on the story in B4, ask the student to write a number sentence for each of the four questions in the story.

1. Divide 12 stones equally amongst four children.
2. The prince/ss gave the little boy three stones, how many were left?
3. The prince/ss gave each of the three girls three stones. How many did she give them altogether?
4. There were three groups of quartz stones with Mama Kitty: a group of 6, a group of 4 and a group of 3. How many were there in all?

Scale: **4**   Can write 4/4 as algorithms.
              3   Can write 3/4 as algorithms. Confuses one or two signs.
              2   Can write 2/4 as algorithms. Confuses signs.
              1   Cannot write any of the questions as algorithms.

C1 - Can Continue and Extend a Pattern Rhythmically, Symbolically, in Shape or Color, or Numerically

Task 1: Teacher claps a rhythmic pattern in front of the student and asks the student to imitate the pattern.   **Pattern: Snap, clap, clap, stamp**

Task 2: Teacher draws patterns (Attachment 1) for the student on the back of the paper containing question B5 and asks the student to continue the pattern to the edge of the page.

Scale: **4**   Can extend all   patterns
              3   Can extend 4/5 patterns (note which ones) _____
              2   Can extend 3/5 patterns (note which ones) _____
              1   Can extend 1/5 patterns (note which one) _____
                 Note: Assessments D1 and E1 should be observed during whole-class activities.

D1 - With a Group, Can Collect Data and Form a Display and be Able to Indicate Greater Than, Less Than or Equal

1. Teacher leads students to compile a "real graph" by sorting one shoe from each student by whether it is or is not a tennis shoe.
2. Are there more, less, or an equal number of tennis shoes compared to "other" shoes?
3. Are there more, less, or an equal number of tennis shoes compared to "other" shoes from the shoes of just boys? Just girls?

Scale: **4-3** Is comfortable with the activity and completes it.
2 Understands the sort, cannot "see" greater than/less than/equals using the real objects. (Underline which was difficult for the student.)
1 Is confused by the task of gathering data for an end purpose.

E1 - Can Kinesthetically Form a Circle, a Square, an Oval and a Rectangle with the Class

Teacher might play "Simon says" with whole class: "Simon says, 'Form a circle...'"

Scale: **4** Forms all shapes successfully.
3 Can successfully form 3/4 shapes.
2-1 Is unable to move into the correct spot in the group formation.

E2 - Knows Right from Left

Teacher plays "Simon says" with student, giving student 6 left/right directions. For example: "Simon says, put your right hand on your right knee." "Simon says, put your left hand on your left shoulder." ***Note:*** Do not give directions that cross the vertical midline; that is, only give right-hand directions on the right side, left-hand directions on the left side.

Scale: **4-3** Chooses correct side with 100% accuracy.
2-1 Chooses correct side with < 50% accuracy.

E3 - Can Arrange Objects in Space According to Position and Direction (e.g., near, far, below, above, up, down, left, right)
E5 - Can Give and Follow Directions about Location

Teacher places figurine on table and gives student a counting object. Then she asks her to put the stone (1) above (2) below (3) to the left of (4) to the right of (5) far away from (6) very near the figurine. Teacher invites student to let her (the teacher) place the stone according to instructions on direction she (the student) gives.

Scale: **4** Student follows every direction; gives complex directions instructions.
3 Student follows 4/6 directions; gives complex directional instructions.
2 Student follows 3/6 directions; gives several directional instructions.
1 Student follows 2/6 directions; gives simple directional instructions.

E4 - Can Order Objects by Shape, Volume, and Size
F1 - Uses Non-Standard Units to Measure
F2 - Uses Non-Standard Units to Compare and Order Objects
F3 - Estimates Quantity

Task 1: Teacher gives student the 5 glass jars and asks him to put them in an order from the smallest to the largest. Teacher asks student to explain why they ordered the jars as they did.

Task 2: Teacher asks student to arrange the jars from the one that would hold the least to the one that would hold the most water. After the jars are arranged, teacher asks student to choose one of the 5 as the "measuring jar." The student will fill it with water to test whether or not the display is arranged as requested. Again, teacher asks student the rationale behind the order.

Scale:
    4   Student successfully completes both tasks.
    3   Student completes one of the tasks successfully, and has a sound rationale for both of them.
    2   The arrangement is done according to an expressed approach, but is incorrect, either for size or for volume, or both.
    1   Student cannot decide on an arrangement of smallest to largest; student does not make a reasonable guess of the volume capacity of the jars.

Upon completion of the assessment, ask the student to put her or his name on all the sheets of paper containing his or her work.

Third Grade Assessment

(Teacher Directed & Student Tests)

*For some skills, multiple assessments are given. If only one assessment is going to be administered, it should be the one marked with a "***.***" (This will maintain standardization.) If more than one assessment is administered, then an average of the scores should be used to mark the rubric sheet. Some of these assessments are based on teacher observation (OB) and others on the students' written tests (AT).*

*Generally there are 4 (or multiples of 4) problems for assessing each skill. Rubric scoring should be as follows: **4** (0-1 wrong); **3** (2 wrong); **2** (3 wrong); **1** (4 wrong).*

MATERIALS NEEDED FOR THE ASSESSMENT:

- Base Ten Blocks
- Colored pencils
- Rulers
- Tile blocks
- Cup, pint, quart, gallon measures
- Scale

A1 - Can Read, Write and Order Numbers to 10,000

   a. (OB) - Teacher dictates 4 numbers between 1,000 - 10,000 and student writes them.

   b. (OB) - Teacher asks students to read 4 numbers between 1,000 - 10,000.
          (Perhaps 406, 8,002, 5,476, 760)

   c. (AT) - #1

 *d. (AT) - #2

A2 - Knows Place Value Concepts

   a. (OB) - Have Base Ten Blocks in front of student and say, "Please build: 47, 569, 709, 1,083."

   b. (OB) - Tell the place value name of each digit in the number 8,493.
          Ask, "Why is the comma between 8 and 4?"

 *c. (AT) - #3

   d. (AT) - #4

A3 - Compares Numbers to Show Greater Than, Less Than, Equal

   a. (OB) - Write these numbers on the board or on paper and have the student read them inserting "greater than," "less than," or "equals."
     1. 743 is _____ 734
     2. 106 is _____ 1,066
     3. 937 is _____ 937
     4. 4,375 is _____ 4,735

   b. (AT) - #5

A4 - Can Round to Tens and Hundreds

   a. (OB) - Give student Base Ten Blocks. Ask him/her to make the following number: 637. Now ask the student to:
     1. Round to nearest 10
     2. Round to nearest 100

     Repeat with the number 1,245. Ask student to:
     3. Round to nearest 100
     4. Round to nearest 1,000

 *b. (AT) - #6

A5 - Can Recite 2-6s, 8s, 9s, 11s Times Tables to the 12th Multiple

 a. (OB) - Ask student to recite the following tables to the 12th multiple, forwards and backwards.
  1. 6s
  2. 8s (Student must be able to go forward and back with less than 3 mistakes to have
  3. 9s the number be right).
  4. 11s

 *b. (AT) - #7

A6 - Can Regroup Objects to Show Representations of Sums, Differences, Products, and Quotients.

 a. (OB) - Teacher presents Base Ten Blocks and asks student to make:
  1. 2 representations of 48 as a sum
  2. 2 representations of 21 as a difference
  3. 2 representations of 36 as a product
  4. 2 representations of 6 as a quotient

 *b. (AT) - #8 (Teacher may have to help student with the directions on this one.)

