

# McRuffy Third Grade Math Sample

The third grade math program is designed to help students gain insight into the different processes of mathematics. It is a hands-on multi-sensory program. In addition to math skills, students work on a variety of tasks to improve short term memory, auditory skills, visual discrimination skills, and visual analysis skills.

The program consists of the following:

Daily lesson plans

Copy Masters

Student workbook

Basic Facts Mastery Program

Memory Skills Building Program

Manipulative Kit

**Lessons** spiral concepts. A basic concept is taught (such as recognizing numbers 1 to 20). Other unrelated skills are taught. Later, a related skill will build on a previous skill (for example: recognizing numbers 21 to 29). The lesson includes instruction from the teacher, independent practice (work sheets), and auditory exercises. Lessons may be broken down into several days. The number of allotted days is noted by each lesson number. These are suggestions, of course, and teachers may adapt the time frame to fit the needs of the students.

**Basic Facts Drill:** Begin after lesson 16. Directions for introducing, teaching, and testing basic facts are included at the end of the lesson plans. Students progress through a series of drills designed to master basic math facts auditorially and visually. Students progress at their own rates. Students are given timed tests at the end of the session.

**Memory Drills:** These are not only memory exercises, but also visual and auditory discrimination exercises. Students work with other students. The teacher works with at least one student in a session and records his or her progress.

**Puzzle Exercises:** Students work with pentominoes, geoboards, and tangrams to complete puzzles. These help build geometrical reasoning and spatial analysis skills. Students can do the same puzzle many times. Specific puzzles are designated on puzzle days. Puzzles from previous puzzle days can be repeated during student's free time on other days.

# Memory Skills Building Program

## Memory Drill:

**Short Term Memory Cards** are divided into sets of ten cards. You may use fewer cards when introducing a new level or with younger students. Each card has a list of numbers. The sets increase in difficulty by increasing the number of numbers on the cards and the number of digits in each number. Four different drills can be done with these cards. After the first game day, do at least one drill in each session. You may vary the types of drills over a number of sessions. The different drills emphasize different processing skills. The drills are as follows:

**hear-write:** A reader says the numbers on a card. The student listens to all the numbers, then writes them. Repeat for all twenty cards in the set. (auditory to tactile)

**see-write:** A student studies a card and then it is turned away. The student then writes the numbers on the card from memory. Repeat for all twenty cards in the set. (visual to tactile)

**hear-repeat:** A reader says the numbers on a card. The student listens to all the numbers, then repeats them. Continue with the other cards in the set. (auditory to speech)

**see-repeat:** A student studies a card and then it is turned away. The student then repeats the numbers on the card from memory. Continue with the other cards in the set. (visual to speech)

Record the number of cards the student remembered correctly, not the number of numbers. If a student misses even one number on the card it is counted as wrong. These drills do not have to be timed, but they can be. Times may also be recorded. This can be done on notebook paper.

The drills can also be done on a metronome beat. The driller says (or shows) a card, waits five (or other number) beats and the other student writes (or says) the numbers. Even if the students are not timed, they should still be progressing by moving through the drill more quickly. Students move on to a new set of cards after the set they are working on is no longer challenging.

Periodically, a new set is introduced. They become progressively harder. If students are not proficient with a particular set of cards, do not go onto the next set. Introduction of a new card set does not have to (and should not) be introduced at this point if the student has not mastered the current set. The sets increase in difficulty by the following sequence:

Set 1: 3 two-digit numbers.

Set 3: 3 two-digit numbers and 1 one-digit.

Set 5: 1 one-digit number, 2 three-digit.

Set 2: 2 three-digit numbers.

Set 4: 4 two-digit numbers.

Set 6: 1 two-digit number, 2 three-digit.

Visual Memory Picture Cards are cards with diagrams made up of shapes, symbols, numbers, and letters. Students study a card for a short time (usually no more than 1 minute), turn it over, and draw the diagram from memory. Students can then compare their drawing to the card.

Students use the same card each session until they have it mastered (remember all the elements in the correct arrangement two or three sessions in a row). Drawings are correct if all the elements are present and their interrelationships are correct. Drawings do not have to be perfect. Correct drawings should reflect the correct orientation.

For example, if a capital letter is backwards on a card, it should be a capital letter backwards on the drawing. It would be correct even if there were slight differences in the way the letter was made. It would be wrong if the letter was lower-case or not drawn backwards.

The first few times, this exercise is a short-term memory exercise, but as students repeat the same card on different sessions, long term memory becomes involved. Periodically, a new card is introduced. The cards increase in difficulty by increasing the number of items and the relationships between them. Repeat the exercise daily with the same card until the next puzzle day. If students are having difficulty mastering a card, slow down the pace. The assignments on puzzle days are guidelines. But, don't work ahead of the pace. Use previously assigned cards and review them on other days, if students have mastered a card before the next assignment.

