

The pages in this Practice Book can be assigned in order to provide practice with key skills during each unit of the Bridges in Mathematics curriculum. The pages can also be used with other elementary math curricula. If you are using this Practice Book with another curriculum, use the tables of pages grouped by skill (iii-xi) to assign pages based on the skills they address, rather than in order by page number.

## Bridges in Mathematics Grade 3 Practice Book Blacklines

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Bridses in Mathematics is a standards-based K-5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

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## Practice Books

The student blacklines in this packet are also available as a pre-printed student book.


Bridges Practice Books
Single Copy
B3PB
Pack of 10
B3PB10

For pricing or to order please call 1800 575-8130.


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## 勺ห

## Bridges in Mathematics Grade 3 Practice Book Blacklines

There are 140 blacklines in this document, designed to be photocopied to provide third grade students with practice in key skill areas, including:

- place value and rounding
- multi-digit addition and subtraction
- basic multiplication and division
- multiplication beyond the basic facts
- computational estimation
- representing, comparing, and ordering fractions
- solving equations
- fractions
- geometry
- length, weight, capacity, perimeter
- time and money
- graphing
- problem solving

This set of blacklines also includes the following materials for the teacher:

- This introduction
- A complete listing of the student pages grouped by skill (see pages iii-xi)
- Answer Keys (see pages xi-xxviii)

Note These teacher materials are not included in the bound student version of the Practice Book, which is sold separately.

While the Practice Book pages are not integral to the Bridges Grade 3 program, they may help you better address the needs of some or all of your students, as well as the grade-level expectations in your particular state. The Practice Book pages may be assigned as seatwork or homework after Bridges sessions that don't include Home Connections. These pages may also serve as a source of:

- skill review
- informal paper-and-pencil assessment
- preparation for standardized testing
- differentiated instruction

Every set of 10 pages has been written to follow the instruction in roughly half a Bridges unit. Practice pages 1-10 can be used anytime after Unit One, Session 10; pages 11-20 can be used anytime after Unit One, Session 20; and so on. (There are only 10 pages to accompany Units 7 and 8 because these are shorter units, usually taught toward the end of the school year.) Recommended timings are noted at the top of each page. If you are using this Practice Book with another curriculum, use the lists that follow to assign pages based on the skills they address.

## Grade 3 Practice Book Introduction (cont.)

Many even-numbered pages go naturally with the odd-numbered pages that immediately precede them. Between pages 41 and 60, for example, you'11 see that many of the odd-numbered pages define key geometry terms, which students must use on the following even-numbered page. In these cases, it makes good sense to assign the two pages together so that students can refer to the definitions. Before sending any page home, review it closely and then read over it with your students to address confusion and define unfamiliar terms in advance. Some of the problems on certain pages have been marked with a Challenge icon. These problems may not be appropriate for all the students in your classroom; consider assigning them selectively.

## Grade 3 Practice Book Pages Grouped by Skill

| PLACE VALUE: READING, WRITING, COMPARING \& ORDERING NUMBERS |  |  |
| :--- | :--- | :--- |
| Page Title | Page Number | Recommended Timing |
| Numbers in the Hundreds | 3 | Anytime after Bridges Unit 1, Session 10 |
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| Expanded Notation: 3-Digit Numbers | 21 | Anytime after Bridges Unit 2, Session 15 |
| Place Value Practice: 3-Digit Numbers | 23 | Anytime after Bridges Unit 2, Session 15 |
| Place Value: Four-Digit Numbers | 97 | Anytime after Bridges Unit 5, Session 20 |
| Expanded Form \& Rounding Review | 131 | Anytime after Bridges Unit 8, Session 10 |


| ROUNDING |  |  |
| :--- | :--- | :--- |
| Page Title | Page Number | Recommended Timing |
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| Rounding to the Nearest Hundred | 86 | Anytime after Bridges Unit 5, Session 10 |
| Rounding to Estimate the Sum | 87 | Anytime after Bridges Unit 5, Session 10 |
| Round, Estimate \& Find the Sum | 89 | Anytime after Bridges Unit 5, Session 10 |
| Rounding to the Nearest Ten, Hundred \& Thousand | 91 | Anytime after Bridges Unit 5, Session 20 |
| Round \& Subtract | 93 | Anytime after Bridges Unit 5, Session 20 |
| Rounding Review | 95 | Anytime after Bridges Unit 5, Session 20 |
| Estimate Before You Subtract | 99 | Anytime after Bridges Unit 5, Session 20 |
| Expanded Form \& Rounding Review | 131 | Anytime after Bridges Unit 8, Session 10 |

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| Missing Numbers Fill-In | 7 | Anytime after Bridges Unit 1, Session 10 |
| Related Addition \& Subtraction Facts | 9 | Anytime after Bridges Unit 1, Session 10 |
| More Related Addition \& Subtraction Facts | 27 | Anytime after Bridges Unit 2, Session 15 |
| Addition \& Subtraction Practice | 29 | Anytime after Bridges Unit 2, Session 15 |
| Addition \& Subtraction Review | 81 | Anytime after Bridges Unit 5, Session 10 |
| Rounding Review | 95 | Anytime after Bridges Unit 5, Session 20 |

## Practice Book

## Grade 3 Practice Book Pages Grouped by Skill (cont.)

| MULTI-DIGIT ADDITION \& SUBTRACTION |  |  |
| :---: | :---: | :---: |
| Page Title | Page Number | Recommended Timing |
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| Writing Multiplication Equations | 24 | Anytime after Bridges Unit 2, Session 15 |
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| More Related Addition \& Subtraction Facts | 27 | Anytime after Bridges Unit 2, Session 15 |
| Addition \& Subtraction Practice | 29 | Anytime after Bridges Unit 2, Session 15 |
| Patterns \& Sums | 31 | Anytime after Bridges Unit 2, Session 30 |
| Adding Money Amounts | 32 | Anytime after Bridges Unit 2, Session 30 |
| Double-Digit Addition | 33 | Anytime after Bridges Unit 2, Session 30 |
| Using the Number Line to Find Differences | 36 | Anytime after Bridges Unit 2, Session 30 |
| Double-Digit Subtraction | 38 | Anytime after Bridges Unit 2, Session 30 |
| Target Practice | 39 | Anytime after Bridges Unit 2, Session 30 |
| Subtraction Problems | 40 | Anytime after Bridges Unit 2, Session 30 |
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| Operations Review: Add, Subtract, Multiply \& Divide | 123 | Anytime after Bridges Unit 7, Session 20 |
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| Shopping Problems | 129 | Anytime after Bridges Unit 7, Session 20 |
| Add, Subtract \& Multiply | 137 | Anytime after Bridges Unit 8, Session 10 |

## Practice Book

Grade 3 Practice Book Pages Grouped by Skill (cont.)

MULTI-DIGIT ADDITION \& SUBTRACTION WORD PROBLEMS

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| More Subtraction Problems | 53 | Anytime after Bridges Unit 3, Session 15 |
| Andrea, Erica \& Joe Go Shopping | 80 | Anytime after Bridges Unit 4, Session 24 |
| Rounding to Estimate the Sum | 87 | Anytime after Bridges Unit 5, Session 10 |
| Reasonable Estimates | 90 | Anytime after Bridges Unit 5, Session 10 |
| Estimates \& Exact Answers | 96 | Anytime after Bridges Unit 5, Session 20 |
| Flora's Book \& Greg's TV | 98 | Anytime after Bridges Unit 5, Session 20 |
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| Money \& Chair Problems | Anytime after Bridges Unit 6, Session 18 |  |
| Shopping Problems | Anytime after Bridges Unit 7, Session 20 |  |

## MULTIPLICATION \& DIVISION CONCEPTS

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| Eyes, Ears \& Whiskers | 16 | Anytime after Bridges Unit 1, Session 20 |
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| More Multiplication Story Problems | 66 | Anytime after Bridges Unit 4, Session 11 |
| Seconds \& Minutes | 68 | Anytime after Bridges Unit 4, Session 11 |
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| Frank the Fros \& Bob the Beetle | 72 | Anytime after Bridges Unit 4, Session 24 |
| More Multiplication Arrays | 73 | Anytime after Bridges Unit 4, Session 24 |

## Practice Book

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| More Multiplication Arrays | 73 | Anytime after Bridges Unit 4, Session 24 |
| Missing Numbers \& Fact Families | 75 | Anytime after Bridges Unit 4, Session 24 |
| More Missing Numbers \& Fact Families | 77 | Anytime after Bridges Unit 4, Session 24 |
| Products \& Sums | 79 | Anytime after Bridges Unit 4, Session 24 |
| Multiplication Review | 83 | Anytime after Bridges Unit 5, Session 10 |
| Division \& Fractions | 105 | Anytime after Bridges Unit 6, Session 10 |
| More Division \& Fractions | 109 | Anytime after Bridges Unit 6, Session 10 |
| Multiplication, Division \& Perimeter Practice | 119 | Anytime after Bridges Unit 6, Session 18 |
| Multiplying \& Dividing | 121 | Anytime after Bridges Unit 7, Session 20 |
| Operations Review: Add, Subtract, Multiply \& Divide | Anytime after Bridges Unit 7, Session 20 |  |
| Basic Multiplication \& Division Review | Anytime after Bridges Unit 8, Session 10 |  |
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| Multiplying \& Dividing | 121 | Anytime after Bridges Unit 7, Session 20 |
| Larger Multiplication | 122 | Anytime after Bridges Unit 7, Session 20 |
| Even More Multiplication Story Problems | 124 | Anytime after Bridges Unit 7, Session 20 |
| Lemonade \& Bracelets | 127 | Anytime after Bridges Unit 7, Session 20 |
| Add, Subtract \& Multiply | 137 | Anytime after Bridges Unit 8, Session 10 |
| Multiplying Two-Digit by One-Digit Numbers | 138 | Anytime after Bridges Unit 8, Session 10 |

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| Cats \& Kittens | 76 | Anytime after Bridges Unit 4, Session 24 |
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| Even More Multiplication Story Problems | 124 | Anytime after Bridges Unit 7, Session 20 |
| Lemonade \& Bracelets | 127 | Anytime after Bridses Unit 7, Session 20 |
| Pencils \& Cupcakes (challenge) | 128 | Anytime after Bridges Unit 7, Session 20 |

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| Page Title | Page Number | Recommended Timing |
| :--- | :--- | :--- |
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| Reasonable Estimates | 90 | Anytime after Bridges Unit 5, Session 10 |
| Close Estimates | 92 | Anytime after Bridges Unit 5, Session 20 |
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| Page Title | Page Number | Recommended Timing |
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| Fraction Review | 133 | Anytime after Bridges Unit 8, Session 10 |

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Grade 3 Practice Book Pages Grouped by Skill (cont.)