B1 - Can Access Math Facts as a Tool for Problem Solving

 a. (OB) - Teacher gives following math facts orally to student to answer:

$7 \times 4 =$ _____	$6 \times 7 =$ _____
$18 - 9 =$ _____	$14 - 6 =$ _____
$6 + 8 =$ _____	$5 + 7 =$ _____
$12 \div 4 =$ _____	$24 \div 6 =$ _____
$4 \times 8 =$ _____	$4 + 7 =$ _____
$13 - 5 =$ _____	$18 \div 3 =$ _____

 b. (OB) - Teacher gives orally:
  1. $24 \div 3 + 5 - 7 \times 2 =$
  2. $6 \times 4 \div 8 \times 3 - 3 =$
  3. $13 - 5 \times 2 \div 4 + 9 =$

 c. (OB) - Teacher gives orally:
  1. Sue has 2 pairs of blue socks, 4 pairs of white, and 1 pair of red. How many *individual* socks does she have?
  2. John bought 2 dozen marbles but lost 4 on the way home from the store. How many does he have left?

 *d. (AT) - #9 (A timed test to be done in 5 minutes.)

B2 - Student Solves Problems on Paper

a. (AT) - #10 (Give student 20-25 minutes to do this. It may be given in 2 parts.)

B3 - Can Check One Process by Using the Reverse Process

a. (AT) - #11 Adding and subtracting

b. (AT) - #12 Multiplying and dividing

B4 - Can Mentally Solve Problems Including Math Facts

a. (OB) - Teacher gives problems orally to student to solve.
   1. Sue's mother made 40 cupcakes and put 4 chocolate chips on the top of each one. How many chocolate chips did she use?
   2. Addie scored many points playing basketball. In one game she scored 22 points; in another 18; and in another 40 points. How many points did she score altogether?
   3. Joe went to the store and bought 56 marbles. He gave 24 to his friend Bill and shared the rest with 4 of his other friends. How many marbles did each of these 4 friends receive? (2 pts.)

b. (OB) - Either tell or show student the algorithm. Ask him/her to mentally find the answer and then explain his/her strategy. Listen for clues that student is using strategies such as: make both numbers larger; take away too much and add back what you need; take away each part, etc.

   1.　　 98　　　　　　2. $66 + 34 + 45 + 55 =$
   　　　+ 63

   3.　　 43　　　　4.　　 83
   　　　- 18　　　　　　 - 48

c. (OB) - Repeat above directions and listen for strategy clues.

   1.　　 13　　 2.　　 15　　 3.　 $4\overline{)120}$　　 4.　 $2\overline{)124}$
   　　　x 4　　　　　x 6

B5 - Can Use a Variety of Problem-Solving Strategies

(OB or AT) - #13 These problems may be done orally with a teacher or as a written assessment. However, #4 has to be done orally. What is important is that the student uses the various strategies to solve them.

C1 - Interprets and Extends Number Patterns

(AT) - #14

C2 - Constructs Patterns That Show Relationship Among X Facts

*a. (OB) - Use the tile blocks to build and show two patterns—each showing 2 numbers multiplied together to make 24.
Do the same. However, the patterns should show 2 quotients that are 6.

b. (AT) - #15

C3 - Can Find a Missing Number in an Equation Through 100

a. (OB) - Orally ask the student the following:

1. $26 - \underline{\hspace{1cm}} = 9$

2. $\underline{\hspace{1cm}} + 38 = 52$

3. $\underline{\hspace{1cm}} \times 9 = 72$

4. $\underline{\hspace{1cm}} \div 8 = 8$

5. $\underline{\hspace{1cm}} - 19 = 11$

6. $23 + \underline{\hspace{1cm}} = 54$

7. $6 \times \underline{\hspace{1cm}} = 54$

8. $56 \div \underline{\hspace{1cm}} = 7$

b. (AT) - #16

C4 - Can Create and Solve Problems Using Words, Symbols or Algorithms

(OB or AT) - #17 This may be given orally or administered as a written test.

D1 - Can Collect Data and Construct Displays

(OB or AT) - #18 This may be given orally or administered as a written test.
Students could also be asked to graph:
- types of shoes
- the number of siblings each classmate has
- the favorite color of their classmates
- the birthday months of their classmates

D2 - Can Analyze Data Displays

(OB or AT) - #19 This assessment may be administered both ways.

E1 - Develops Concepts of Shape, Size, Symmetry, Congruence

(AT) - #20

E2 - Determines Perimeter and Area of a Rectangle

(AT) - #21

F1 & 2 - Uses Non-Standard and Standard Measurements to Estimate, Measure, order and Compare Objects

(AT) - #22

F3 - Can Convert Liquid Measurement with Manipulatives

(OB) - Have cups, pints, quarts, gallon measures available for student to use. Ask them:
1. How many cups are in a pint?
2. How many pints are in a gallon?
3. How many quarts are in a gallon?
4. How many cups in a quart?
5. How many cups in a gallon?

F4 - Can Define Units of Weight Measurement

(OB) - Have a scale. First estimate ounces and pounds of 4 objects and then weigh them to check.

F5 - Uses Appropriate Units of Measurement for Problem Solving

(AT) - #23

F6 - Reads and Writes Time to the Nearest Minute

(OB or AT) - #24 (Teacher may have a clock which can be manipulated and give this test orally.)

F7 - Counts Minutes by 1s, 5s and 10s

(OB) - With a manipulative clock, ask the student to count the minutes by 1s, 5s and 10s.

F8 - Knows Terms "Before" and "After" the Hour

(OB) - Show the student a manipulative clock with the following times. Ask him/her to tell you the time using "before" or "after" the hour.
5: 10   9:50   11:45   3:20

F9 & 10 - Can Read a Calendar and Solve Problems Using It

(AT) - #25

F11 - Reads and Writes Money Notation to $10,000

a. (OB) - Teacher shows the student the following numbers and asks the student to read them:
    1. $4.06
    2. $218.00
    3. $17.56
    4. $8,088.01

b. (OB) - Teacher dictates the following to the student to write:
    56¢ $4.07 $9,876.50 $1,001.61

c. (AT) - #26

F12 - Uses Money in Real Life Situations up to $10.00 to Describe Equivalence and Make Change

(AT) - #27

Written Tests

GRADE 3

#1

Write These Numbers:

Three hundred forty-two

_____

One thousand six

_____

Ninety-seven

_____

Four thousand two hundred sixty

_____

#2

Order These Numbers Smallest to Largest.