### **Puzzle Days:**

The puzzle days provided students with the opportunity to develop spatial reasoning, geometry, problem solving and logic, and visual analysis skills. Puzzles pages are in the workbook. Some geoboard exercises also use dot paper. Copy masters are located in the teacher's manual. Students may also create their own puzzles. Assignments are made on the puzzle days. A file may be established in the classroom so puzzles may be shared. Students can work puzzles at random and may do the same puzzle several times throughout the year. They may also use the same puzzle, but change the difficulty.

### **Varying difficulty of puzzles (easiest to hardest):**

1. Building on top of a sheet with a puzzle.
2. Building on a table while looking at a puzzle.
3. Building a puzzle looking at it on an overhead.
4. Building a puzzle from memory.
5. Building a puzzle while someone describes it to you.

**Geoboard Puzzles** do not use puzzle pieces. The diagrams are created using geoboards and rubber bands.

**The Tangram Puzzles** offer students the opportunity to work with various angles and comparisons between triangles.

**The Pentomino Puzzles** use up to twelve different pieces. Because the pieces are similar, they require (and develop) visual discrimination skills.

## **3<sup>rd</sup> Grade Math Scope and Sequence**

### **Skill 1 Multiplication**

- Lesson 1 Grouping objects
- Lesson 2 Writing problems
- Lesson 3 Writing problems
- Lesson 4 Addition and multiplication

### **Skill 2 Addition**

- Lesson 5 Adding even and odd numbers
- Lesson 6 Adding even and odd numbers
- Lesson 7 Adding two 2-digit numbers
- Lesson 8 Adding two 3-digit numbers (no regrouping)
- Lesson 9 Adding two 3-digit numbers (no regrouping)

Lesson 10 Puzzle Day 1

- Lesson 11 Adding two 3-digit numbers (with regrouping)
- Lesson 12 Adding two 3-digit numbers (with regrouping)
- Lesson 13 Adding multiples of ten
- Lesson 14 Adding multiples of ten

### **Skill 3 Place Value**

- Lesson 15 Thousands
- Lesson 16 Thousands

### **Skill 4 Subtraction**

- Lesson 17 Subtracting two 2-digit numbers with regrouping
- Lesson 18 Subtracting two 2-digit numbers with regrouping
- Lesson 19 Subtracting two 2-digit numbers with regrouping

Lesson 20 Puzzle Day 2 and test review

Lesson 21 Test 1

### **Skill 5 Greater and Less Than**

- Lesson 22 Symbols  $>$  and  $<$
- Lesson 23 Symbols  $>$  and  $<$
- Lesson 24 Symbols  $>$  and  $<$

### **Skill 6 Fractions**

- Lesson 25 Thirds and fourths
- Lesson 26 Fifths, sixths, eighths, etc.
- Lesson 27 Fifths, sixths, eighths, etc.

### **Skill 7 Operational Chains**

- Lesson 28 Problems
- Lesson 29 Problems

Lesson 30 Puzzle Day 3

### **Skill 8 Time**

- Lesson 31 Telling time to the nearest five minutes
- Lesson 32 Estimating times
- Lesson 33 Time to 1 minute

**Skill 9 Addition**

- Lesson 34 Addition problems
- Lesson 35 Adding more than two numbers
- Lesson 36 Adding more than two numbers

**Skill 10 Logic**

- Lesson 37 Random sampling
- Lesson 38 Word problems

Lesson 39 Puzzle Day 4 and test review

Lesson 40 Test 2

**Skill 11 Fractions**

- Lesson 41 Terminology, shaded objects
- Lesson 42 Terminology, shaded objects
- Lesson 43 Terminology, shaded objects

**Skill 12 Subtraction**

- Lesson 44 Two 3-digit numbers
- Lesson 45 Two 3-digit numbers
- Lesson 46 Greater and less than
- Lesson 47 Calculator problems (4 digit)

**Skill 13 Roman Numerals**

- Lesson 48 L (50)
- Lesson 49 L (50)
- Lesson 50 Numerals to 89 (LXXXIX)
- Lesson 51 Numerals to 89 (LXXXIX)
- Lesson 52 Numerals to 89 (LXXXIX)

Lesson 53 Puzzle Day 5

**Skill 14 Area and Perimeter**

- Lesson 54 Perimeter
- Lesson 55 Area
- Lesson 56 Estimating areas

**Skill 15 Money**

- Lesson 57 Coin review & writing monetary amounts
- Lesson 58 Adding money
- Lesson 59 Subtracting money

Lesson 61 Puzzle Day 6 and test review

Lesson 62 Test 3

**Skill 16 Division**

- Lesson 63 Missing Multipliers
- Lesson 64 Division terms
- Lesson 65 Fact families
- Lesson 66 Dividing by 1 and quotients = 1
- Lesson 67 Dividing by 2
- Lesson 68 Dividing by 3
- Lesson 69 Dividing by 1,2,3 and quotients = 1
- Lesson 70 Dividing by 1,2,3 and quotients = 1