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| Page Title | Page Number | Recommended Timing |
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| Sandwich Fractions | 108 | Anytime after Bridges Unit 6, Session 10 |
| Sophie's Marbles \& Ricky's Fish | 110 | Anytime after Bridges Unit 6, Session 10 |
| Fraction Problems | 114 | Anytime after Bridges Unit 6, Session 18 |
| Thinking about Fractions | 115 | Anytime after Bridges Unit 6, Session 18 |
| Fruit Fractions | 116 | Anytime after Bridges Unit 6, Session 18 |
| Pizza Problems | 117 | Anytime after Bridges Unit 6, Session 18 |
| Pencils \& Cupcakes | 128 | Anytime after Bridges Unit 7, Session 20 |

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| SOLVING EQUATIONS |  |  |
| :--- | :--- | :--- |
| Page Title | Page Number | Recommended Timing |
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| T-Shirts, Erasers \& Marbles | 64 | Anytime after Bridges Unit 4, Session 11 |
| Cats \& Kittens | 76 | Anytime after Bridges Unit 4, Session 24 |
| Using the Standard Algorithm to Add \& Subtract (challenge) | 101 | Anytime after Bridges Unit 6, Session 10 |
| Addition \& Subtraction with the Standard Algorithm (challenge) | 107 | Anytime after Bridges Unit 6, Session 10 |
| True or False? | 111 | Anytime after Bridges Unit 6, Session 18 |
| Working with Equations | 113 | Anytime after Bridges Unit 6, Session 18 |
| Add, Subtract \& Multiply | 137 | Anytime after Bridges Unit 8, Session 10 |

NUMBER PATTERNS

| Page Title | Page Number | Recommended Timing |
| :--- | :--- | :--- |
| Patterns \& Sums | 31 | Anytime after Bridges Unit 2, Session 30 |
| Number Patterns | 35 | Anytime after Bridges Unit 2, Session 30 |


| GEOMETRY |  |  |
| :--- | :--- | :--- |
| Page Title | Page Number | Recommended Timing |
| Right, Acute \& Obtuse Angles | 41 | Anytime after Bridges Unit 3, Session 9 |
| Parallel, Intersecting \& Perpendicular Lines | 42 | Anytime after Bridges Unit 3, Session 9 |
| Angles \& Sides | 43 | Anytime after Bridges Unit 3, Session 9 |
| Different Kinds of Quadrilaterals | 45 | Anytime after Bridges Unit 3, Session 9 |
| Finding the Perimeters of Quadrilaterals | 46 | Anytime after Bridges Unit 3, Session 9 |
| Shape Sorting | 47 | Anytime after Bridges Unit 3, Session 9 |
| Dividing \& Combining Shapes | 49 | Anytime after Bridges Unit 3, Session 9 |
| All about Circles | 52 | Anytime after Bridges Unit 3, Session 15 |
| Thinking about Triangles | 55 | Anytime after Bridges Unit 3, Session 15 |
| Different Types of Triangles | 56 | Anytime after Bridges Unit 3, Session 15 |
| Drawing Line Segments, Lines \& Rays | 57 | Anytime after Bridges Unit 3, Session 15 |
| Drawing Shapes | 58 | Anytime after Bridges Unit 3, Session 15 |
| Slides, Turns \& Flips | Anytime after Bridges Unit 3, Session 15 |  |
| Quadrilateral Review | Anytime after Bridges Unit 8, Session 10 |  |
| Angles, Sides \& Shapes Review | Anytime after Bridges Unit 8, Session 10 |  |

## Practice Book

Grade 3 Practice Book Pages Grouped by Skill (cont.)

| MEASUREMENT (LENGTH, WEIGHT, CAPACITY, PERIMETER) |  |  |
| :--- | :--- | :--- |
| Page Title | Page Number | Recommended Timing |
| Bamboo Shoot Growth Graph | 15 | Anytime after Bridges Unit 1, Session 20 |
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| Inches \& Feet | 37 | Anytime after Bridses Unit 2, Session 30 |
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| More Perimeter Practice | 48 | Anytime after Bridges Unit 3, Session 9 |
| Sandbox \& Garden Problems | 50 | Anytime after Bridges Unit 3, Session 9 |
| Perimeters of Different Shapes | 54 | Anytime after Bridges Unit 3, Session 15 |
| Garden Patch Problems | 60 | Anytime after Bridges Unit 3, Session 15 |
| Grams \& Kilograms | 82 | Anytime after Bridges Unit 5, Session 10 |
| Kilograms \& Pounds | 84 | Anytime after Bridges Unit 5, Session 10 |
| The Third Graders' Garden Plot | 106 | Anytime after Bridges Unit 6, Session 10 |
| Multiplication, Division \& Perimeter Practice | 119 | Anytime after Bridges Unit 6, Session 18 |
| Curtains \& Movies | 120 | Anytime after Bridges Unit 6, Session 18 |
| Liters \& Quarts | 126 | Anytime after Bridges Unit 7, Session 20 |
| Feet, Yards \& Miles | 130 | Anytime after Bridges Unit 7, Session 20 |
| The Soccer Field | 134 | Anytime after Bridges Unit 8, Session 10 |


| MONEY \& DECIMAL NOTATION |  |  |
| :--- | :--- | :--- |
| Page Title | Page Number | Recommended Timing |
| Dollar Signs \& Decimal Points | 11 | Anytime after Bridges Unit 1, Session 20 |
| More Dollar Signs \& Decimals | 13 | Anytime after Bridges Unit 1, Session 20 |
| Eric's Three-Coin Problem | 18 | Anytime after Bridges Unit 1, Session 20 |
| Alfonso's Money Problem | 26 | Anytime after Bridges Unit 2, Session 15 |
| Adding Money Amounts | 32 | Anytime after Bridges Unit 2, Session 30 |
| Flora's Book \& Greg's TV | 98 | Anytime after Bridses Unit 5, Session 20 |
| The 18ł Problem | 104 | Anytime after Bridses Unit 6, Session 10 |
| Shoppins Problems | 129 | Anytime after Bridses Unit 7, Session 20 |


| TIME |  |  |
| :--- | :--- | :--- |
| Page Title | Page Number | Recommended Timing |
| Telling Time to the Hour, Half Hour \& Quarter Hour | 12 | Anytime after Bridges Unit 1, Session 20 |
| Telling Time on Analog \& Disital Clocks | 17 | Anytime after Bridges Unit 1, Session 20 |
| Alexis Walks Home from School | 20 | Anytime after Bridges Unit 1, Session 20 |
| Telling Time to the Minute | 34 | Anytime after Bridges Unit 2, Session 30 |
| Seconds \& Minutes | 68 | Anytime after Bridges Unit 4, Session 11 |
| Time in the Garden | 70 | Anytime after Bridges Unit 4, Session 11 |
| Curtains \& Movies | 120 | Anytime after Bridges Unit 6, Session 18 |

## Practice Book

## Grade 3 Practice Book Pages Grouped by Skill (cont.)

PROBLEM SOLVING

| Page Title | Page Number | Recommended Timing |
| :---: | :---: | :---: |
| Telling Time on Analog \& Digital Clocks (challenge) | 17 | Anytime after Bridges Unit 1, Session 20 |
| Eric's Three-Coin Problem | 18 | Anytime after Bridges Unit 1, Session 20 |
| Alexis Walks Home from School | 20 | Anytime after Bridges Unit 1, Session 20 |
| Alfonso's Money Problem | 26 | Anytime after Bridges Unit 2, Session 15 |
| Ling's Basketball Cards | 28 | Anytime after Bridges Unit 2, Session 15 |
| Adding Money Amounts | 32 | Anytime after Bridges Unit 2, Session 30 |
| Double-Digit Addition | 33 | Anytime after Bridges Unit 2, Session 30 |
| Number Patterns (challenge problem) | 35 | Anytime after Bridges Unit 2, Session 30 |
| Inches \& Feet | 37 | Anytime after Bridges Unit 2, Session 30 |
| Double-Digit Subtraction | 38 | Anytime after Bridges Unit 2, Session 30 |
| Subtraction Problems | 40 | Anytime after Bridges Unit 2, Session 30 |
| Sandbox \& Garden Problems | 50 | Anytime after Bridges Unit 3, Session 9 |
| More Subtraction Problems | 53 | Anytime after Bridses Unit 3, Session 15 |
| Garden Patch Problems | 60 | Anytime after Bridges Unit 3, Session 15 |
| Time in the Garden | 70 | Anytime after Bridges Unit 4, Session 11 |
| Flowers \& Gifts | 74 | Anytime after Bridges Unit 4, Session 24 |
| Family Math Night | 78 | Anytime after Bridges Unit 4, Session 24 |
| Andrea, Erica \& Joe Go Shopping | 80 | Anytime after Bridges Unit 4, Session 24 |
| Grams \& Kilograms | 82 | Anytime after Bridges Unit 5, Session 10 |
| Flora's Book \& Greg's TV | 98 | Anytime after Bridges Unit 5, Session 20 |
| Pages \& Miles | 100 | Anytime after Bridges Unit 5, Session 20 |
| The 18\$ Problem | 104 | Anytime after Bridges Unit 6, Session 10 |
| The Third Graders' Garden Plot | 106 | Anytime after Bridges Unit 6, Session 10 |
| Sandwich Fractions | 108 | Anytime after Bridses Unit 6, Session 10 |
| Sophie's Marbles \& Ricky's Fish | 110 | Anytime after Bridges Unit 6, Session 10 |
| Thinking about Fractions | 115 | Anytime after Bridses Unit 6, Session 18 |
| Fruit Fractions | 116 | Anytime after Bridges Unit 6, Session 18 |
| Pizza Problems | 117 | Anytime after Bridges Unit 6, Session 18 |
| Money \& Chair Problems | 118 | Anytime after Bridges Unit 6, Session 18 |
| Curtains \& Movies | 120 | Anytime after Bridges Unit 6, Session 18 |
| Even More Multiplication Story Problems | 124 | Anytime after Bridges Unit 7, Session 20 |
| Liters \& Quarts | 126 | Anytime after Bridges Unit 7, Session 20 |
| Lemonade \& Bracelets | 127 | Anytime after Bridges Unit 7, Session 20 |
| Pencils \& Cupcakes | 128 | Anytime after Bridges Unit 7, Session 20 |
| Shopping Problems | 129 | Anytime after Bridges Unit 7, Session 20 |
| Feet, Yards \& Miles | 130 | Anytime after Bridses Unit 7, Session 20 |
| The Soccer Field | 134 | Anytime after Bridges Unit 8, Session 10 |
| Basic Multiplication \& Division Review (challenge) | 135 | Anytime after Bridges Unit 8, Session 10 |
| Sandwiches \& Mini-Chip Cookies | 136 | Anytime after Bridges Unit 8, Session 10 |

## Practice Book

Grade 3 Practice Book Pages Grouped by Skill (cont.)

| GRAPHING |  |  |
| :--- | :--- | :--- |
| Page Title | Page Number | Recommended Timing |
| Sam's Pet Graph | 2 | Anytime after Bridges Unit 1, Session 10 |
| The Cafeteria Survey | 4 | Anytime after Bridges Unit 1, Session 10 |
| Jorge's Saving Plans | 6 | Anytime after Bridges Unit 1, Session 10 |
| Bamboo Shoot Growth Graph | 15 | Anytime after Bridges Unit 1, Session 20 |
| Too Much Homework? | 102 | Anytime after Bridges Unit 6, Session 10 |
| Morning Math Games \& Breakfast | 132 | Anytime after Bridges Unit 8, Session 10 |

## Grade 3 Practice Book Answer Keys

## ANSWER KEY

## Use after Unit One, Session 10

## Page 1, Addition \& Subtraction Fact Practice

$14,6,8,10,12,14,16,18$
$25,7,9,11,13,15,17,19$
$32,3,4,5,6,7,8,9$
$41,2,1,2,2,1,2,1$
5 (challenge) Students' responses will vary. Example: The answers to all the doubles facts are even. The answers to all the neighbors facts are odd.

## Page 2, Sam's Pet Graph

1 Dogs
24 students
33 more students chose dogs than cats.
45 more students chose cats than birds.
5 a Students' responses will vary. Example:
How many students did Sam survey?
b Students' responses will vary. Example: Sam surveyed 23 students.

## Page 3, Numbers in the Hundreds

1 a 147
b 302
c 178
2 a $226,262,226<262$
b 307, $317,307<317$
c $894,849,894>849$

## Page 4, The Cafeteria Survey

1 Students' work may vary slightly. Example:


251 students; students' work will vary.
3 Milk was the most popular drink.
4 a Students' responses will vary. Example:
How many more students voted for milk than water?
b Students' responses will vary. Example:
12 more students voted for milk.