9,006	922	3,456	9600
_____	_____	_____	_____
461	35	416	350
_____	_____	_____	_____
832	8322	8232	8,223
_____	_____	_____	_____
17	71	170	710
_____	_____	_____	_____

#3   **What Numbers are Represented?**
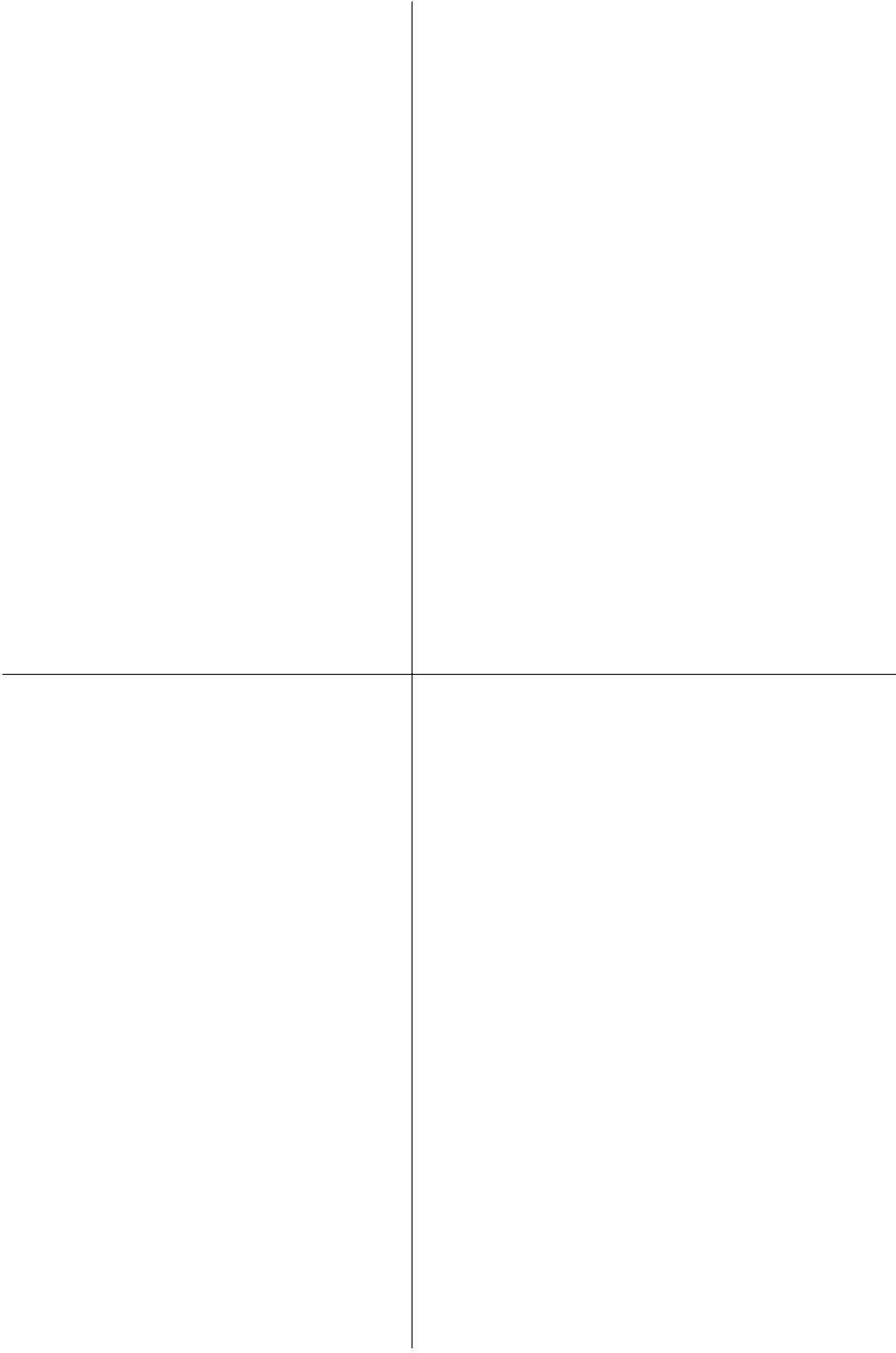
#4

Draw pictures of these numbers. You may use pictures of Base Ten Blocks, or other pictures, to show thousands, hundred, tens, and ones.

239	1,324

Sample Base Ten Blocks:

thousand:

hundred:

ten:

one:

#5

Fill in the blanks with **Greater Than** (GT or >), **Less Than** (LT or <) or **Equal** (E or =).

You may also choose any other picture or symbol to represent these concepts.

743 is _____ 734

106 is _____ 1066

937 is _____ 937

4, 375 is _____ 4,735

#6

Round to the nearest tenth.

8 _____

13 _____

796 _____

3,144 _____

Round to the nearest hundredth.

149 _____

267 _____

890 _____

4,649 _____

#7

Fill in the missing numbers.

_____, 12, 16, 20, _____, _____, 32, 36, 40, 44, _____

6, 12, _____, 24, 30, 36, _____, _____, 60, 66, _____

8, _____, _____, 32, 40, _____, 64, _____, 80, 88, 96

9, 18, _____, 36, _____, _____, 63, _____, 90, 99, 108

#8

1) Draw a picture of 15 objects. (They may be simple ◆s, □s, Xs, whatever.) Take a colored pencil and circle the groups of objects. Next write an addition sentence to describe the groupings.

2) Now do the same activity with another color.

1. _____

2. _____

Write 2 subtraction problems. The answer to each one should be 6. (You may write the problem with numerals or objects. You may draw the problem if you'd like.

1.

_____

2.

#8 (continued)

With 2 different colored pencils, group these Xs 2 different ways. Next write a multiplication sentence of each one to represent what you did.

X X X X X X X X X

X X X X X X X X X

X X X X X X X X X

X X X X X X X X X

1. _____

2. _____

With 2 different colored pencils, divide these objects 2 different ways. Next write a division sentence for each one to represent what you did.

1. _____

2. _____

#9

Ask your teacher to time you. You have 1 minute to do these problems.

9	8	7
+ 7	+ 6	+ 5

		3
		+ 8

13	15	12
- 4	- 9	- 4

		13
		- 7

4	7	5
x 8	x 6	x 9

		8
		x 3

$9\overline{)36}$ $4\overline{)28}$ $2\overline{)24}$ $8\overline{)32}$

#10

```
  761        456       6549        465
+ 239      - 294      x   2      x   7


  456        905        305      1,478
+ 654      - 147      x   6      x    3
```

#10 (continued)

$$83 \times 82$$

$$75 \times 38$$

$$91 \times 45$$

$$62 \times 17$$

$$5\overline{)41}$$

$$9\overline{)29}$$

$$6\overline{)39}$$

$$7\overline{)48}$$

#11

Do the problem and check with the opposite operation.

49
+ 31

check

[ ]

60
- 24

check

[ ]

913
- 638

check

[ ]

347
+ 156

check

[ ]

#12

Do the problem and check with the opposite operation.

18
x 6

check

8 ⟌ 104

check

6 ⟌ 96

check

13
x 4

check

#13

WORK SPACE

1) Make a **Drawing** of this problem to help solve it.
Marika and 3 friends bought 2 pizzas. Each pizza was cut into 6 equal pieces. If they share the pizzas equally, how many slices should each girl have?

_____

2) Use **Guess and Check** to solve this problem. Show your strategy.
One ribbon costs 18¢. Four ribbons will cost approximately how much?

_____

3) **Act** this problem out to solve it.
Find objects in the classroom to use. Bill went to Crystal Mountain and gathered 39 crystals. Three crystals fell out of his pocket. He gave half of them to his friend Josh. He then divided the crystals into 3 groups. He kept one group. How many crystals did he have?