Lesson 71 Puzzle Day 7

**Skill 17 Graphing**

- Lesson 72 Making a graph
- Lesson 73 Reading graphs

**Skill 18 Fractions**

- Lesson 74 Review
- Lesson 75 Adding
- Lesson 76 Adding
- Lesson 77 Adding
- Lesson 78 Subtracting
- Lesson 79 Subtracting
- Lesson 80 Subtracting

Lesson 81 Puzzle Day 8 and test review

Lesson 82 Test 4

**Skill 19 Division**

- Lesson 83 Basic Facts 4
- Lesson 84 Basic Facts 4
- Lesson 85 Basic Facts 5
- Lesson 86 Basic Facts 5

**Skill 20 Logic**

- Lesson 87 Time story problems
- Lesson 88 Attribute chains
- Lesson 89 Attribute triangles
- Lesson 90 Attribute triangles

Lesson 91 Puzzle Day 9

**Skill 21 Rounding numbers**

- Lesson 92 Rounding to the nearest ten
- Lesson 93 Rounding to the nearest ten
- Lesson 94 Estimating answers to addition and subtraction problems
- Lesson 95 Estimating answers to addition and subtraction problems
- Lesson 96 Estimating answers to addition and subtraction problems

**Skill 22 Roman Numerals**

- Lesson 97 C (Numerals 90-100)
- Lesson 98 Numerals to 199 (CXCIX)
- Lesson 99 Numerals to 199 (CXCIX)
- Lesson 100 Numerals to 399 (CCCXCIX)

Lesson 101 Puzzle Day 10 and test review

**Lesson 102 Test 5**

**Skill 23 Division**

- Lesson 103 Basic Facts 6
- Lesson 104 Basic Facts 6
- Lesson 105 Basic Facts 7
- Lesson 106 Basic Facts 7

**Skill 24 Multiplication Activities**

- Lesson 107 Multiplying tens by ten
- Lesson 108 Squaring numbers
- Lesson 109 Numbers cubed
- Lesson 110 Two-digit squares ending with 5
- Lesson 111 Two-digit squares ending with 5

Lesson 112 Puzzle Day 11

- Lesson 113 Two-digit squares ending with 0
- Lesson 114 Two-digit numbers x one-digit numbers
- Lesson 115 Two-digit numbers x one-digit numbers
- Lesson 116 Associative property
- Lesson 117 Associative property
- Lesson 118 Estimating answers
- Lesson 119 Estimating answers
- Lesson 120 Multiplication word problems
- Lesson 121 Multiplication word problems

Lesson 122 Puzzle Day and test review

Lesson 123 Test 6

- Lesson 124 Multiplication table 124-128
- Lesson 125 Inequalities
- Lesson 126 Inequalities
- Lesson 127 Mixed problems
- Lesson 128 Mixed problems
- Lesson 129 Multiplication Facts10
- Lesson 130 Multiplication Facts11
- Lesson 131 Multiplication Facts12

Lesson 132 Puzzle Day 13

**Skill 25 Division**

- Lesson 133 Basic Facts 8
- Lesson 134 Basic Facts 8
- Lesson 135 Basic Facts 9
- Lesson 136 Basic Facts 9
- Lesson 137 Basic Facts 10
- Lesson 138 Basic Facts 10

Lesson 139 Puzzle Day 139 and test review

Lesson 140 Test 7

**Skill 26 Coordinates**

- Lesson 141 Introduction
- Lesson 142 Plotting points

**Skill 27 Geometry**

- Lesson 143 Adding and subtracting areas

**Skill 28 Fractions**

- Lesson 144 Fractions equal to 1
- Lesson 145 Fractions equal to 1
- Lesson 146 Multiplying fractions by whole numbers
- Lesson 147 Multiplying fractions by whole numbers
- Lesson 148 Multiplying fractions
- Lesson 149 Multiplying fractions
- Lesson 150 Changing fractions
- Lesson 151 Addition and Subtraction

Lesson 152 Puzzle Day 15

**Skill 29 Logic**

- Lesson 153 Attribute squares
- Lesson 154 Recognizing attributes

**Skill 30 Roman Numerals**

- Lesson 155 D Numerals to 899 (DCCCXCIX)
- Lesson 156 D Numerals to 899 (DCCCXCIX)
- Lesson 157 (M) Numerals in the thousands
- Lesson 158 (M) Numerals in the thousands