## Page 5, Fast Tens \& Fast Nines Practice

1 12, 13, 14, 15, 16, 17, 18, 19
$211,12,13,14,15,16,17,18$
$38,2,5,7,3,6,4,9$
4 10, 10, 10, 10, 10, 10, 10, 10
5 (challenge) Students' responses will vary. Example: The answers to both problems go in counting order.

## Page 6, Jorge's Saving Plans

14 weeks
210 weeks
312 weeks
4 (challenge) 7 more weeks after the 7th week; 14 weeks in all.

## Page 7, Missing Numbers Fill-In

$15,7,4,2$
10, 1, 3, 6
2 2, 8, 3, 18
$5,6,4,14$
3 7, 10, 9, 7, 7, 11 $8,9,9,3,14,5$
4 (challenge) Students' responses will vary. Example: They are all doubles addition facts.

## Page 8, Name the Fraction

1 a $1 / 3$
b $1 / 4$
c $1 / 2$
d $1 / 4$
e $1 / 3$
2 (challenge) ${ }^{1 / 4}$ of the array is green.


## Page 9, Related Addition \& Subtraction Facts

1 10, 10, 10, 10, 11, 13, 14
$211,12,12,13,14,13,12$

## Use after Unit One, Session 10 (cont.)

Page 9, Related Addition \& Subtraction Facts (cont.)
3 5, 7, 5, 5, 8, 6, 6
$6,8,4,7,8,5,9$
4 (challenge) 300, 390, 610, 900, 810, 700, 700
5 (challenge) 127, 340, 116, 96, 203, 225, 111

## Page 10, Fraction Fill-Ins

1 a One of four regions shaded. Example:

b One of three regions shaded. Example:

c Two of four regions shaded. Example:

d (challenge) Four of six regions shaded.
Example:

e (challenge) Three of eight regions shaded. Example:


2 (challenge) ${ }^{2} / 8$ of the circle is blue. ( $1 / 4$ is also acceptable.) Example:


3 (challenge) $2 / 12$ of the rectangle is brown. ( $1 / 6$ is also acceptable.) Example:

## Use after Unit One, Session 20

## Page 11, Dollar Signs \& Decimal Points

1 a $\$ 0.05$
b $\quad \$ 0.10$
c $\$ 0.25$
2 a $\$ 0.03$
b $\quad \$ 0.30$
c $\$ 0.50$
d $\$ 0.25$
e $\$ 0.45$
3 a (challenge) 1 quarter, 1 dime, 2 nickels, 1 penny
b (challenge) 3 dimes, 3 nickels, 3 pennies

## Page 12, Telling Time to the Hour, Half Hour \& Quarter Hour

1 a 4:00
b 10:05
c $3: 30$
d 2:45
e 11:15
2 (challenge) Clock e
3 (challenge) Clock d
4 (challenge) Clock c
Page 13, More Dollar Signs \& Decimals

| Coin Collection | Value of Collection | Grid |
| :---: | :---: | :---: |
|  | \$0.55 | $\square$    <br>     <br>     <br>     <br>     <br>     <br>     |
|  | \$0.51 | $\square$    <br>     <br>     <br>     <br>     <br>     <br>     |
| $2$ | \$0.42 |     <br>     <br>     <br>     <br>     <br>     <br>     |
| $3$ | \$0.45 | $\square$    <br>     <br>     <br>     <br>     <br>     <br>     |



## Use after Unit One, Session 20 (cont.)

## Page 14, Leaves \& Flower Petals

115 petals, $5+5+5=15$ or $3 \times 5=15$
214 leaves, $2+2+2+2+2+2+2=14$ or $7 \times 2=14$

320 petals, $5+5+5+5=20$ or $4 \times 5=20$

## Page 15, Bamboo Shoot Growth Graph

111 feet
2 On the 8th day
3 No
4 a No
b Students' explanations will vary. Example: Because the line on the graph goes up a different amount on some of the days. The plant only grew 1 foot between Days 7 and 9, but it grew 2 feet between Days 2 and 4. It grew faster some times, and more slowly other times.
5 (challenge) It was 12 inches or 1 foot more than 2 yards tall. Students' work will vary.

## Page 16, Eyes, Ears \& Whiskers

120 eyes, $2+2+2+2+2+2+2+2+2+2=20$ or $10 \times 2=20$

212 ears, $2+2+2+2+2+2=12$ or $6 \times 2=12$
318 whiskers, $6+6+6=18$ or $3 \times 6=18$

## Page 17, Telling Time on Analog \& Digital Clocks

1 a 1:55
b 9:15
c $7: 30$
2


3 (challenge) 3:41; Students' work will vary.


## Page 18, Eric's Three-Coin Problem

1 Students' responses will vary. Example: What 3 coins add up to 40 4 ?

2 Eric has 3 coins in his pocket. They are worth $\$ 0.40$. What coins does he have in his pocket?
3 Students' work will vary. A quarter, a dime, and a nickel.

## Page 19, Understanding Place Value

1 a hundreds, 300
b ones, 4
c tens, 70
d hundreds, 500
2 a $96>69$
b $326<362$
c $127<217$
d $960>906$
e $312>231$
f $304<430$
S $719<790$
3 Students' responses will vary.

## Page 20, Alexis Walks Home from School

1 Students' responses will vary. Example: What time did Alexis get home from schoot?
2 Alexis started walking from home from school at 3:15. She got home 20 minutes later. What time did she get home?

3 a Students' work will vary.
b 3:35
4 (challenge) 2:20

## Use after Unit Two, Session 15

Page 21, Expanded Notation: 3-Digit Numbers 1

| ex | Hundreds | Tens | Ones | Equation |
| :---: | :---: | :---: | :---: | :---: |
|  | 200 |  | 5 | $200+40+5=245$ |
|  |  |  | $\begin{aligned} & \square \\ & \square \square \\ & \square \square \end{aligned}$ |  |
|  | 100 | 30 | 7 |  |
| a |  |  | $\square$ <br> ㅁㅁ <br> ㅁㅁ <br> ㅁㅁ | $100+30+7=137$ |
|  | 200 | 60 | 5 |  |
| b |  |  | $\square$ <br> ㅁㅁ <br> ㅁ | $200+60+5=265$ |

2 (challenge) Part b, 128. Student work will vary.

## Use after Unit Two, Session 15 (cont.)

## Page 22, Centimeters \& Decimeters

1 a 12 cm
b 7 cm
c 8 cm
2 a Students' responses will vary, 9 cm
b Students' responses will vary, 11 cm
c Students' responses will vary, 8 cm
3 a (challenge) 3 cm
b (challenge) $7^{1 / 2} \mathrm{~cm}$
Page 23, Place Value Practice: 3-Digit Numbers
1 a 845
b 508
c 620
d 587
e 914
2 a $400+30+7$
b $500+8$ or $500+0+8$
c $500+40+9$
d $600+90+2$
e $700+40+9$
3 a 347, 437, 473, 734
b 316, 360, 603, 630
c $109,119,190,191$
d (challenge) 6,017; 6,071; 6,107; 6,701
Page 24, Writing Multiplication Equations
$12,4,6,8,10,12 ; 6 \times 2=12$ ears
2 10, 20, 30, 40, 50, 60, 70, 80; $8 \times 10=80$ cents
$35,10,15,20,25,30,35 ; 7 \times 5=35 \mathrm{arms}$
4 (challenge) $12,24,36,48,60 ; 5 \times 12=60$ eggs

## Page 25, Loops \& Groups

$13 \times 10=30$
$27 \times 2=14$
$35 \times 5=25$
$45 \times 2=10$
$52 \times 10=20$

## Page 26, Alfonso's Money Problem

1 Responses will vary. Example: How much money did Alfonso have after he spent some and got his allowance?
2 Alfonso had \$23. He spent $\$ 8$ at the store during the day. That night, his dad gave him $\$ 5$ for his allowance. How much money did Alfonso have at the end of the day?

3 a Students' work will vary.
b $\$ 20$
4 (challenge) He should give her \$5.50. Then they'11 each have $\$ 14.50$.

## Page 27, More Related Addition \& Subtraction Facts

1 11, 13, 12, 12, 14, 11, 13 $17,13,14,12,16,14,18$
2 13, 6, 9, 7, 7, 6, 4 $9,6,3,7,8,4,9$
3 (challenge) 803; 40; 50; 100; 72; 1,000; 6,000 500; 100; 700; 2,000; 18,000; 316; 751

## Page 28, Ling's Basketball Cards

1 Students' responses will vary. Example: How many basketball cards does Ling have now?
2 Ling had 34 basketball cards. She gave away 18 cards. Then she bought a pack of 6 new cards and her friend gave her 2 more. How many cards does she have now?
3 a Students' work will vary.
b 24 basketball cards
4 (challenge) 6 pages; students' work will vary.
Page 29, Addition \& Subtraction Practice
1 13, 12, 13, 11, 15, 14, 12
$15,17,18,11,12,13,16$
$29,9,8,8,5,8,8$
$6,7,8,8,3,9,9$
3 (challenge) 400, 3, 997, 300, 360, 598, 2 $20,898,158,108,275,50,107$
4 (challenge) 205, 500, 208

Use after Unit Two, Session 15 (cont.)
Page 30, Comparing Fractions

| Show these fractions. | Compare the fractions <br> with $<$ or $>$ |  |
| :--- | :--- | :--- |
| 1 |  |  |
| 3 |  |  |

## Use after Unit Two, Session 30

Page 31, Patterns \& Sums
1 a 37, 47, 67, 77, 107
b $68,88,128,148,208$
c $94,184,214,304$
2 87, 48, 83, 106, 69, 73, 78
3 a 87
b 54
c 91
d 111
e (challenge) 317
f (challenge) 738

## Page 32, Adding Money Amounts

1 a Students' work will vary. $\$ 0.73+\$ 1.65=\$ 2.38$
b Students' work will vary. $\$ 1.46+\$ 0.87=\$ 2.33$
c Students' work will vary. $\$ 0.83+\$ 1.39=\$ 2.22$
2 Students' work will vary. 1 quarter, 1 dime, 2 nickels, and 3 pennies

## Page 33, Double-Digit Addition

1 a 95
b 77
c 84
d 135
e 152
f 170
2204 baseball cards; students' work will vary.

## Page 34, Telling Time to the Minute

1 a 1:47, choice 2
b 8:19, choice 3
2 a 4:28
b 11:49
3 Fourth clock, 9:07

## Page 35, Number Patterns

1 a 60, 75, 120
b $100,125,200$
c $72,132,162$,
2 a 36, 60, 72, 108, 132
b $39,65,78,117,143$
3 (challenge) 156 and 312. Students' explanations will vary.

## Page 36, Using the Number Line to Find

 Differences1 They have 52 more miles to go. Students' work will vary. Example:


2 She has 87 pages left to read. Students' work will vary. Example:


Page 37, Inches \& Feet
1 a 4 inches
b 2 inches
c 6 inches
d 5 inches
2 a 2 feet
b 3 feet
357 inches longer; students' work will vary.
4 (challenge) 45 inches and 39 inches; students' work will vary.

## Page 38, Double-Digit Subtraction

1 a 39
b 46
c 38
2 a Choice 2, The open pack has 17 sheets of paper.
b Mr. Jones needs to borrow 59 more sheets of paper. Students' work will vary.