_____

4) Draw a **Graph or Model** to solve this.
John was buying shirts. One cost $8. Two cost $16. How much did 12 cost?

_____

#14

1) Build the "stair" numbers. Write the addition facts for each stair. How much is added each time?

a.

b.

c.

d.

1+2=   1+2+3=   =   =

2) Continue the pattern. How far does it hold true?

$(1 \times 9) + 2 = 11$
$(2 \times 9) + 3 = 21$
$(3 \times 9) + 4 = 31$

---

3) Continue the pattern.

a. $3\overline{)12}$ b. $3\overline{)120}$ c. $3\overline{)1200}$ d.

4) What comes next? Describe the rule

3, 4, 6, 9, 13, _____

0, 1, 2, 3, 5, 6, 8, 10,

_____, _____

#15

Draw the 3 family with a pencil starting on 0 and going to 3, etc.

Draw the 4-table with a blue pencil starting on 0 and going to 4, etc.
Draw the 6 table with a red pencil starting with 0 and going to 6, etc.
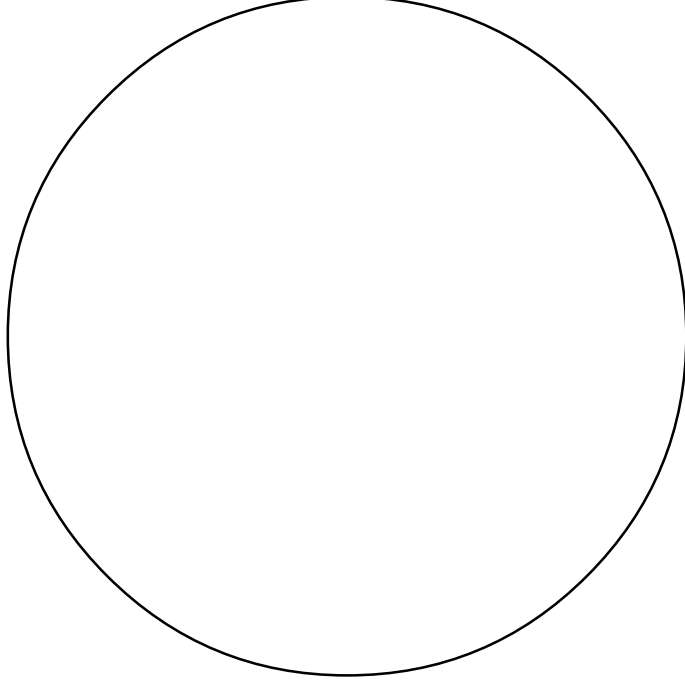
What family is related to the 3s? _____

What did you discover? _____
_____
_____

#16

Solve to find the missing number.

13 + _____ = 24

35 - _____ = 22

_____ - 20 = 61

_____ + 27 = 43

_____ x 4 = 36

7 x _____ = 42

14 ÷ _____ = 7

81 ÷ _____ = 9

#17

Create a problem in words or pictures that would match these math sentences.

a. $7 + 5 = 12$ b. $12 - 7 = 5$

b. Solve by drawing a picture or using symbols. Then write an algorithm.
4 cars were in a garage all needing new tires. How many new tires should be needed?

c. What multiplication problem does this show?

a.   x x x x x x x x   b. $3 + 3 + 3 + 3 + 3$
     x x x x x x x x
     x x x x x x x x

_____   _____

#18

Observe the color of 15 classmates' eyes. Make a display (graph or chart) that shows what you observed.

Say something using the words "more than," "less than," or "equal" about what you discovered.

#19

Compare data. How many more students prefer vanilla ice cream over mint?

Say three things you can learn from this chart.

1. _____

2. _____

3. _____

Compare the people who like red with those who like blue. _____

FAVORITE COLORS

# of People who chose color

Blue   Yellow   Green   Red
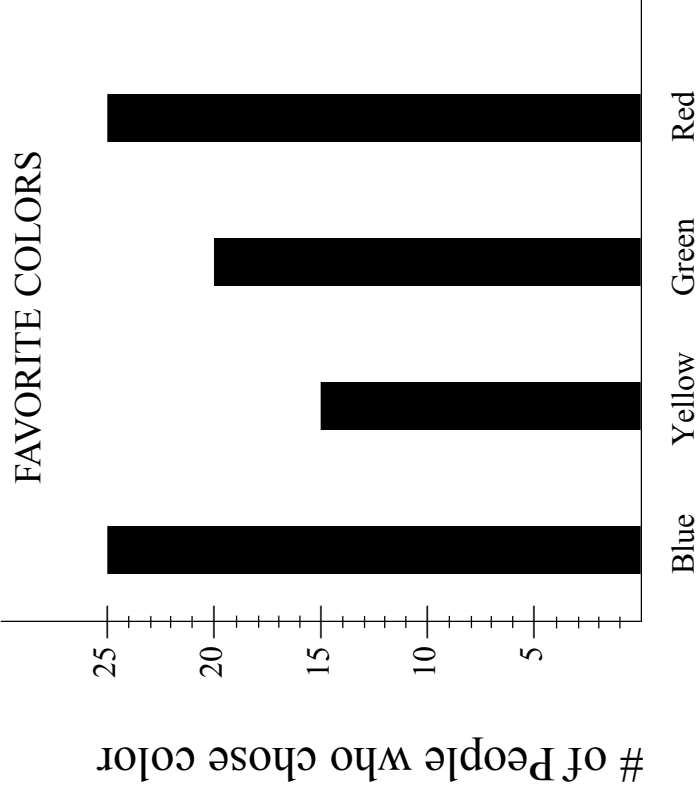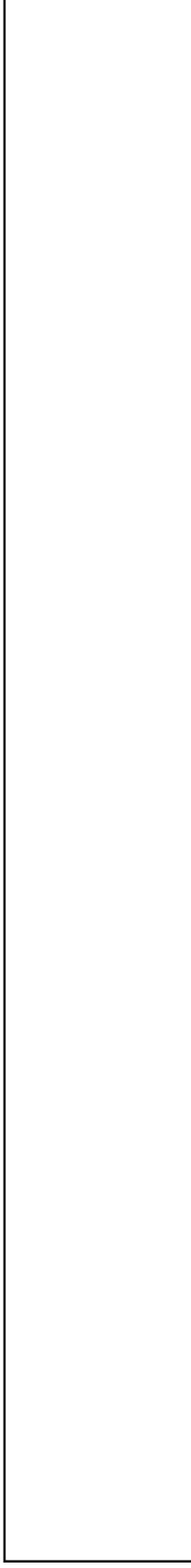
#20
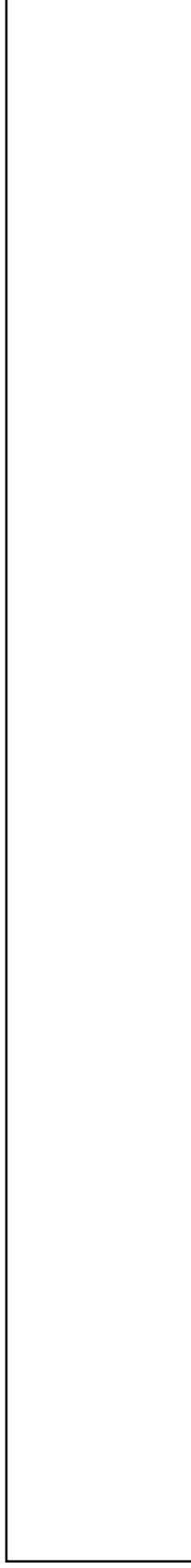
1. Circle the shapes that are the same on both sides or symmetrical.