Lesson 159 Puzzle Day 30 test review

Lesson 160 Test 8

**Review sequence on worksheets**

Lessons 1-4	Addition basic facts	Lessons 93-96	divisor Divisors 2, 3
Lessons 5-9	Subtraction basic facts	Lessons 97-100	Fractions (adding and subtracting)
Lessons 11-13	Skip counting	Lessons 103-106	Multiplication 1 to 11
Lessons 14-17	Multiplication facts 0,1,2,3	Lessons 107-108	Rounding to the nearest 10
Lesson 18	Odd & Even	Lessons 109-111	Adding and subtracting money amounts
Lessons 19, 22-24	Adding two 3-digit numbers	Lessons 113-116	Roman numerals to 399
Lessons 25-29	Subtraction two 3-digit numbers	Lessons 117-119	Perimeter and area
Lessons 31-36	Multiplication Facts 4,5,6	Lessons 120-121	Multiplying two digit numbers
Lessons 37-38	Greater than, Less than	Lessons 124-127	Divisors 4,5
Lessons 41-43	Time	Lessons 128-131	Divisors 6,7
Lessons 44-47	Adding more than two numbers	Lessons 133-134	Fractions (adding, subtracting, multiplying)
Lessons 48-52	Fractions	Lessons 135-138	Multiplication 1-digit x 2-digit numbers
Lessons 54-58	Multiplication 7,8,9	Lessons 141-142	Addition and subtraction (4-digit)
Lessons 59-60	Place value	Lessons 143-145	Roman numerals to 399
Lessons 63-64	Perimeter	Lessons 146-147	Measuring in centimeters
Lessons 65-66	Area	Lesson 148	Measuring in inches
Lessons 67-70	Roman numerals to 89	Lessons 149-151	Division Facts 8 to 10
Lessons 72-73	Adding monetary amounts	Lessons 153-154	Perimeter and Area
Lessons 74-75	Subtracting monetary amounts	Lessons 155-156	Addition and Subtraction
Lessons 76-77	Multiplying by 10	Lessons 157-158	Adding, subtracting, and multiplying fractions
Lessons 78-79	Multiplying by 11		
Lesson 80	Multiplying by 10 & 11		
Lessons 83-84	Time		
Lessons 85-86	Money (counting coins)		
Lessons 87-88	Addition more than 2 numbers		
Lessons 89-90	Subtraction two 4-digit numbers		
Lessons 92	Division by 1, Quotients =		

## Lesson 6

### Objectives

1. Students will add even and odd numbers.
2. Students will review basic subtraction facts.

### Materials

- \* Number cards 1 to 20

### Teaching

1. Have students sort the cards into odd and even numbers. If both addends are even, the sum will be even. Review the rules for predicting odd and even sums. If both addends are odd, the sum will be even. If one addend is odd and one even, the sum will be odd.

**Worksheet 6 part 1** Students will solve the problems. In the boxes next to the problems write an O if the number is odd and E if the number is even. There are boxes for the addends and the sums.

Auditory Exercise Odd/Even:

**In this exercise, I will say an addition problem. Do not write the sum. Instead, on the answer form write an O if the sum will be an odd number. Write an E if the sum will be even. Remember that if both addends are even, the sum will be even. If both addends are odd the sum will be even. If one addend is odd and the other addend is even, the sum will be odd. Remember to write an O or an E in the box. Let's begin:**

**A.  $4+8$ , B.  $1+6$ , C.  $3+8$ , D.  $5+9$ , E.  $15+17$**

**This is the end of the auditory exercise.**

2. Students will review basic subtraction facts on part 2 of the worksheet.

## Lesson 7

### Objectives

1. Students will add two-digit numbers with regrouping.
2. Students will review basic subtraction facts.

### Materials

- \* Base ten cubes (18) and rods (9) of each per student or group

### Teaching

1. Have students regroup using rods and cubes. Start with this example.  $15 + 39 = ?$ .

Students will show fifteen using rods and cubes (1 rod, 5 cubes) and twenty-nine (3 rods, 9 cubes). Have students form a group of rods and a group of cubes. The students will then exchange 10 of the cubes for an additional rod. Students should count the left over cubes (4). These represent the ones place in the answer. Students should count the rods (5). These represent the tens place in the answer. The answer is 54.

In this problem, we regrouped the ones. Anytime the sum is ten or more, you have to regroup and carry into the next place value. We regrouped the ones and carried the ten into the tens column.

Worksheet 7 part 1 Students will answer the problems. Students should be able to demonstrate the answers using rods and cubes.

### Auditory Exercise Regrouping

**In this exercise, I will say an addition problem. Do not write the sum. Instead, on the answer form write an R if you have to regroup the ones. Write an N if you will not regroup the ones. Remember to write an R or an N in the box. Let's begin:**

**A.  $5+8$ , B.  $1+7$ , C.  $6+4$ , D.  $15+9$ , E.  $21+33$**

2. Students will review basic subtraction facts on part 2 of the worksheet.

## Lesson 8

### Objectives

1. Students will add two three-digit numbers.
2. Students will review basic subtraction facts.

### Materials

- \* Base ten rods, cubes, flats
- \* Base ten mat (hundreds, tens, ones)

### Teaching

1. Review adding two two-digit numbers using cubes and rods. Start with the problem  $32 + 41$ . Have students make the two groups on the base ten mat. Review with other problems if necessary. For this lesson we will not regroup, so choose problems that do not involve regrouping. Point out the new column.