## Use after Unit Two, Session 30 (cont.)

## Page 39, Target Practice

1

| Target Number | First Number | Circle one number. | Show your work. |
| :---: | :---: | :---: | :---: |
| a 120 | 63 | $78 \quad 58$ | 63 is almost 60. <br> 58 is almost 60 . $60+60=120$ |
| b 150 | 56 | (91) 76 | 56 is close to 50. <br> You need to add almost 100 more. |
| C 140 | 76 | 89 68 | 76 is close to 70 . So is 68 $70+70=140$ |

2 75, 168, 99, 124, 103, 429, 21
3 (challenge) In the fourth problem, numbers in the hundreds place will vary.

$$
\begin{aligned}
& \begin{array}{r}
126 \\
-\quad 64 \\
\hline 62
\end{array} \\
& \begin{array}{r}
182 \\
-\quad 76 \\
\hline 106
\end{array} \\
& \begin{array}{r|r|r}
\hline 3 & 2 & 5 \\
-1 & 7 & 0 \\
\hline 1 & 5 & 5
\end{array} \quad \begin{array}{rl|l|l|}
\hline 2 & 4 & 6 \\
-17 & 3 & 8 \\
\hline 1 & 0 & 8
\end{array}
\end{aligned}
$$

## Page 40, Subtraction Problems

1 a Students' work will vary, 81
b $81+157=238$
2 a First choice, The snack bar cost 894.
b \$2.56; students' work will vary.

## Use after Unit Three, Session 9

## Page 41, Right, Acute \& Obtuse Angles

1 a

b

c


2 Students' work will vary.
3 Students' work will vary.

## Page 42, Parallel, Intersecting \& Perpendicular

 Lines1 a Parallel
b Intersecting
c Intersecting and perpendicular
d Parallel
2 Students' work will vary.
3 Students' work will vary.

Page 43, Angles \& Sides
1


2
$\square$

$\square$


3




4

 $\square$



## Page 44, Perimeter Practice

1 Students' work will vary.


Page 45, Different Kinds of Quadrilaterals
1 a parallelogram, rectangle
b parallelogram
2 She is right. Students' explanations will vary. Example: This shape has 2 pairs of parallel sides so it's a parallelogram. It also has 4 right angles and 4 sides that are equal, so it's a rectangle, a rhombus, and a square.

## Use after Unit Three, Session 9 (cont.)

## Page 46, Finding the Perimeters of Quadrilaterals

1


2 a Shape a is a rhombus.
b Students' explanations will vary. Example: It has 4 sides that are all the same length.

## Page 47, Shape Sorting

1 a

b They have 5 sides.
2 a It will have 6 sides.
b

$\Lambda$











Page 48, More Perimeter Practice
1 a 480 meters; students' work will vary.
b 280 meters; students' work will vary.
c 180 meters; students' work will vary.
2 (challenge) Students' work will vary. Examples:
Example 1: a square with side lengths of 5 centimeters.
Example 2: a rectangle 6 centimeters long and 4 cen-
timeters wide.

Page 49, Dividing \& Combining Shapes
1


2


3


4


5


Page 50, Sandbox \& Garden Problems
1 a Students' sketches will vary.
b 370 inches
234 bricks; students' work will vary.

## Use after Unit Three, Session 15

Page 51, Adding 2-Digit Numbers
1 a 95
b 88
C 81
d 117
e 141
f 110
g 157
h 117
i 162
j 130
k 120
I 178
m 160
2 (challenge)
$\begin{array}{r}38 \\ +\quad 65 \\ \hline 1033\end{array}$
$\begin{array}{r}84 \\ +\quad 5 \quad 9 \\ \hline 143\end{array}$
$\begin{array}{r}29 \\ +\quad 77 \\ \hline 106\end{array}$
$\begin{array}{r}8 \quad 7 \\ +468 \\ \hline 135\end{array}$

## Use after Unit Three, Session 15 (cont.)

## Page 52, All About Circles

1 a Circumference; Second choice
b Radius; Third choice
c Center; First choice
d Diameter; Fourth choice
2 Diameter
3


## Page 53, More Subtraction Problems

1 a 121
b 207
c 45
d 233
e 236
f 238
2 Third grade has 3 more students than fourth grade. (There are 53 students in third grade and 50 students in fourth.) Students' work will vary.
Page 54, Perimeters of Different Shapes
1 a 340 feet; students' work will vary.
b 300 feet; students' work will vary.
2 (challenge) Students' work will vary.

## Page 55, Thinking About Triangles

1 All of the triangles have 1 right angle.
2 a Fourth choice, the equilateral triangle
b Each triangle in the group has 3 sides of equal length.
3 All of the triangles have 2 sides that are the same length.

## Page 56, Different Types of Triangles

1 a Obtuse
b Right
c Acute
2 a Isosceles
b Scalene
c Equilateral

Page 57, Drawing Line Segments, Lines \& Rays
1 a-c


2 a-c


3 a-c


## Page 58, Drawing Shapes

1 Students' work will vary.
2 Students' work will vary.
3 Students' work will vary.
4 Students' work will vary.
5 (challenge) Five sides; students' explanations will vary.

## Page 59, Slides, Turns \& Flips

1 a Flip. Third choice.
b Slide. First choice.
c Turn. Second choice.
d Flip. Third choice.

## Page 60, Garden Patch Problems

156 feet of fencing; students' work will vary.
2 Students' work will vary. Dimensions of rectangles with a perimeter of 26 feet are: $1^{\prime} \times 12^{\prime}, 2^{\prime} \times 11^{\prime}$, $3^{\prime} \times 10^{\prime}, 4^{\prime} \times 9^{\prime}, 5^{\prime} \times 8^{\prime}$, and $6^{\prime} \times 7^{\prime}$.
3 (challenge) Students' work will vary.

## Use after Unit Four, Session 11

Page 61, Equal Jumps on the Number Line
$18,4,5,3,9,6,8$
$4,20,10,14,12,18,16$
2 a $7 \times 2=14$

b $9 \times 2=18$

c $8 \times 2=16$


## Use after Unit Four, Session 11 (cont.)

## Page 62, Multiplication Story Problems

1 a Students' story problems will vary. Example: There are 4 airplanes. Each one has 2 wings. How many wings in all?
b 8
2 a Students' story problems will vary. Example: There were 7 whales swimming around. They each had 2 flippers. How many flippers in all?
b 14
Page 63, More Equal Jumps on the Number Line
1 7, 3, 8, 8, 10, 20, 70, 80, 60
2 a $10 \times 3=30$


$$
\text { b } \quad 10 \times 5=50
$$

Page 64, T-Shirts, Erasers \& Marbles
1 a $4 \times 12=$ ?; Second choice
b $12-4=$ ?; Third choice
c $4+12=$ ?; First choice
2 (challenge) 40, 396, 60, 768, 600, 400, 200 420; 210; 3,650; 999; 300; 530; 4,280

## Page 65, Multiplication Practice

$16,14,8,18,30,15,40,20,80$
2 a $5 \times 7=35$

b $5 \times 9=45$

c $5 \times 5=25$


## Page 66, More Multiplication Story Problems

1 a Students' story problems will vary.
b 20
2 a Students' story problems will vary. b 40

## Page 67, Multiplication \& Division Fact Families

1 a $3 \times 10=30$
b $9 \times 2=18$
c $40 \div 5=8$

2 a The missing number is 16 . $2 \times 8=16,8 \times 2=16,16 \div 8=2,16 \div 2=8$
b The missing number is 6 .
$10 \times 6=60,6 \times 10=60,60 \div 6=10,60 \div 10=6$
c The missing number is 4 .
$4 \times 5=20,5 \times 4=20,20 \div 5=4,20 \div 4=5$

## Page 68, Seconds \& Minutes

1 18, 24, 36, 48, 60
2 a 60 seconds
b 120 seconds
c 300 seconds
d (challenge) 540 seconds

## Page 69, Fact Families \& Missing Numbers

1 a $5 \times 6=30,6 \times 5=30,30 \div 5=6,30 \div 6=5$
b $5 \times 9=45,9 \times 5=45,45 \div 5=9,45 \div 9=5$
2 6, 5, 16, 10, 45, 5
40, 3, 30, 7, 5, 9
3 a (challenge) 28
b (challenge) 185
c (challenge) 21

## Page 70, Time in the Garden

130 minutes; students' work will vary.
2 \$30; students' work will vary.

## Use after Unit Four, Session 24

## Page 71, Multiplication Arrays

1 12, 9, 24, 16, 18, 24, 36 $42,27,10,15,20,28,0$
2 Students' sketches will vary. Examples:


## Use after Unit Four, Session 24 (cont.)

## Page 72, Frank the Frog \& Bob the Beetle

1 a He will have to jump 8 times; students' work will vary.
b $32 \div 4=8$
2 a 3 minutes; students' work will vary.
b $18 \div 6=3$
c (challenge) $4^{1} / 2$ minutes; students' work will vary.

## Page 73, More Multiplication Arrays

1 42, 24, 36, 81, 28, 27, 21
$16,18,48,18,45,36,63$
2 Students' sketches will vary. Examples:


Page 74, Flowers \& Gifts
1 a He can fill 6 jars. Students' work will vary.
b 3 flowers
2 \$28.00; students' work will vary.
3 (challenge) \$19.92; students' work will vary.

## Page 75, Missing Numbers \& Fact Families

1 6, 9, 2, 10, 5, 0
$12,7,20,21,3,5$
2 a $6 \times 7=42,7 \times 6=42,42 \div 6=7,42 \div 7=6$ b $8 \times 7=56,7 \times 8=56,56 \div 8=7,56 \div 7=8$

## Page 76, Cats \& Kittens

1 a 6-2 =?; Third choice
b 4 kittens
2 a $6 \div 2=$ ?; First choice
b 3 neighbors
3 a $6+2=$ ?; Second choice
b 8 kittens
4 a (challenge) Students' responses will vary.
b (challenge) 8

Page 77, More Missing Numbers \& Fact Families
1 a $6 \times 8=48,8 \times 6=48,48 \div 6=8,48 \div 8=6$
b $8 \times 9=72,9 \times 8=72,72 \div 8=9,72 \div 9=8$
2 6, 3, 8, 10, 35, 4
30, 36, 3, 18, 7, 28
32, 4, 8, 7, 54, 40

## Page 78, Family Math Night

1 a 56 pattern blocks; students' work will vary.
b Students' explanations will vary.
2 a 176 game markers
b Students' explanations will vary.

## Page 79, Products \& Sums

1 8, 6, 35, 60, 16, 0, 21
$14,30,15,4,9,30,36$
$40,2,20,36,27,28,45$
2 a 3 and 4
b 1 and 8

## Page 80, Andrea, Erica \& Joe Go Shopping

1 a Students' responses will vary. Example:
Step 1: Add up the prices to see how much they owed at the store. Step 2: Subtract that amount from 40 to see how much money they will have left. Step 3: Divide that amount by 3 to see how much each child gets.
b Each child gets $\$ 6.00$. Students' work will vary.
c Students' responses will vary.

## Use after Unit Five, Session 10

## Page 81, Addition \& Subtraction Review

$110,12,13,14,15,14,12$
$13,13,18,17,15,11,16$
$26,8,8,7,8,8,3$
$7,6,7,9,8,4,3$
3 (challenge) 34, 60, 23, 30, 200, 60, 132 9, 873, 6, 9, 206, 209, 304
Page 82, Grams \& Kilograms
1 5,000 grams
2 18,000 grams
3 27,000 grams
4 Half a kilogram
5700 grams
620 baby chicks

## ANSWER KEY

## Use after Unit Five, Session 10 (cont.)

## Page 83, Multiplication Review

1 60, 3, 40, 0, 28, 15, 24
$16,18,90,24,27,45,32$
2 a $8,16 \div 2=8$ or $16 \div 8=2$
b $7,35 \div 5=7$ or $35 \div 7=5$
c $2,18 \div 9=2$ or $18 \div 2=9$
3 (challenge) 200, 84, 86, 620, 310, 87, 0 48, 140, 70, 126, 156, 690, 96

## Page 84, Kilograms \& Pounds

1 About 3 kilograms
2 About 14 pounds
3 About 9 kilograms
4 About 75 kilograms
5 a A little less than 3 kilograms. Second choice
b Students' explanations will vary.