2. Circle the shapes that are the same no matter how you turn them.

3. Circle the shape that is the same as

4. Circle the shape that is the same as

#21

1. Fencing was needed for a garden that was 9 feet across and 5 feet along the other side. How much fencing was needed? (This is the perimeter.)

9'

5'
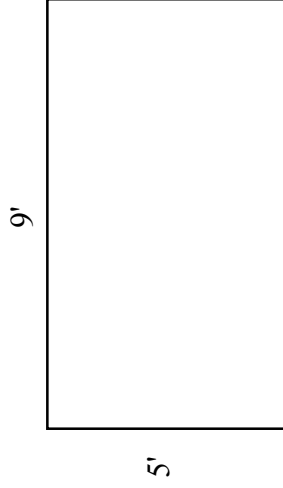
2. The area was also needed in order to determine how much fertilizer was needed. Can our help find the area? (You may draw in the grid lines if it helps you solve the problem.)
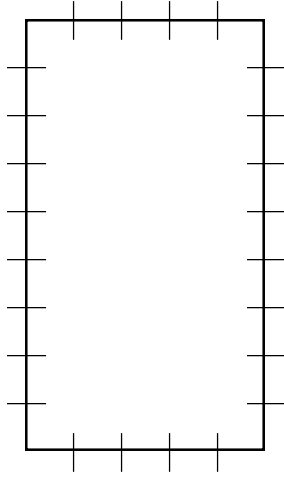
3. Using 42 square tiles, build as many rectangles as possible. Sketch and label each one. Record the dimensions, perimeter and area.

Dimensions   Perimeter   Area

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

#22

1. First estimate the number of inches of each of these objects.
Put them in order: smallest to largest.

_____   _____   _____

2. Measure their sizes with a label by the letter a.

a. _____   a. _____

_____

3. Measure with inches.

#23

1. Sally is walking to school. Can you figure out how far away her school is?

1 inch - 1,000 feet

_____

2. Sally has 2 cups of milk. The recipe asks for 1 quart of milk. How many more cups does she need?

#24

Write the time on each clock, as closely as you can, to the minute.
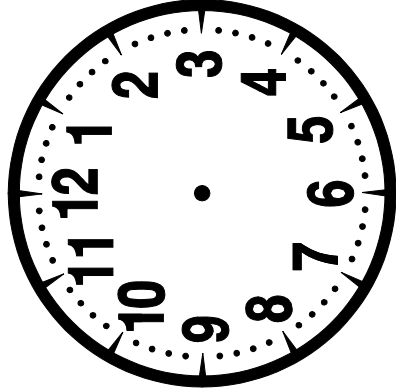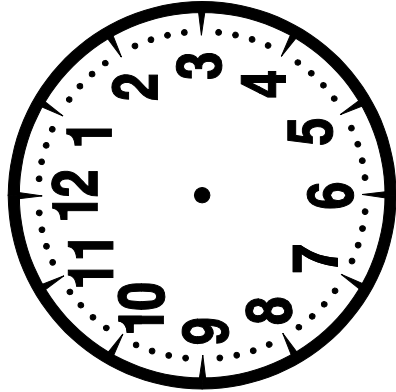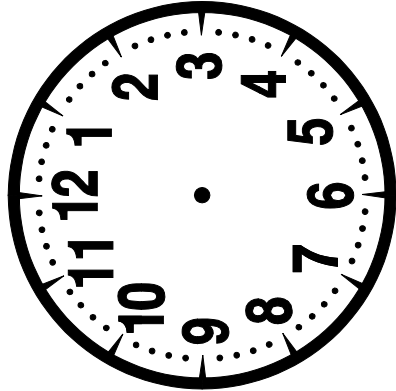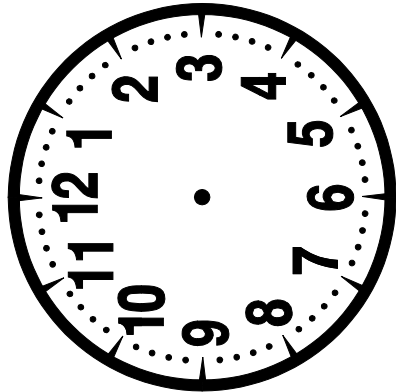
#25

What month comes after January? _____

What is the 4th month of the year? _____

What month is before December? _____

What day of the week is before Thursday? _____

Most months have _____ or _____ days.

_____

Today is October 16. How many more
days are there until Halloween? _____
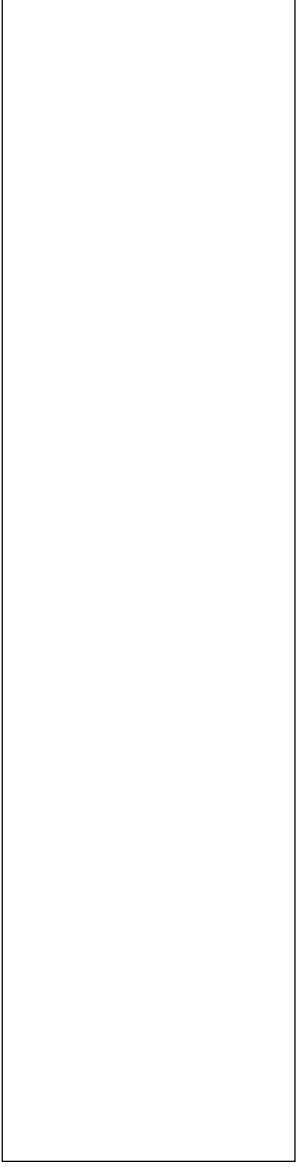
Two weeks after October 7 would be? _____

How many school days are there in October? _____

What day of the week is Halloween? _____
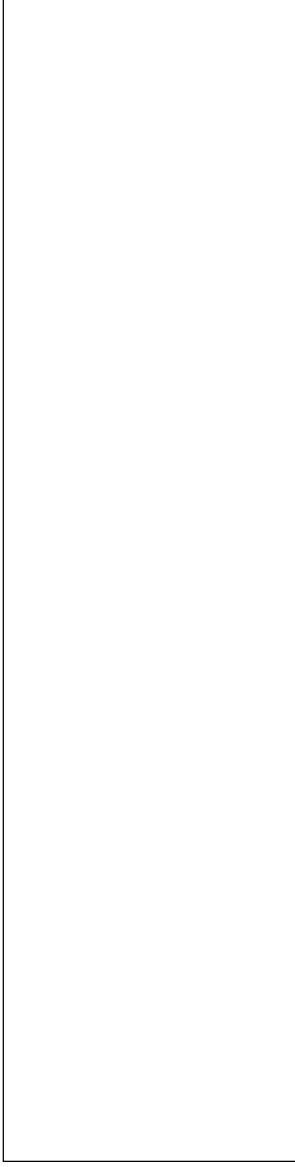
#26

Write the amount of money.