Ask the children if they know what the new column is for. (Hundreds) Show the children the hundreds flat. Have the children cover the flat using rods.

Ask: **How many rods does it take to cover the big square?** Ask the children to guess how many cubes it would take to cover the square. Introduce the name hundreds flat. Have the children work the problem these five problems using flats, rods, and cubes:

**284+103, 268+121, 326+261, 450+329, 163+712**

**Auditory Exercise:** Next, have students solve the problems. Students should write only the answers in the boxes on the worksheet.

**In this exercise I will say addition problems. Write the sums.** (Pause after each problem)

**A. 2+5, B. 3+6, C. 1+7, D. 0+9, E. 4+2, F. 3+3, G. 5+3, H. 1+8, I. 2+7, J. 6+1**

Worksheet 8 part 1 The student will solve the problems.

2. Students will review basic subtraction facts on part 2 of the worksheet.

## Lesson 9

### Objectives

1. Students will add two three-digit numbers.
2. Students will review basic subtraction facts.

### Materials

- \* Base ten rods, cubes, flats
- \* Base ten mat (hundreds, tens, ones)

### Teaching

1. Review adding two three-digit numbers. Use flats, rods, and cubes. Have students work the following five problems:

**843+131, 236+542, 407+302, 724+143, 563+315**

**Auditory Exercise:** Next, have students solve the problems. Students should write only the answers in the boxes on the worksheet.

**In this exercise I will say addition problems. Write the sums.** (Pause after each problem)

**A. 3+4, B. 7+8, C. 5+5, D. 9+9, E. 6+2, F. 1+9, G. 9+7, H. 5+8, I. 7+2, J. 8+6**

**Worksheet 9 part 1** The student will solve the problems.

2. Students will review basic subtraction facts on part 2 of the worksheet.

## Lesson 10 Puzzle Day 1

### Materials

- \* Equipment: Geoboards, rubber bands, 20 dot geoboard paper (copy master) 1 copy per student.
- \* Puzzle Sheet: Geoboard sheet (located in the workbook)

Students make four designs using geoboards. Start with design A. Students put rubber bands around the pins to represent the lines. Next, remove the sheet from sight.

Give the student the 20 dot geoboard paper. Students redraw the diagram on the paper by looking at the geoboard. Four dots are missing. Students have to estimate where the lines stop on those pins. Students are **not** allowed to draw in the missing dots.

### Memory Cards

#### Materials

- \* Short Term Memory cards level 3 set 1.

Cut apart the set of ten cards. They are printed ten cards per page. Cut apart the card set. Set one features 3 two-digit numbers per card.

Refer to the Memory Skills Building Program section of the Teacher's Manual for more information, but the following has been simplified for this lesson. Start with the following drill for this day:

**see-repeat:** A student studies a card and then it is turned away. The student then repeats the numbers on the card from memory. Continue with the other cards in the set. (visual to speech)

Continue the memory drill as a part of the daily routine in future lessons. You may vary the exercise by one of the other three drills on other days:

**hear-write:** A reader says the numbers on a card. The student listens to all the numbers, then writes them. Repeat for all twenty cards in the set. (auditory to tactile)

**see-write:** A student studies a card and then it is turned away. The student then writes the numbers on the card from memory. Repeat for all twenty cards in the set. (visual to tactile)

**hear-repeat:** A reader says the numbers on a card. The student listens to all the numbers, then repeats them. Continue with the other cards in the set. (auditory to speech)

#### Visual Memory Picture Card 1

Students study the design for 30 seconds. The card is removed and the student draws the objects on the card from memory. Continue this activity daily.

# Sample Answer Page

## Worksheet 5

<sup>A</sup> E	<sup>B</sup> E	<sup>C</sup> O	<sup>D</sup> E	<sup>E</sup> O
<sup>F</sup> O	<sup>G</sup> E	<sup>H</sup> E	<sup>I</sup> O	<sup>J</sup> E

$$\begin{array}{r} 26 \text{ E} \\ + 53 \text{ O} \\ \hline 79 \text{ O} \end{array}$$

$$\begin{array}{r} 19 \text{ O} \\ + 60 \text{ E} \\ \hline 79 \text{ O} \end{array}$$

$$\begin{array}{r} 42 \text{ E} \\ + 14 \text{ E} \\ \hline 56 \text{ E} \end{array}$$

Part 1

$$\begin{array}{r} 45 \text{ O} \\ + 31 \text{ O} \\ \hline 76 \text{ E} \end{array}$$

$$\begin{array}{r} 34 \text{ E} \\ + 55 \text{ O} \\ \hline 89 \text{ O} \end{array}$$

$$\begin{array}{r} 17 \text{ O} \\ + 41 \text{ O} \\ \hline 58 \text{ E} \end{array}$$

$$\begin{array}{r} 18 \quad 10 \quad 8 \quad 5 \quad 11 \quad 15 \quad 7 \quad 16 \\ -9 \quad -5 \quad -1 \quad -3 \quad -7 \quad -6 \quad -2 \quad -8 \\ \hline 9 \quad 5 \quad 7 \quad 2 \quad 4 \quad 9 \quad 5 \quad 8 \end{array}$$