## Page 85, Rounding to the Nearest Ten

1 a 270
b 260
c 270
2 a 650
b 640
c 650
3 a 130
b 370
c 650
d 280
e 620
f 540
Page 86, Rounding to the Nearest Hundred
1 a 200
b 300
c 300
2 a 600
b 500
c 600
3 a 600
b 400
c 200
d 400
e 800
f 300

## Page 87, Rounding to Estimate the Sum

1 a $270+320$, students' work will vary, 590
b $50+820$, students' work will vary, 870
2 a No
b No
c No

## Page 88, Two Different Addition Methods

1 a 393
b 763
c 823
d 913
Page 89, Round, Estimate \& Find the Sum

| Numbers to Add | Round and Add | Estimated Sum | Exact Sum (use the algorithm) |
| :---: | :---: | :---: | :---: |
| $\begin{array}{rr} \hline \mathbf{1} & 267 \\ & +338 \\ \hline \end{array}$ | $\begin{array}{r} 1270 \\ +\quad 340 \\ \hline 610 \end{array}$ | The sum will be about $\quad 610$ $\qquad$ | $\begin{array}{r} 116 \\ +\quad 338 \\ \hline 605 \end{array}$ |
| $\begin{array}{rr} 438 \\ \hline \mathbf{2} \begin{array}{r} 483 \\ \hline \end{array} \\ \hline \end{array}$ | $\begin{array}{r} 1440 \\ +580 \\ \hline 1,020 \end{array}$ | The sum will be about 1,020 | $\begin{array}{r} 1138 \\ +\quad 583 \\ \hline 1,021 \end{array}$ |
| $\begin{array}{rr} \hline 3 & 842 \\ +\quad 159 \\ \hline \end{array}$ | $\begin{array}{r} 1840 \\ +160 \\ \hline 1,000 \end{array}$ | The sum will be about 1,000 | $\begin{array}{r} 11 \\ 842 \\ +\quad 159 \\ \hline \mathbf{1 , 0 0 1} \end{array}$ |

## Page 90, Reasonable Estimates

1 a Students' estimates will vary; 661, students' work will vary.
b Students' estimates will vary, 895, students' work will vary.
c Students' estimates will vary, 740, students' work will vary.

2 a No
b Yes
Use after Unit Five, Session 20
Page 91, Rounding to the Nearest Ten, Hundred \& Thousand

1 a $2 \underline{6}$ rounds up to 30 .
b $18 \underline{2}$ rounds down to 180 .
c 1,208 rounds up to 1,210 .

## Use after Unit Five, Session 20 (cont.)

Page 91, Rounding to the Nearest Ten, Hundred \& Thousand (cont.)
2 a $1 \underline{2} 9$ rounds down to 100 .
b $4 \underline{6} 7$ rounds up to 500 .
c 253 rounds up to 300 .
d 3,348 rounds down to 3,300 .
3 a 5,702 rounds up to 6,000.
b 4,207 rounds down to 4,000 .
c $2, \underline{5} 40$ rounds up to 3,000
d $8, \underline{3} 95$ rounds down to 8,000 .
$411,15,21,13,17,25,51$

## Page 92, Close Estimates

1 a Exact sum is 411; students' work will vary.
b Exact sum is 4,555; students' work will vary.
c Exact sum is 6,253; students' work will vary.
2 (challenge)

## Page 93, Round \& Subtract

1 a 610-260; students' work will vary; 350
b 730-550; students' work will vary; 180
2 a 1,500-600; students' work will vary; 900
b 2,500-900; students' work will vary; 1,600

## Page 94, Add to Find the Difference

1 134; Students' work will vary.
2 276; Students' work will vary.
3 452; Students' work will vary.

## Page 95, Rounding Review

1 a $47 \underline{6}$ rounds up to 480.
b $2,05 \underline{3}$ rounds down to 2,050
c $4,38 \underline{8}$ rounds up to 4,390
2 a 328 rounds down to 300 .
b $9 \underline{6} 1$ rounds up to 1000 .
c $4,5 \underline{5} 3$ rounds up to 4,600 .
d $3,3 \underline{4} 8$ rounds down to 3,300 .
3 a 4,389 rounds down to 4,000 .
b 2,503 rounds up to 3,000 .
c 1,437 rounds down to 1,000 .
d $6, \underline{6} 14$ rounds up to 7,000 .
4 9, 7, 9, 9, 5, 3, 9

## Page 96, Estimates \& Exact Answers

1 a Yes
b No
c No
2 a Students' work will vary; 178
b Students' work will vary; 1,182

## Page 97, Place Value: Four-Digit Numbers

1 a 4,831
b 9,462
c 7,062
d 5,380
e 2,104
2 a 2,012
b 8,567
c Six thousand thirty-two
d One thousand five-hundred eighty-three
3 a No
b Yes

## Page 98, Flora's Book \& Greg's TV

1110 pages; students' work will vary.
2 \$918; students' work will vary.
Page 99, Estimate Before You Subtract

| Numbers to Subtract | Round and Subtract | Estimated Difference | Exact Difference (use the algorithm) |
| :---: | :---: | :---: | :---: |
| example $\begin{array}{r} 1,357 \\ -\quad 849 \\ \hline \end{array}$ | $\begin{array}{r} 1,360 \\ -\quad 850 \\ \hline 510 \end{array}$ | 510 | $\begin{array}{r} 1,457 \\ -\quad 849 \\ \hline 508 \end{array}$ |
| $1$ $\begin{array}{r} 643 \\ -427 \\ \hline \end{array}$ | $\begin{array}{r} 640 \\ -430 \\ \hline 210 \end{array}$ | 210 | $\begin{array}{r} 311 \\ 643 \\ -427 \\ \hline \mathbf{2 1 6} \end{array}$ |
| $\begin{array}{\|rr} \hline \mathbf{2} & \\ & 812 \\ & -364 \\ \hline \end{array}$ | $\begin{array}{r} 810 \\ -\quad 360 \\ \hline 450 \end{array}$ | 450 | $\begin{array}{r} 71012 \\ 812 \\ -\quad 364 \\ \hline 448 \end{array}$ |
| $\begin{array}{\|r} \hline 3 \\ \hline \end{array} \begin{array}{r} 4,302 \\ -\quad 656 \\ \hline \end{array}$ | $\begin{aligned} & 4,300 \\ & -660 \\ & \hline 3,640 \end{aligned}$ | 3,640 |  |

## Page 100, Pages \& Miles

1 a Students' estimates will vary.
b 1,942 pages, students' work will vary.
2 a Students' estimates will vary.
b 412 miles, students' work will vary.

## Use after Unit Six, Session 10

Page 101, Using the Standard Algorithm to Add \& Subtract

1 a 1,003
b 345
c 724
d 4,372
e 4,092
f 1,341
g 16,273
2 a 363
b 409
c 35
d 2,278
e 716
f 862
g 1,629
3 a (challenge) 8
b (challenge) 4
c (challenge) 3
d (challenge) 9
Page 102, Too Much Homework? 1


2 Each x stands for 1 student.
33 students
4 Students' responses will vary.

## Page 103, Fraction Fill \& Compare

1


2 a $1 / 5<1 / 3$
b $1 / 3>2 / 9$
c $2 / 10<2 / 9$
d $1 / 5=2 / 10$
e $2 / 5>2 / 10$
3 a (challenge) $1 / 100<1 / 50$
b $(\text { challenge })^{2 / 100}=1 / 50$
c (challenge) ${ }^{1 / 4} \boldsymbol{~}^{1 / 1 / 16}$

## Page 104, The 18 \& Problem

1 a Students' responses may vary, but it makes the best sense to make an organized list.
b Students' responses will vary.
c There are 6 different ways to make 18¢ with dimes, nickels, and pennies. Students' work will vary. Example:

| Dimes | Nickels | Pennies |
| :---: | :---: | :---: |
| 1 | 1 | 3 |
| 1 | 0 | 8 |
| 0 | 3 | 3 |
| 0 | 2 | 8 |
| 0 | 1 | 13 |
| 0 | 0 | 18 |

## Page 105, Division \& Fractions

1 a 4
b 2
C 9
d 6
e 3
f 2
2


3 a $1 / 3=2 / 6$
b Students' explanations will vary. Example: Because there are 6 out of 18 circles shaded in for both fractions.

## Use after Unit Six, Session 10 (cont.)

## Page 106, The Third Graders' Garden Plot

1 a Students' responses may vary, but it makes the best sense to draw a picture.
b Students' responses will vary.
c 18 feet; Students' work will vary. Example:


Perimeter of 1st plot: $12^{\prime}+12^{\prime}+33^{\prime}+33^{\prime}=90^{\prime}$
Perimeter of 2 nd plot: $16^{\prime}+16^{\prime}+38^{\prime}+38^{\prime}=108^{\prime}$ $108^{\prime}-90^{\prime}=18^{\prime}$
The perimeter of the 2 nd plot is 18' bigger.

## Page 107, Addition \& Subtraction with the

 Standard Algorithm1 a 641
b 921
c 1,127
d 3,082
e 4,481
f 7,527
g 13,199
2 a 85
b $\quad 274$
c 875
d 3,783
e 4,658
f 59
§ 465
3 a (challenge) 6
b (challenge) 6
c (challenge) 8
d (challenge) 3

## Page 108, Sandwich Fractions

1 Lola ate more of her sandwich; students' explanations will vary.
2 Bob ate more; students' explanations will vary.
Page 109, More Division \& Fractions
1 a 4
b 2
c 9
d 6
e 3
f 2
2


3 2/5 and $4 / 10$
4 a $2 / 5<2 / 3$
b $5 / 6<8 / 9$
c $3 / 6<2 / 3$
Page 110, Sophie's Marbles \& Ricky's Fish
1 a There were more green marbles. Students' explanations will vary.
b There were more blue marbles. Students' explanations will vary.
2 He had more blue fish. Students' explanations will vary.

## Use after Unit Six, Session 18

## Page 111, True or False?

1 a True
b True
c False
d False
e False
2 a $400 \div 10<400 \div 5$
b $8 \times 2=4 \times 4$
c 845-208<845-32
3 a $(5 \times 3)-2=$ ?; Third choice; 13 packs of baseball cards
b $(84-34) \div 2=$ ?; Second choice; 25 fish in each tank

## Page 112, Fractions on the Number Line

1 2/10, ${ }^{2} / 5,6 / 10,9 / 10$
2 a $8 / 10$ should be circled, $8 / 10>2 / 5$
b $4 / 5$ should be circled, $4 / 5>4 / 10$
c $7 / 10$ should be circled, $7 / 10>3 / 5$
d $9 / 10$ should be circled, $9 / 10>4 / 5$
e $4 / 5$ should be circled, $4 / 5>6 / 10$

## Use after Unit Six, Session 18 (cont.)

## Page 113, Working with Equations

1 a 16
b 8
c 0
d 26
e 9
f 41
S 56
2 a $32 \times 10<13 \times 100$
b $125+230=100+255$
c $144 \div 12<144 \div 6$
d $197+326>284+139$
e $300-250=350-300$
3 a (challenge) 5
b (challenge) 9
c (challenge) 8
d (challenge) 200
e (challenge) 55
f (challenge) 100
4 a (challenge) $(25 \times 4) \div 10>81 \div 9$
b $($ challenge $)(514-489) \times 6=50 \times 3$
c (challenge) $(75 \times 2) 51<(100 \div 2) \times 4$
d (challenge) $(328+22)-150<500 \div 2$
e $($ challenge $)(739+261) \div 10=20 \times 5$
f (challenge) $5 \times 5 \times 5<(200 \div 2)+50$

## Page 114, Fraction Problems

$13 / 10,2 / 5,7 / 10,4 / 5,9 / 10$
2 a Chris
b Sue
c Lewis
3 a $1 / 5<4 / 5$
b $7 / 10<4 / 5$
c $3 / 5>5 / 10$
d $2 / 5=4 / 10$
e $1 / 5<3 / 10$
4 a (challenge) $1 / 10=2 / 20$
b (challenge) $1 / 5=4 / 20$
c $(\text { challenge })^{3 / 5}=12 / 20$

## Page 115, Thinking About Fractions

1 Bob, students' explanations will vary.
2 Laura, students' explanations will vary.

3 Steven, students' explanations will vary.
4 (challenge) Jim, students' explanations will vary.

## Page 116, Fruit Fractions

1 Zach's family, students' explanations will vary.
2 Shawna, students' explanations will vary.
3 Violet, students' explanations will vary.