1. _____

2. _____

3. Which is more — 4 nickels or 24 pennies? _____

4. Which is less — 1 quarter of 3 dimes? _____

#27

Your mother has given you $6.00 to spend for lunch. Below is the menu. Order the items you'd like by writing them down and figure out your change.

Menu

Soup	$1.50
Crackers	.25
Salad	1.50
PB&J Sandwich	2.50
Egg Sandwich	3.25
Tuna Sandwich	3.50
Cheese Sandwich	3.25
Hamburger	3.75
Bread	.50
Rolls	.75
Pie	2.50
Fruit	.60
Ice Cream	1.00
Soda	.75
Milk	.50
Juice	.80

Fifth Grade Assessment

The majority of this assessment is comprised of student tests. The problems that involve teacher observation are listed on page 2.

Generally there are 4 *(or multiples of 4) problems for assessing each skill. Rubric scoring should be as follows:* **4** *(0-1 wrong);* **3** *(2 wrong);* **2** *(3 wrong);* **1** *(4 wrong).*

MATERIALS NEEDED FOR THE ASSESSMENT:

- Scale
- Foot ruler, yardstick
- Meter ruler

Teacher Directed and Observed Assessments

A1 - Reads, Writes, Orders Numbers through the Billions

(OB) - Student is asked to list the following numbers (read orally at random) in order of their value, least to greatest.

5,200 — 28 — 35,000 — 4 — 950,000,000 — 640,000 — 29,000 — 1,000,000,000 — 999,999
1,817 — 74,863 — 2,001

A3 - Can Illustrate Application for Rounding

(OB) - Student is asked to think of a time when rounding off would make sense:
    A. In cooking
    B. With money
    C. When measuring
    D. With fractions

A5 - Can Recite Times Tables through 12, to the 12th Multiple

(OB) - Student is asked to recite tables through 12. (Different tables from lowest to highest throughout year)

   - Student is asked to answer random flash cards (multiplication) in timed increments.

B1 & 6 - Can Mentally Solve Problems by Accessing Previously Learned Math Facts

a. Kyle's science experiment calls for 12 grams of potassium. If he is to perform the experiment 8 times, how much potassium will Kyle need? _____

b. Jim and his 3 friends want to have a water balloon fight. If Jim has 36 balloons, how many balloons should each one take to begin? _____

c. $12 \div 4 \times 9 + 8 \div 7$. Square the answer = _____

d. $\frac{1}{4} + \frac{1}{4} \times 2 \times 8 \div 2 =$ _____

B7 - Uses Mental Estimation

a. What percent of our class is male?

b. How many of you would it take to reach from the ground to the top of our building?

c. How long would it take you to walk from here to (name a town 10-20 miles distant)?

d. How many marbles fit in a quart jar?

Written Tests

GRADE 5

A2

Round to:

TENS	HUNDREDS	THOUSANDS
367 _____	55,452 _____	7,540,016 _____
4,289 _____	12,999,999 _____	2,503 _____
42 _____	647 _____	641 _____
66,912 _____	5,214,363 _____	99,517,099 _____

Answer True or False

628 < 5 x 120 _____

3/4 > 12/16 _____

32 < 9 x 4 _____

16 ÷ 2 > 7.9 _____

Write Times Table Chart Through 12

Write all Prime Numbers under 50

Write all the Perfect Squares through 144

A8

Write the Following as Fractions:

.3 _____

.28 _____

.7 _____

.95 _____

A9

List the Following Fractions from Least to the Greatest in value:

1/3, 1/8, 2/5, 9/16, 1/2, 3/4, 3/8, 5/6

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

8) _____

Write Equivalent Fractions for the Following:

$$\frac{1}{2} = \frac{\ }{6} \qquad \frac{2}{3} = \frac{\ }{9}$$

$$\frac{4}{\ } = \frac{8}{10} \qquad \frac{3}{12} = \frac{\ }{4}$$

Fill in the Blanks

Expand:

$$\frac{1}{2} = \frac{\ }{6} = \frac{9}{\ } = \frac{\ }{24} = \frac{\ }{\ }$$

Reduce:

$$\frac{18}{24} = \frac{9}{\ } = \frac{\ }{8} = \frac{\ }{\ }$$

A12

Write the Lowest Common Denominator

$\dfrac{1}{4} + \dfrac{1}{3}$ LCD is _____

$\dfrac{1}{5} + \dfrac{1}{6}$ LCD is _____

$\dfrac{1}{8} + \dfrac{1}{9}$ LCD is _____

$\dfrac{1}{2} + \dfrac{1}{3} + \dfrac{1}{4}$ LCD is _____

A13

Write the Mixed Numbers as Improper Fractions

$3\,\tfrac{1}{2} =$ $47\,\tfrac{2}{3} =$

$16\,\tfrac{12}{13} =$ $9\,\tfrac{1}{9} =$

A14

Write the Improper Fractions as Mixed Numbers

$$\frac{4}{3} =$$

$$\frac{247}{12} =$$

$$\frac{94}{6} =$$

$$\frac{500}{50} =$$

A15

Write the Numeral That Holds the Place Value Named for each of the Following Decimal Numbers

310.67 — Which Numeral is in Tenths Place? _____

9,541.6783 — Which Numeral is in Hundredths Place? _____

2,954.631 — Thousandths _____

598,410.67230 — Ten-Thousandths _____

A16

List the Following Decimals in order from Least to the Greatest in Value:

0.0017, 0.089, 0.136, 0.19006,

0.00999, 0.09001, 0.11001,

0.00005999

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

A17/18

Fill in the Blanks.

Change these Common Fractions to their Decimal Equivalent.

$3/4 = 0.\underline{\hspace{1.5cm}}$ $2/3 = 0.\underline{\hspace{1.5cm}}$

$3/8 = 0.\underline{\hspace{1.5cm}}$ $1/2 = 0.\underline{\hspace{1.5cm}}$

Change these Decimals to Fraction Form

$0.60 = \underline{\hspace{1.5cm}}$ $0.75 = \underline{\hspace{1.5cm}}$

$0.625 = \underline{\hspace{1.5cm}}$ $0.25 = \underline{\hspace{1.5cm}}$

Guess and Check

How many pears, each weighing 2 ounces, will be needed to balance three 2 lb. weights?

Solve a Simpler Model

How many squares are there on a checker board? (Make an easier square and look for a pattern.)

Work Backwards

If 30 hamburgers can feed a family of five for 3 meals, how many would be needed to feed just the 3 kids for 8 meals. (All eat the same amount.)

Make a Table or Graph.

Nine people at a cookie exchange each brought a dozen cookies for each other person. How many cookies were brought to this exchange?

Make a Model or Drawing

Kathy's model train is set up on a circular track. There are 6 telephone poles spaced evenly around the track. It takes the engine or her train 5 seconds to go from the first pole to the third pole. How long would it take the engine to go all the way around the track?