Part 2

$12 - 6 = \underline{6}$

$15 - 7 = \underline{8}$

## Worksheet 6

<sup>A</sup> E	<sup>B</sup> O	<sup>C</sup> O	<sup>D</sup> E	<sup>E</sup> E
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$$\begin{array}{r} 34 \text{ E} \\ + 34 \text{ E} \\ \hline \text{E} \end{array}$$

$$\begin{array}{r} 57 \text{ O} \\ + 21 \text{ O} \\ \hline \text{E} \end{array}$$

$$\begin{array}{r} 45 \text{ O} \\ + 12 \text{ E} \\ \hline \text{O} \end{array}$$

Part 1

$$\begin{array}{r} 63 \text{ O} \\ + 22 \text{ E} \\ \hline \text{O} \end{array}$$

$$\begin{array}{r} 54 \text{ E} \\ + 32 \text{ E} \\ \hline \text{E} \end{array}$$

$$\begin{array}{r} 85 \text{ O} \\ + 13 \text{ O} \\ \hline \text{E} \end{array}$$

$$\begin{array}{r} 14 \quad 17 \quad 6 \quad 13 \quad 5 \quad 12 \quad 2 \quad 4 \\ -7 \quad -9 \quad -5 \quad -4 \quad -5 \quad -6 \quad -1 \quad -2 \\ \hline 7 \quad 8 \quad 1 \quad 9 \quad 0 \quad 6 \quad 1 \quad 2 \end{array}$$

Part 2

$7 - 5 = \underline{2}$

$10 - 2 = \underline{8}$

## Worksheet 7

<sup>A</sup> R	<sup>B</sup> N	<sup>C</sup> R	<sup>D</sup> R	<sup>E</sup> N
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$$\begin{array}{r} 28 \quad 73 \quad 36 \quad 54 \quad 46 \\ +37 \quad +19 \quad +36 \quad +27 \quad +18 \\ \hline 65 \quad 92 \quad 72 \quad 81 \quad 64 \end{array}$$

Part 1

$$\begin{array}{r} 44 \quad 61 \quad 58 \quad 29 \quad 35 \\ +18 \quad +29 \quad +27 \quad +55 \quad +38 \\ \hline 62 \quad 90 \quad 85 \quad 84 \quad 73 \end{array}$$

$$\begin{array}{r} 8 \quad 10 \quad 12 \quad 14 \quad 16 \quad 18 \quad 15 \quad 13 \\ -8 \quad -4 \quad -7 \quad -8 \quad -8 \quad -9 \quad -6 \quad -5 \\ \hline 0 \quad 6 \quad 5 \quad 6 \quad 8 \quad 9 \quad 9 \quad 8 \end{array}$$

Part 2

$11 - 8 = \underline{3}$

$9 - 4 = \underline{5}$

## Worksheet 8

<sup>A</sup> 7	<sup>B</sup> 9	<sup>C</sup> 8	<sup>D</sup> 9	<sup>E</sup> 6
<sup>F</sup> 6	<sup>G</sup> 8	<sup>H</sup> 9	<sup>I</sup> 9	<sup>J</sup> 7

$$\begin{array}{r} 163 \quad 105 \quad 352 \quad 648 \quad 470 \\ + 223 \quad + 494 \quad + 514 \quad + 331 \quad + 215 \\ \hline 386 \quad 599 \quad 866 \quad 979 \quad 685 \end{array}$$

Part 1

$$\begin{array}{r} 716 \quad 445 \quad 632 \quad 183 \quad 368 \\ + 282 \quad + 444 \quad + 352 \quad + 204 \quad + 410 \\ \hline 998 \quad 889 \quad 984 \quad 387 \quad 778 \end{array}$$

$$\begin{array}{r} 17 \quad 2 \quad 16 \quad 4 \quad 15 \quad 6 \quad 14 \quad 8 \\ -8 \quad -2 \quad -9 \quad -4 \quad -6 \quad -5 \quad -8 \quad -3 \\ \hline 9 \quad 0 \quad 7 \quad 0 \quad 9 \quad 1 \quad 6 \quad 5 \end{array}$$

Part 2

$9 - 8 = \underline{1}$

$10 - 6 = \underline{4}$

# Worksheet 6

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A	B	C	D	E
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$$\begin{array}{r} 34 \square \\ + 34 \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 57 \square \\ + 21 \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 45 \square \\ + 12 \square \\ \hline \square \end{array}$$

Part 1

$$\begin{array}{r} 63 \square \\ + 22 \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 54 \square \\ + 32 \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 85 \square \\ + 13 \square \\ \hline \square \end{array}$$