## Page 117, Pizza Problems

$15 / 6$ of the pizza, students' explanations will vary.
2 1 $1 / 2$ pizzas, students' explanations will vary.
3 a (challenge) $5 / 8$ of the pizza, students' explanations will vary.
b (challenge) ${ }^{3 / 8}$ of the pizza, students' explanations will vary.

## Page 118, Money \& Chair Problems

1 \$4.11; students' work will vary.
2 a 171 chairs; students' work will vary.
b (challenge) 9 rows of chairs (They can make 8 rows of 20 and then put 11 chairs in the last row.) Students' work will vary.

## Page 119, Multiplication, Division \& Perimeter Practice

1 80, 9, 35, 0, 32, 30, 18
$14,45,40,12,40,28,100$
2 8, 6, 9
8, 5, 7
3 a 440 feet
b 290 feet
4150 feet

## Page 120, Curtains \& Movies

1 \$10.80; students' work will vary.
2 Rainy Day Dog; students' work will vary.

## Use after Unit Seven, Session 20

## Page 121, Multiplying \& Dividing

$130,14,2,35,15,40,45$
$8,4,18,10,30,50,24$
$0,8,6,28,36,80,27$
2 10, 8, 5
$6,3,10$
3 (challenge) 120; 210; 0; 130; 1,946; 1,000; 150

## Use after Unit Seven, Session 20 (cont.)

## Page 121, Multiplying \& Dividing (cont.)

4 a (challenge) Even
b (challenge) Students' explanations will vary. Example: It will be even because if you multiply any number times 10 , it will end in a 0 . Any number that ends in a 0 is even.

## Page 122, Larger Multiplication

| Problem | Break larger numbers into tens and ones. Then multiply. |  | Add the two products. | Your Answer |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{\|r} \hline 14 \\ \\ \\ \\ \times 44 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 4 \\ \hline 40 \end{array}$ | $\begin{array}{r} 4 \\ \times 4 \\ \hline 16 \end{array}$ | $40+16=56$ | $\begin{array}{r} 14 \\ \times 4 \\ \hline 56 \end{array}$ |
| $\begin{array}{\|r} \hline 23 \\ \hline \\ \times 6 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 6 \\ \times 60 \end{array}$ | $\begin{array}{r} 3 \\ \times 6 \\ \times 18 \end{array}$ | $60+18=78$ | $\begin{array}{r} 13 \\ \times 6 \\ \hline 78 \end{array}$ |
| $\begin{array}{\|r} \hline 3 \\ \hline 15 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 7 \\ \hline 70 \end{array}$ | $\begin{array}{r} 5 \\ \times 7 \\ \hline 35 \end{array}$ | $70+35=105$ | $\begin{array}{r} 15 \\ \times 7 \\ \hline 105 \end{array}$ |
| $\begin{array}{\|rr} \hline 4 & 18 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 8 \\ \times 80 \end{array}$ | $\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$ | $80+64=144$ | $\begin{array}{r} 18 \\ \times 8 \\ \hline 144 \end{array}$ |

## Page 123, Operations Review: Add, Subtract, Multiply \& Divide

1 15, 12, 40, 45, 6, 100, 24
20, 6, 1, 60, 25, 0, 18
16, 70, 10, 32, 21, 60, 24
2 8, 7, 1
5, 7, 7
3 445; 361; 1,018; 725; 481; 1,100 408; 137; 229; 101; 243; 174

## Page 124, Multiplication Story Problems

1 \$64; students' work will vary
270 apples; students' work will vary
3 a (challenge) 252 ounces of soda; students' work will vary.
b (challenge) No; students' explanations will vary. Example: There are 256 ounces in 2 gallons, so Gregory doesn't quite drink 2 gallons a week. His mom is exaggerating.

## Page 125, Fractions of a Circle

1
example

2 a $2 / 5<2 / 3$
b $2 / 3>2 / 10$
c $2 / 10=1 / 5$
d $2 / 5>2 / 10$
e $1 / 4>2 / 10$
f (challenge) $1 / 18<1 / 9$
g (challenge) $2 / 18=1 / 9$
h (challenge) $1 / 9>2 / 20$

## Page 126, Liters \& Quarts

1 a About 2 quarts
b There are fewer than 4 liters in a gallon.
Students' explanations will vary.
2 1,173; 1052; 9,067; 387; 95; 2,667
3 Frannie. Students' explanations will vary.

## Page 127, Lemonade \& Bracelets

1 a 20 lemons
b Students' explanations will vary.
2 a 72 beads
b Students' explanations will vary.
c (challenge) $\$ 10.80$; students' work will vary.

## Page 128, Pencils \& Cupcakes

1 a There were more purple pencils; students' explanations will vary.
b (challenge) 15 yellow pencils; students' explanations will vary.
2 a Red sugar and vanilla icing.
b (challenge) $1 / 4$ or 6 of the cupcakes had no sprinkles or sugar on top. Students' explanations will vary.

## Use after Unit Seven, Session 20 (cont.)

## Page 129, Shopping Problems (cont.)

1 Serena spent exactly $\$ 77$ more than Lisa. Students' work will vary.
2 \$18.00. Students' work will vary.

## Page 130, Feet, Yards \& Miles

1 a 292 yards; students' work will vary.
b (challenge) 7 full laps or 6 and a tiny bit. $(1,760 \div 292=6.03)$; students' work will vary.
287 feet of fencing; students' work will vary.

## Use after Unit Eight, Session 10

## Page 131, Expanded Form \& Rounding Review

1 a $1,000+400+20+7$, one thousand four hundred twenty-seven
b 3,251, three thousand two hundred fifty-one
c 7,$062 ; 7,000+60+2$
d $6,000+800+40+5$, six thousand eight hundred forty-five

2 a 3,430; 3,400; 3,000
b 8,$190 ; 8,200 ; 8,000$
c $370 ; 400 ; 0$
d 6,540; 6,500; 7,000
Page 132, Morning Math Games \& Breakfast
1 Students' work will vary slightly. Example:


2 Bagels
324 students
4 Students' answers will vary. Example: Ms. Suarez should serve bagels, muffins, and doughnuts. Even though most kids chose bagels, some people like muffins and doughnuts. She should get 26 bagels, 12 muffins, and 10 doughnuts because 20 more people are coming, and they might like the same things as their kids.

## Page 133, Fraction Review

1 Students' responses will vary. Examples:


C Note: ${ }^{1 / 5}<\frac{1}{2}$ is also acceptable.
2 Students' responses will vary. Examples:

$31 / 4,2 / 5,2 / 3,9 / 10$

## Page 134, The Soccer Field

1 They ran 80 yards more at Jake's uncle's house. Students' work will vary.
2 (challenge) 6 feet by 12 feet; students' work will vary.
Page 135, Basic Multiplication \& Division Review
1 6, 20, 35, 12, 80, 18, 21
$0,30,14,15,45,25,24$
$16,40,7,24,36,28,32$
2 2, 9, 2
10, 6, 9
3 (challenge) Yes. Students' explanations will vary. Example: Since the perimeter of a rectangle is $2 \times$ length and $2 \times$ width, it will be even.

## Page 136, Sandwiches \& Mini-Chip Cookies

1 a 4 loaves of bread; students' work will vary.
b 4 sandwiches; students' work will vary.
24 cookies; students' work will vary. ( $41 / 2$ is also acceptable)
Page 137, Add, Subtract \& Multiply
1 519; 1,164; 1,041; 350; 135
142; 436; 538; 138; 225

## Use after Unit Eight, Session 10 (cont.)

Page 137, Add, Subtract \& Multiply (cont.)
2 a $5 \times 8>10 \times 3$
b $12+18=2+28$
c $25-10=35-20$
d $2 \times 12>2 \times 8$
e $1 \times 9<3 \times 4$
f (challenge) $890-500>756-540$
s (challenge) $400=150+250$
h (challenge) $2 \times 96<4 \times 50$
i (challenge) $1 \times 450=500-50$
3 Third choice $(32 \div 2)+18=$ ?; Jake has 34 shells

## Page 138, Multiplying Two-Digit by One-Digit

 Numbers| Problem | Break larger numbers into tens and ones. Then multiply. | Add the two products. | Your Answer |
| :---: | :---: | :---: | :---: |
| ex <br> $\times 4$ | $\begin{array}{r} 10 \\ \times 4 \\ \hline 40 \end{array} \begin{array}{r} 6 \\ \times 4 \\ \hline 24 \end{array}$ <br> Break 16 into 10 and 6. Multiply both by 4 | $40+24=64$ | $\begin{array}{r} 16 \\ \times 4 \\ \hline 64 \end{array}$ |
| $1$ | $\begin{array}{r} 10 \\ \times 5 \\ \hline 50 \end{array} \begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array}$ | $50+15=65$ | $\begin{array}{r} 13 \\ \times 5 \\ \hline 65 \end{array}$ |
| $2$ $\begin{array}{r} 18 \\ \times 3 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 3 \\ \hline 30 \end{array} \begin{array}{r} 8 \\ \times 3 \\ \hline 24 \end{array}$ | $30+24=54$ | $\begin{array}{r} 18 \\ \times \quad 3 \\ \hline 54 \end{array}$ |
| $3$ $\begin{array}{r} 16 \\ \times 9 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 9 \\ \hline 90 \end{array} \begin{array}{r} 6 \\ \times 94 \end{array}$ | $90+54=144$ | $\begin{array}{r} 16 \\ \times \quad 9 \\ \hline 144 \end{array}$ |
| $4$ $\begin{array}{r} 14 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 7 \\ \hline 70 \end{array} \begin{array}{r} 4 \\ \times 7 \end{array}$ | $70+28=98$ | $\begin{array}{r} 14 \\ \times 7 \\ \hline 98 \end{array}$ |

Page 139, Quadrilateral Review
1 Students' responses will vary. Examples:
a

b

c

d


2 No; students' explanations will vary. Example: A rhombus has to have 4 sides that are all the same length. If all 4 sides are the same length, there has to be 2 pairs of parallel sides, so a rhombus must be a parallelogram.

## Page 140, Angles, Sides \& Shapes Review

1 a Students' drawings will vary, trapezoid.
b Students' drawings will vary, parallelogram or both rhombus and parallelogram depending on the shape the student has drawn.
c Students' drawings will vary, trapezoid.
2 (challenge) No; students' explanations will vary. Example: Two of the angles can be obtuse, but then two of them will have to be acute. (The four interior angles of a quadrilateral always add up to exactly $360^{\circ}$. Since $360 \div 4=90$, it is impossible to draw a parallelogram with 4 angles that are all greater than $90^{\circ}$.)

$\qquad$

## Addition \& Subtraction Fact Practice

1 Complete the doubles addition facts.

| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +2 | +3 | +4 | +5 | +6 | +7 | +8 |

2 Complete the neighbors addition facts.

| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +3 | +4 | +5 | +6 | +7 | +8 | +9 |

3 Complete the half subtraction facts.

| 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | | 18 |
| ---: |
| -2 |
| - |

4 Complete the neighbors subtraction facts.

| 4 | 6 | 8 | 10 | 11 | 14 | 16 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| -3 | -4 | -7 | -8 | -9 | -13 | -14 |
| - | - | - | -17 |  |  |  |

5 Look at the facts in problems 1 and 2. Describe one pattern you see.

## Sam's Pet Graph

Sam asked his classmates to choose their favorite pets. The bar graph shows how many students chose each pet.