B3

State whether the following answers are true or false.
Use the operation in parenthesis to find your answer.

a. $416 \div 18 = 23$ _____ (use multiplication)

b. $42 \times 206 = 8{,}652$ _____ (use division)

c. $1{,}428 - 642 = 784$ _____ (use addition)

d. $5{,}286 + 437 = 5{,}723$ _____ (use subtraction)

SHOW YOUR WORK

B5

WHOLE NUMBERS (show all work)

```
    6,543          4,112          1,676          9,012
  + 2,988        − 3,869        + 9,885        − 4,763
  _____        _____        _____        _____
```

```
      300          4,600           1000          9,000
     − 99          − 876          − 888          − 111
    _____        _____        _____        _____
```

WHOLE NUMBERS (show all work)

```
    463              595
  x 800            x 311
  ─────            ─────
```

```
                    686
                  x 743
                  ─────
```

```
                    898
                  x 768
                  ─────
```

```
15 | 841         27 | 37,614
```

```
41 | 519,012     98 | 104,656
```

B5

FRACTIONS (show all work)

$$\frac{1}{4} + \frac{1}{3} =$$

$$\begin{array}{r} 2\frac{1}{2} \\ + \ 5\frac{5}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 19\frac{2}{5} \\ + \ 11\frac{3}{8} \\ \hline \end{array}$$

$$\frac{5}{9} + \frac{6}{13} =$$

$$\begin{array}{r} 3\frac{1}{2} - 4\frac{3}{4} = \end{array}$$

$$\begin{array}{r} 25\frac{5}{16} \\ - \ \ \ \frac{1}{4} \\ \hline \end{array}$$

$$\frac{1}{2} - \frac{1}{3} =$$

$$\begin{array}{r} 17\frac{1}{4} \\ - \ 8\frac{5}{8} \\ \hline \end{array}$$

B5

FRACTIONS (show all work)

$\dfrac{3}{4}$ x $\dfrac{1}{2}$ =

$\dfrac{1}{4}$ ÷ $\dfrac{1}{2}$ =

$3\dfrac{1}{3}$ x $\dfrac{5}{9}$ =

$4\dfrac{2}{3}$ ÷ $\dfrac{3}{16}$ =

$16\dfrac{1}{4}$ x $1\dfrac{4}{7}$ =

$2\dfrac{5}{8}$ ÷ $1\dfrac{2}{3}$ =

$\dfrac{3}{8}$ x $6\dfrac{5}{9}$ =

$\dfrac{7}{8}$ ÷ 2 =

WORK SPACE

1) $30.005 + 16.28 + 14.2 =$

2) $614.24 + 0.004 =$

3) $0.006 + 0.12 + 0.0148 + 0.9 =$

4) $814 + 2.62 + 3.90001 + 0.987 =$

WORK SPACE

1) $47.6 - 1.001 =$

2) $376.542 - 0.1 =$

3) $62 - 18.95 =$

4) $0.9103 - 0.84848 =$

1) 67.2 x 5.6 =

2) 79 x 3.69 =

3) 837 x .001 =

4) 42.6 x 6.78 =

1) 12.004 ÷ 3 =

2) 967 ÷ 0.004 =

3) 846.25 ÷ .05 =

4) 6835.47 ÷ 3.6 =

C1

Extend the Patterns

2, 4, 6, 8, _____, _____, _____

5, 11, 17, 23, _____, _____, _____

90, 81, 73, 66 _____, _____, _____

1, 1, 2, 3, 5, 8, _____, _____, _____

C2

Make up 2 math problems that include all 4 math processes and the math facts you know. The answer must be 5.

_____ x _____ ÷ _____ + _____ − _____ = 5

_____ + _____ x _____ ÷ _____ − _____ = 5

Now make up 2 problems with the answer of 8.

_____ ÷ _____ + _____ x _____ − _____ = 8

_____ x _____ ÷ _____ − _____ + _____ = 8

C4

Name the operation.

2   6 = 12   _____

24   8 = 3   _____

16   7 = 9   _____

28   7 = 4   _____

C5

Fill in the missing number.

240 + _____ = 280

72 ÷ _____ = 18

38 x _____ = 532

_____ − 6,241 = 3,427

D1

Poll your classmates and construct a chart showing how many hours of television were watched by each student for one week.

Find the average.

1) 8, 6, 6, 10, 5

 _____

2) 12¢, 20¢, 22¢

 _____

3) 330, 100, 112, 222

 _____

4) 26, 35, 32, 19, 21, 17

 _____

Ask 10 classmates how often any form of chicken was used in last week's suppers. Make a project for the entire class for the following week. Tabulate Results.

Use this space to start to collect data. However, put your final results and project in your Main Lesson Book.

E1

Draw the following shapes freehand:

Circle

Square

Triangle

Parallelogram (not square)

Divide the circles into the equal sections named above the circle.

2

6

4
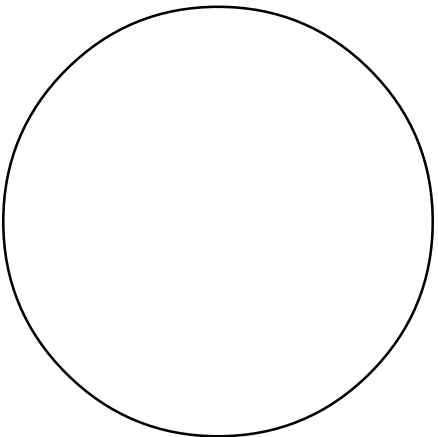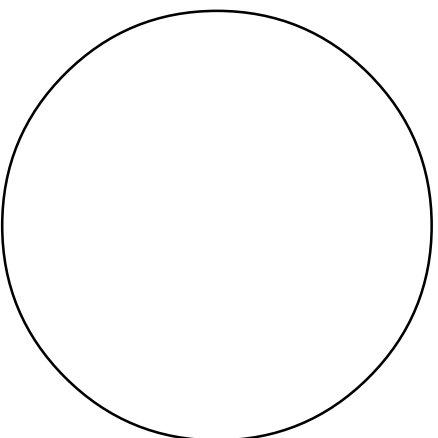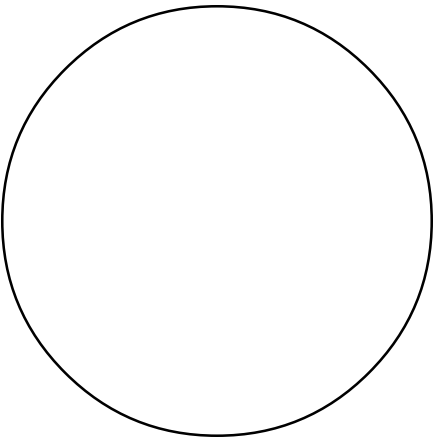
8
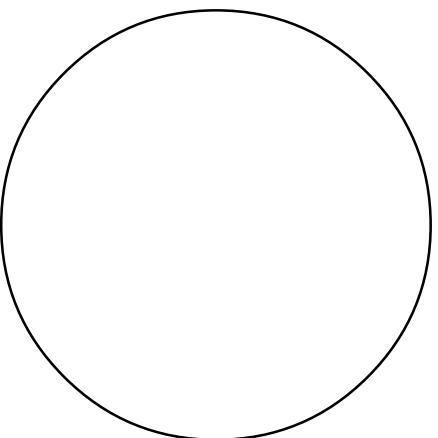
E4

Calculate the perimeters.