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Part 2

14	17	6	13	5	12	2	4
<u>- 7</u>	<u>- 9</u>	<u>- 5</u>	<u>- 4</u>	<u>- 5</u>	<u>- 6</u>	<u>- 1</u>	<u>- 2</u>

$7 - 5 = \underline{\quad}$

$10 - 2 = \underline{\quad}$

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A
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B
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C
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D
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E
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$$\begin{array}{r} 28 \\ +37 \\ \hline \end{array}$$

$$\begin{array}{r} 73 \\ +19 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ +36 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ +27 \\ \hline \end{array}$$

$$\begin{array}{r} 46 \\ +18 \\ \hline \end{array}$$

$$\begin{array}{r} 44 \\ +18 \\ \hline \end{array}$$

$$\begin{array}{r} 61 \\ +29 \\ \hline \end{array}$$

$$\begin{array}{r} 58 \\ +27 \\ \hline \end{array}$$

$$\begin{array}{r} 29 \\ +55 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ +38 \\ \hline \end{array}$$

Part 1

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$$\begin{array}{r} 8 \\ -8 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ -7 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ -8 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ -5 \\ \hline \end{array}$$

Part 2

$$11 - 8 = \underline{\quad\quad\quad} \quad 9 - 4 = \underline{\quad\quad\quad}$$

# Worksheet 8

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A	B	C	D	E
F	G	H	I	J

$\begin{array}{r} 163 \\ + 223 \\ \hline \end{array}$	$\begin{array}{r} 105 \\ + 494 \\ \hline \end{array}$	$\begin{array}{r} 352 \\ + 514 \\ \hline \end{array}$	$\begin{array}{r} 648 \\ + 331 \\ \hline \end{array}$	$\begin{array}{r} 470 \\ + 215 \\ \hline \end{array}$
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Part 1

$\begin{array}{r} 716 \\ + 282 \\ \hline \end{array}$	$\begin{array}{r} 445 \\ + 444 \\ \hline \end{array}$	$\begin{array}{r} 632 \\ + 352 \\ \hline \end{array}$	$\begin{array}{r} 183 \\ + 204 \\ \hline \end{array}$	$\begin{array}{r} 368 \\ + 410 \\ \hline \end{array}$
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Part 2

$\begin{array}{r} 17 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 3 \\ \hline \end{array}$
----------------------------------------------------	---------------------------------------------------	----------------------------------------------------	---------------------------------------------------	----------------------------------------------------	---------------------------------------------------	----------------------------------------------------	---------------------------------------------------

$9 - 8 = \underline{\quad}$        $10 - 6 = \underline{\quad}$

A	B	C	D	E
F	G	H	I	J

$\begin{array}{r} 855 \\ + 123 \\ \hline \end{array}$	$\begin{array}{r} 128 \\ + 531 \\ \hline \end{array}$	$\begin{array}{r} 241 \\ + 217 \\ \hline \end{array}$	$\begin{array}{r} 627 \\ + 250 \\ \hline \end{array}$	$\begin{array}{r} 700 \\ + 200 \\ \hline \end{array}$
-------------------------------------------------------	-------------------------------------------------------	-------------------------------------------------------	-------------------------------------------------------	-------------------------------------------------------

Part 1

$\begin{array}{r} 333 \\ + 333 \\ \hline \end{array}$	$\begin{array}{r} 429 \\ + 150 \\ \hline \end{array}$	$\begin{array}{r} 278 \\ + 511 \\ \hline \end{array}$	$\begin{array}{r} 881 \\ + 118 \\ \hline \end{array}$	$\begin{array}{r} 946 \\ + 33 \\ \hline \end{array}$
-------------------------------------------------------	-------------------------------------------------------	-------------------------------------------------------	-------------------------------------------------------	------------------------------------------------------

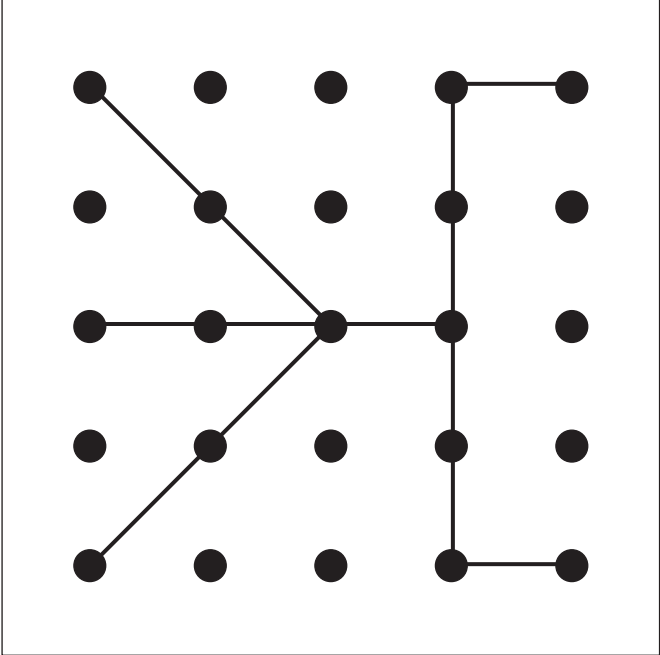
$\begin{array}{r} 10 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ - 9 \\ \hline \end{array}$
----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------