1 Which pet did the greatest number of students choose?

2 How many students chose fish?

3 How many more students chose dogs than cats?

4 How many more students chose cats than birds?

5a Write another question you could answer by looking at this graph.
b Write the answer to your question here:

## Numbers in the Hundreds

1 Write the number that matches each picture.


2 Write each pair of numbers. Then use a greater than (>) or less than (<) symbol to compare them.

| ex | four hundred eighty-three | four hundred thirty-eight | compare with <br> $>$ or $<$ |
| :--- | :---: | :---: | :---: |
|  | 483 | 438 | $483>438$ |
|  | two hundred twenty-six | two hundred sixty-two | compare with <br> $>$ or $<$ |
| b | three hundred seven | three hundred seventeen | compare with <br> $>$ or $<$ |
|  |  |  |  |
| $\mathbf{C}$ | eight hundred ninety-four | eight hundred forty-nine | compare with <br> $>$ or $<$ |
|  |  |  |  |

## The Cafeteria Survey

1 The people who work in the cafeteria did a survey to find out what the students' favorite drinks are. The table shows the third graders' answers. Show the information from the table on the bar graph. Title the graph and label the y -axis.

| Drink | Number of <br> Students |
| :---: | :---: |
| Water | 7 |
| Orange <br> Juice | 12 |
| Milk | 19 |
| Chocolate <br> Milk | 13 |



2 How many third graders were surveyed? Show all your work.

3 What was the most popular drink?

4a Write a question you could answer by looking at the graph.
b Write the answer to your question here:
$\qquad$
$\qquad$

## Fast Tens \& Fast Nines Practice

1 Complete the fast tens addition facts.

| 10 | 3 | 4 | 10 | 6 | 10 | 10 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +2 | +10 | +10 | +5 | +10 | +7 | +8 |

2 Complete the fast nines addition facts.

$$
\begin{array}{rrrrrrr}
9 & 3 & 4 & 9 & 9 & 7 & 8 \\
+9 \\
+ & +9 \\
\hline
\end{array}
$$

3 Complete the take away ten subtraction facts.

| 18 | 12 | 15 | 17 | 13 | 16 | 14 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| -10 | -10 | -10 | -10 | -10 | -10 | -10 |
| - | - | - | -10 |  |  |  |

4 Complete the runaway ones subtraction facts.

| 17 | 13 | 15 | 14 | 16 | 18 | 12 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | | 19 |
| ---: |
| -7 |
| $-\quad-3$ |

## CHALLENGE

5 Look at the facts in problems 1 and 2. Describe one pattern you see.
$\qquad$

## Jorge's Saving Plans

Jorge wants to buy a digital music player that costs $\$ 50$. He offered to water his neighbor's plants for $\$ 5$ per week. The graph below shows how much money Jorge will have if he saves it all.


1 How long will it take Jorge to earn $\$ 20$ ? $\qquad$ weeks

2 How long will it take Jorge to earn enough money to buy the music player?
$\qquad$ weeks

3 How many weeks would it take for Jorge to earn \$60? $\qquad$ weeks


4 If Jorge spent \$20 after the 7th week, how many weeks in all would it take him to have enough money to buy the music player?
$\qquad$
$\qquad$

## Missing Numbers Fill-In

1 Fill in the missing numbers in the make ten addition facts.
$5+\ldots=10$
$\ldots+3=10$
$6+$ $\qquad$ $10=$ $\qquad$
$0+\ldots=10$
$9+\ldots=10$
$10=$ $\qquad$ $+7$ $10=4+$ $\qquad$

2 Fill in the missing numbers in the equations below.
$2+$ $\qquad$ $=4$
$16=$ $\qquad$ $+8$
$6=3+$ $\qquad$
$\ldots=9+9$
$5+$ $\qquad$ $=10$ $\qquad$ $+6=12$
$8=$ $\qquad$ $+4$
$7+7=$ $\qquad$

3 Fill in the missing numbers to complete the subtraction facts.


## CHALLENGE

4 What is one way the equations in problem 2 are alike?
$\qquad$
$\qquad$

## Name the Fraction

1 Fill in the bubble next to the fraction that shows how much of each shape is filled in.


## CHALLENGE

2 Follow the instructions to color the array at the right.

- Color half the squares in the array red.
- Color one-fourth of the squares in the array blue.
- Color the rest of the squares in the array green.

What fraction of the array is green?

|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

$\qquad$
$\qquad$

## Related Addition \& Subtraction Facts

1 Complete these addition facts.

| 4 | 5 | 8 | 3 | 5 | 10 | 4 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +6 | +5 | +2 | +7 | +6 | +3 | +10 |

2 Complete these addition facts. Use the answers above to help.

$$
\begin{array}{rrrrrrr}
4 & 7 & 8 & 8 & 8 & 9 & 9 \\
+7 & +5 & +4 & +5 & +6 & +4 & +3 \\
\hline
\end{array}
$$

3 Complete these subtraction facts.

$$
\begin{array}{rrrrrr}
9 & 11 & 12 & 13 & 12 & 11 \\
-4 & -4 & -7 & -8 & -4 & -5 \\
\hline & & & & & \\
\hline & & & & & 12 \\
-6 \\
14 & 13 & 14 & 14 & 10 & 14 \\
-8 & -5 & -7 & -7 & -6 & -5 \\
\hline
\end{array}
$$

## CHALLENGE

4 Solve these addition problems.

| 150 | 250 | 350 | 440 | 140 | 220 | 170 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +150 | +140 | +260 | +460 | +670 | +480 | +530 |

5 Solve these subtraction problems.

$$
\begin{array}{rrrrrr}
130 & 480 & 129 & 100 & 300 & 250 \\
-\quad 3 & -140 & -13 & -\quad 4 & -97 & -25 \\
\hline
\end{array}
$$

$\qquad$

## Fraction Fill-Ins

1 Shade in each square to show the fraction.


## CHALLENGE

2 Follow the instructions to color the circle.

- Color $\frac{2}{8}$ of the circle red.
- Color $\frac{3}{8}$ of the circle green.
- Color $\frac{1}{8}$ of the circle yellow.
- Color the rest of the circle blue.


What fraction of the circle is blue?

3 Follow the instuctions to color the rectangle.

- Color $\frac{1}{4}$ of the rectangle purple.
- Color $\frac{2}{4}$ of the rectangle orange.
- Color $\frac{1}{12}$ of the rectangle blue.
- Color the rest of the rectangle brown.


What fraction of the rectangle is brown?
$\qquad$
$\qquad$

## Dollar Signs \& Decimal Points

1 Write the value of each coin with a decimal point and dollar sign.

| ex Penny \$0.01 | a Nickel | b Dime | C Quarter |
| :---: | :---: | :---: | :---: |
| (an |  |  |  |

2 Use a dollar sign and decimal point to write the value of each group of coins.

| example $\$ 0.15$ | a |  |
| :---: | :---: | :---: |
| b | C |  |
| d | e |  |

## CHALLENGE

3 sketch the following groups of coins.

| a 5 coins worth $\$ 0.46$. | b 9 coins worth $\$ 0.48$. |
| :--- | :--- |
|  |  |

$\qquad$

## Telling Time to the Hour, Half Hour \& Quarter Hour

1 What time does each clock show?

| example | a | b |
| :---: | :---: | :---: |
| C | d |  |

## CHALLENGE

2 Which clock above shows "quarter past eleven"?

3 Which clock above shows "quarter till three"?

4 Which clock above shows "half past three"?
$\qquad$
$\qquad$

## More Dollar Signs \& Decimals

Write how much each group of coins is worth. Use a dollar sign and decimal point. You can use the grids to help.

$\qquad$
$\qquad$

## Leaves \& Flower Petals

Answer each question below. Write an addition or multiplication equation to show how you figured it out.

| Picture | Answer the question. | Write an equation. |
| :---: | :---: | :---: |
| example | There are 3 flowers. How many leaves? | $\begin{gathered} 2+2+2=6 \\ \text { or } \\ 3 \times 2=6 \end{gathered}$ |
| $1$ | There are 3 flowers. How many petals? |  |
| $2$ | There are 7 flowers. How many leaves? |  |
| $3$ | There are 4 flowers. How many petals? |  |

$\qquad$
$\qquad$

## Bamboo Shoot Growth Graph

In the spring, new bamboo shoots can grow up to 1 foot per day. Once they reach their full height, the shoots stop growing. The graph below shows how one shoot grew for 13 days.
1 How tall was the shoot on the 13th day?

3 Did the shoot ever get shorter in the 13 days?


Number of Days

4a Did the shoot grow the same amount every day?
b Explain how you can tell.

## CHALLENGE

5 There are 36 inches in 1 yard. The shoot was 84 inches on the ninth day. Was it more or less than 2 yards tall? Exactly how much more or less? Show all your work.
$\qquad$
$\qquad$

## Eyes, Ears \& Whiskers

Answer each question below. Write an addition or multiplication equation to show how you figured it out.

| Picture | Answer the question. | Write your equation here. |
| :---: | :---: | :---: |
| example | There is 1 cat. How many eyes? | $1 \times 2=2$ |
|  | There are 10 cats. How many eyes? |  |
| $2$ | There are 6 cats. How many ears? |  |
| $3$ | There are 3 cats. How many whiskers? |  |

$\qquad$
$\qquad$

## Telling Time on Analog \& Digital Clocks

1 Fill in the bubble that shows the time on the clock.


2 Draw lines to show match the clocks that show the same time.
a

b

C



3 Sam leaves school at 3:15. It takes Sam 2 minutes to walk 1 block and he lives 13 blocks away from school. Draw hands on the clock face and write the time on the digital clock to show when he gets home from school if he doesn't stop along the way. Show all of your work.


## Eric's Three-Coin Problem

Eric has 3 coins in his pocket. They are worth $\$ 0.40$. What coins does he have in his pocket?

1 What is this problem asking you to figure out?

2 Underline any information in the problem that will help you find the answer.
3 Use this space to solve the problem. Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.
$\qquad$

NAME $\qquad$ DATE $\qquad$

## Understanding Place Value

1 Circle the place value of the underlined digit. Then write its value.

| Number | Place Value | Value |
| :---: | :---: | :---: |
| ex a $4 \underline{5} 2$ | ones <br> tens <br> hundreds | 50 |
| ex b 103 | ones <br> tens <br> hundreds | 3 |
| $\mathbf{a} \underline{382}$ | ones <br> tens <br> hundreds |  |


| Number | Place Value | Value |
| :--- | :--- | :---: | :---: |
| b $16 \underline{4}$ | ones <br> tens <br> hundreds |  |
| C $4 \underline{71}$ | ones <br> tens <br> hundreds |  |
| d $\underline{504}$ | ones <br> tens <br> hundreds |  |

2 Write > or < on the line to make a true statement.

| ex 456 < 546 | a $96 \ldots 69$ | b $326 \ldots 362$ | C $127 \ldots 217$ |
| :---: | :---: | :---: | :---: |
| d 960 ___ 906 | e $312 \ldots 231$ | f $304 \ldots$ | ¢ $719 \ldots 790$ |

3 Fill in the missing digits to make each statement true. There is more than one right answer for each one.

| ex $3 \underline{2} 7<347$ | a $435>\ldots 35$ | b $107<\ldots 07$ | C $935<93$ |
| :---: | :---: | :---: | :---: |
| d 2__3 ${ }^{\text {c }}$ 263 | e 1__ 7 < 137 | f $276>2 \_6$ | 8 119 < 1___9 |

$\qquad$

## Alexis Walks Home from School

Alexis started walking home from school at 3:15. She got home 20 minutes later. What time did she get home?