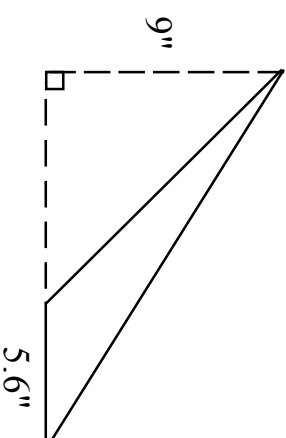square

6"

rectangle

10"

3"
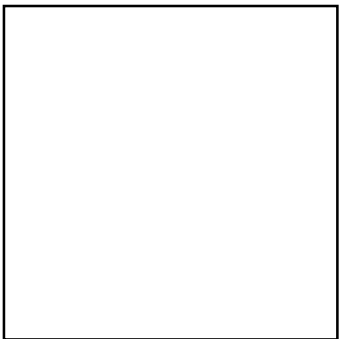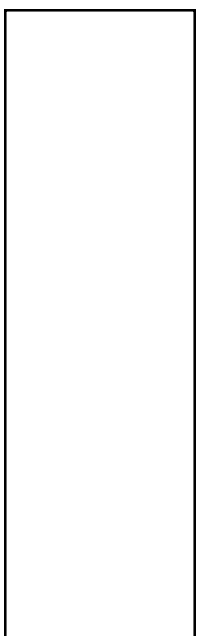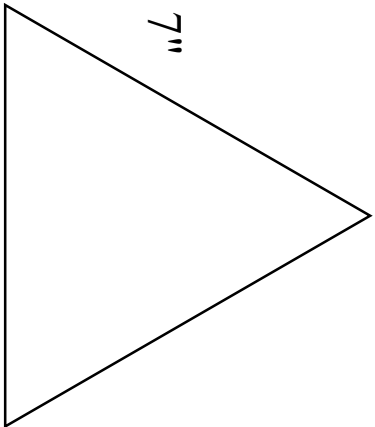
isosceles triangle

7"

circle

5"

$\pi = 3.14$
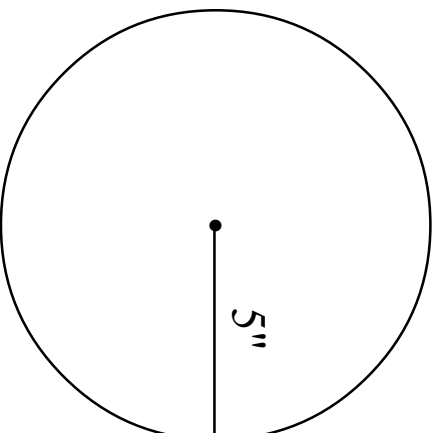
Find the area of each figure.
Give answers in square inches.

5"

2"

10"

12"

9"

9"

9"

27"
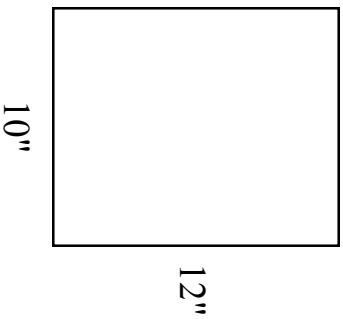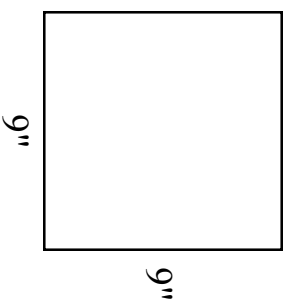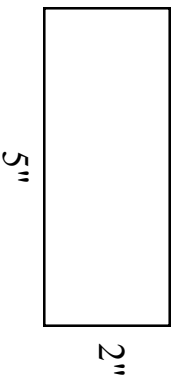
Find the area of each triangle.

10"

10"

27"

30"

11"

5"

9"

5.6"
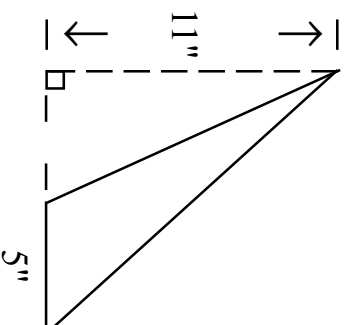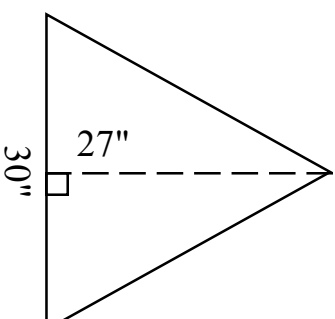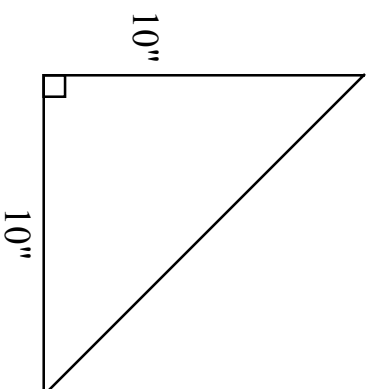
F1

Student is directed to measure 8 preselected objects and record data in LB. e.g., table, chalkboard, cabinet, window (give answers in ft. and inches).

F2

Complete the following:

1) 6 ft = _____ in.

2) 3 ft. 2 in. = _____ in.

3) 2 yd = _____ in.

4) 6 yd 11 in. = _____ in.

5) 3 mi = _____ ft

6) 1 mi 450 ft = _____ ft

7) 84 in. = _____ ft

8) 7 yd 1 ft = _____ ft

F3

Complete the following:

1) 32 oz = _____ lb

2) 4,000 lb = _____ T

3) 4 lb = _____ oz

4) $\frac{1}{2}$ lb = _____ oz

5) $\frac{3}{5}$ T = _____ lb

6) 52 oz = _____ lb _____ oz

7) 6 lb 7 oz = _____ oz

8) 2 $\frac{5}{8}$ lb = _____ oz

F4

Complete the following:

1) 3 pt = _____ c

2) 12 qt = _____ gal

3) 10 pt = _____ qt

4) 3 $\frac{3}{4}$ gal = _____ qt

5) 35 pt = _____ gal

6) 35 c = _____ qt

7) 10 $\frac{1}{2}$ qt = _____ gal

8) 50 fl oz = _____ c

F5

Complete the following:

1) 4 yr = _____ mo

2) _____ min = 6 h

3) 9 days = _____ h

4) 1 hr = _____ sec

5) 38 mo = _____ yr _____ mo

6) 114 wk = _____ yr _____ wk

7) 1 wk = _____ hr

8) 10 yr 6 mo = _____ mo

F7

Name everyday items that hold, weigh or have length close to the following metric measurements. (It may have to be a road or a building.)

1) 2 meters _____

2) 1 gram _____

3) 1 kilogram _____

4) 5 kilometers _____

5) 3 milligrams _____

6) 1 liter _____

7) 200 milliliters _____

8) 3 centimeters _____

F7

Complete the following:

1) List change on an item priced at $3.47 from a $20 bill (from least to largest coins and bills).

2) 400 dimes = _____ dollars?

3) A man wants all quarters from his $10 bill to do laundry. How many quarters do you give him?

4) List change (in order from least to largest, coins then bills) of item priced at $19.27 from $100 bill.