Part 2

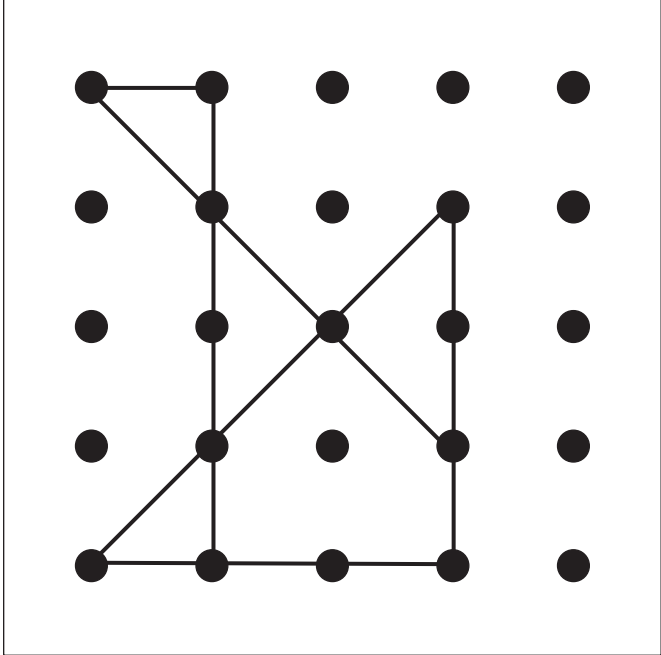
$$8 - 5 = \underline{\quad\quad}$$

$$7 - 6 = \underline{\quad\quad}$$

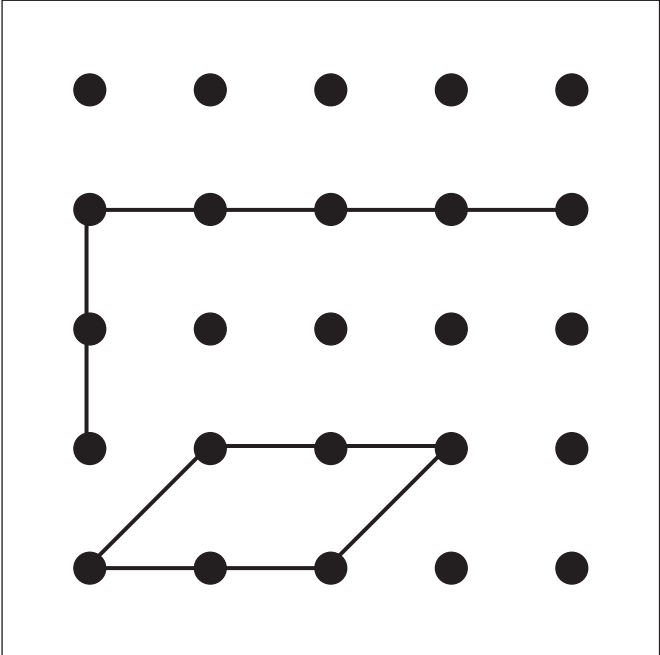
Puzzle Day 1  
Geoboard



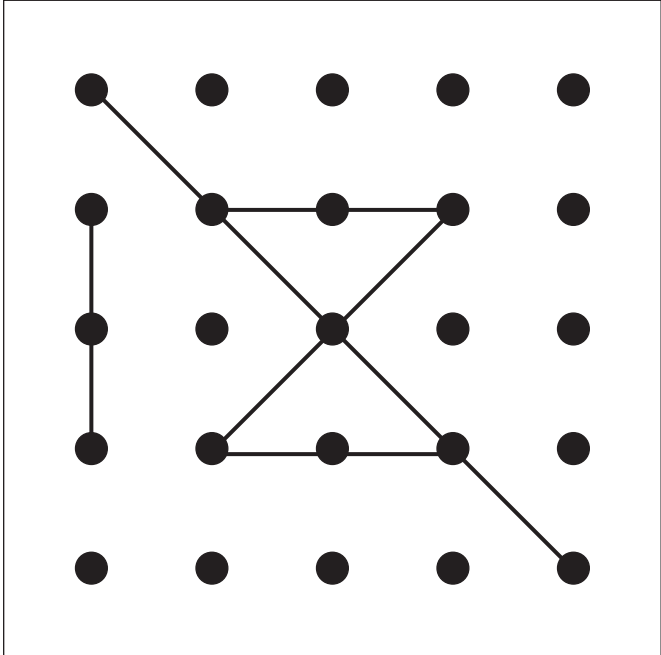
A



B



C



D