1 What is this problem asking you to figure out?

2 Underline any information in the problem that will help you find the answer.
3a Use this space to solve the problem. Show all your work using numbers, words, and/or labeled sketches. You can use the clocks to help. Write the answer on the line below when you're finished.

b Answer $\qquad$

4 Social studies started 55 minutes before Alexis started walking home from school at 3:15. What time did social studies start?

$\qquad$
$\qquad$

## Expanded Notation 3-Digit Numbers

1 Write the value of the base ten pieces. Then write an equation to show the total value in expanded form.

|  | Hundreds | Tens | Ones | Equation |
| :---: | :---: | :---: | :---: | :---: |
| ex |  200   <br>     <br>     <br>     <br>     <br>     |  | $\begin{aligned} & 5 \\ & \\ & \square \\ & \square \square \\ & \square \square \end{aligned}$ | $200+40+5=245$ |
| a |   <br>   <br>   <br>   | $\begin{aligned} & \exists B B \\ & B \exists B \\ & \exists \exists B \end{aligned}$ | $\square$ <br> $\square \square$ <br> $\square \square$ <br> $\square \square$ |  |
| $b$ |     $\|l\| l \mid$ <br>      <br>      <br>      <br>      |  | $\begin{aligned} & \square \\ & \square \square \\ & \square \square \end{aligned}$ |  |

## CHALLENGE

2 Which has the greater total, part $a$ or part b? Exactly how much more? Show all of your work.

## Centimeters \& Decimeters

1 Use a ruler marked in centimeters to measure the length of each strip below. Write your measurement next to each strip.


2 There are 10 centimeters in 1 decimeter. First circle whether you think each strip below is longer or shorter than a decimeter (dm). Then measure it to find out.

| Strip | Estimate | Measurement |  |
| :--- | :--- | :--- | :--- |
| a |  | Longer <br> Shorter |  |
| b |  | Longer <br> Shorter |  |
| ( |  | Longer <br> Shorter |  |

## CHALLENGE

3 Use a ruler marked in centimeters to measure the length of each strip below. Measure to the half centimeter. Write your measurement next to each strip.

|  | Strip | Measurement |
| :--- | :--- | :--- |
| a |  |  |
| b |  |  |

## Place Value Practice 3-Digit Numbers

1 Complete each equation by writing the number in standard form.

| example $300+20+9=\ldots 329$ | a $800+40+5=\ldots$ |
| :--- | :--- |
| b $500+8=\ldots$ | C $600+20=$ |
| d $500+80+7=\ldots$ | e $900+10+4=$ |

2 Complete each equation by writing the number in expanded form.

| example $659=\ldots 600+50+9$ | $\mathbf{a} 437=\ldots$ |
| :--- | :--- |
| $\mathbf{b}$ | C $549=$ |
| $\mathbf{d} 692=508$ | e $=749$ |

3 Write each set of numbers in order from least to greatest.

| example 207, 720, 270, 702 | 207 | 270 | 702 | 720 |
| :---: | :---: | :---: | :---: | :---: |
|  | least |  |  | greatest |
| a 437, 347, 734, 473 |  |  |  |  |
|  | least |  |  | greatest |
| b 603, 630, 360, 316 |  |  |  |  |
|  | least |  |  | greatest |
| C 191, 119, 190, 109 |  |  |  |  |
|  | least |  |  | greatest |
| 6,071; 6,107; 6,017; 6,701 | least |  |  | greatest |

$\qquad$
$\qquad$

## Writing Multiplication Equations

Write a count-by sequence and a multiplication equation to show the totals below.

| Group | Count-By Sequence | Multiplication Equation |
| :---: | :---: | :---: |
| example <br> 3 hands. How many fingers? | 5, 10, 15 | $3 \times 5=15$ fingers |
| 16 elephants. How many ears? |  |  |
| 28 dimes. How many cents? |  |  |
| 37 sea stars. How many arms? Ms |  |  |
| 45 cartons of eggs. How many eggs? |  |  |

$\qquad$

## Loops \& Groups

Write a multiplication equation to show how you can find the total number of squares. The loops in each problem contain the same number of squares.

| Loops | Equation |
| :---: | :---: |
| example | $2 \times 5=10$ |
| 1 |  |
| 2 |  |
| $3$ |  |
| 4 |  |
| 5 |  |

## Alfonso's Money Problem

Alfonso had $\$ 23$. He spent $\$ 8$ at the store during the day. That night, his dad gave him $\$ 5$ for his allowance. How much money did Alfonso have at the end of the day?

1 What is this problem asking you to figure out?

2 Underline any information in the problem that will help you find the answer.
3a Use this space to solve the problem. Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.
b Answer $\qquad$ CHALLENGE

4 Alfonso wants to share his money with his little sister. He wants to give her enough so that they each have exactly the same amount of money. His sister has $\$ 9$. How much money should Alfonso give her, and how much money will they each have? Show your work.
$\qquad$

## More Related Addition \& Subtraction Facts

1 Complete the addition facts.

| 4 | 8 | 8 | 5 | 8 | 8 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| + 7 | + 5 | + 4 | + 7 | + 6 | + 3 | + 6 |
| 9 | 4 | 7 | 9 | 7 | 9 | 10 |
| + 8 | + 9 | + 7 | + 3 | + 9 | + 5 | + 8 |

2 Complete the subtraction facts.

| 20 | 13 | 18 | 16 | 12 | 11 | 12 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| -7 | -7 | -9 | -9 | -5 | -5 | -8 |
|  | - | - | - | - |  |  |
| 13 | 14 | 11 | 15 | 13 | 13 | 14 |
| -4 | -8 | -8 | -8 | -5 | -9 | -5 |

## CHALLENGE

3 Use what you know about basic facts to solve these addition problems.

| 800 | 20 | 44 | 30 | 2 | 800 | 3,000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r}+3 \\ \hline\end{array}$ | + 20 | + 6 | + 70 | + 70 | + 200 | + 3,000 |
| 496 | 80 | 400 | 1,400 | 9,000 | 108 | 225 |
| + 4 | + 20 | + 300 | + 600 | + 9,000 | + 208 | + 526 |

## Ling's Basketball Cards

Ling had 34 basketball cards. She gave away 18 cards. Then she bought a pack of 6 new cards and her friend gave her 2 more. How many cards does she have now?

1 What is this problem asking you to figure out?

2 Underline any information in the problem that will help you find the answer.
3a Use this space to solve the problem. Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.
b Answer $\qquad$

4 Ling put her basketball cards in an album. She put 4 cards on each page. How many pages did she fill with her cards? Show all your work.
$\qquad$
$\qquad$

## Addition \& Subtraction Practice

1 Complete the addition facts.

| 9 | 5 | 8 | 4 | 9 | 8 | 9 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +4 | +7 |  |  |  |  |  |

2 Complete the subtraction facts.

| 20 | 18 | 16 | 15 | 13 | 17 | 14 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| -11 |  |  |  |  |  |  |
|  | -9 | -8 | -7 | -8 | -9 | -6 |
|  |  |  |  |  |  |  |
| 15 | 14 | 18 | 13 | 12 | 15 | 16 |
| -9 | -7 | -10 | -5 | -9 | -6 | -7 |

## CHALLENGE

3 Use what you know about basic facts to solve these subtraction problems.

| 800 | 300 | 1,000 | 400 | 400 | 600 | 130 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - 400 | - 297 | 3 | - 100 | - 40 | - 2 | - 128 |
| 100 | 900 | 160 | 216 | 500 | 125 | 214 |
| - 80 | - 2 | - 2 | - 108 | - 225 | - 75 | - 107 |

4 Add and subtract to solve these problems.
$50+225-70=$ $\qquad$ $120-80+460=$ $\qquad$ $316-208+100=$ $\qquad$
$\qquad$
$\qquad$

## Comparing Fractions

Fill in the shapes to show the two fractions. Then compare them using $<$ or $>$.

| Show these fractions. |  |  | Compare the fractions with < or >. |
| :---: | :---: | :---: | :---: |
| example |  |  | $\frac{1}{2} \quad \frac{1}{4}$ |
| $1$ |  |  | $\frac{1}{3} \quad \frac{1}{2}$ |
| 2 |  |  | $\frac{2}{3} \quad \frac{2}{4}$ |
| $3$ |  |   <br>   <br>   <br>   <br> $\frac{5}{8}$  | $\frac{3}{4} \quad \frac{5}{8}$ |

$\qquad$
$\qquad$

## Patterns \& Sums

1 Fill in the missing numbers in each skip-counting pattern.
a $7,17,27$, $\qquad$ , $\qquad$ , 57, $\qquad$ , $\qquad$ 87, 97, $\qquad$
b $8,28,48$, $\qquad$
$\qquad$ , 108, $\qquad$
$\qquad$ 168, 188, $\qquad$
C $4,34,64$, $\qquad$ , 124, 154, $\qquad$ , $\qquad$ 244, 274, $\qquad$

2 Find each sum.

| 67 | 38 | 53 | 76 | 49 | 63 | 58 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +20 | +10 | +30 | +30 | +20 | +10 | +20 |

3 Find each sum. Show all your work. Use the answers above to help you.

| a $\begin{array}{r} 67 \\ +\quad 20 \end{array}$ | $\begin{aligned} & \mathbf{b} \quad 38 \\ & \\ & \\ & +16 \end{aligned}$ |
| :---: | :---: |
| C $53+38=$ | d $76+35=$ |
| $\begin{array}{r} \text { e } 257 \\ +60 \end{array}$ | $\begin{array}{r} \mathbf{f} 668 \\ +70 \\ \hline \end{array}$ |

$\qquad$

## Adding Money Amounts

1 Add the two amounts of money. Show all your work. Then write an equation to show the two amounts and the total.

| Add these amounts. | Show all your work. | Write an equation. |
| :---: | :---: | :---: |
| ex $\$ 0.86+\$ 1.23$ | $\begin{aligned} 6 \phi+3 \phi & =\$ 0.09 \\ 80 \phi+20 \phi & =\$ 1.00 \\ \$ 0+\$ 1 & =\frac{\$ 1.00}{\$ 2.09} \end{aligned}$ | \$0.86-\$1.23 = \$2.09 |
| a $\$ 0.73+\$ 1.65$ |  |  |
| b \$1.46+\$0.87 |  |  |
| C $\$ 0.83+\$ 1.39$ |  |  |

2 Keiko has 7 coins in her pocket. They add up to $\$ 0.48$. What coins does she have in her pocket? Show all your work.

She has $\qquad$ quarter(s), $\qquad$ dime(s), $\qquad$ nickel(s), and $\qquad$ penny (pennies).
$\qquad$

## Double-Digit Addition

1 Add each pair of numbers. Show all your work.

| $\mathbf{a} 30+65=$ | $\mathbf{b} 42+35=$ | $\mathbf{c} 46+38=$ |  |
| :--- | :--- | :--- | :--- |
|  |  |  |  |

2 Victor had 126 baseball cards. His cousin gave him 20 more cards. Then his brother gave him 58 more cards. How many baseball cards does Victor have now? Show all your work.
$\qquad$

## Telling Time to the Minute

1 Fill in the circle next to the time shown on each clock.

| a 1:45 |  |  |
| :---: | :---: | :---: |

2 Write the time shown on each clock.


3 Circle the digital clock that shows the same time as this analog clock.

$\qquad$
$\qquad$

## Number Patterns

1 Fill in the missing numbers in each skip-counting pattern.
a $15,30,45$, $\qquad$ , $\qquad$ , 90, 105, $\qquad$
b $25,50,75$, $\qquad$ , $\qquad$ 150, 175, $\qquad$
C 12,42 , $\qquad$ 102, $\qquad$ , $\qquad$ 192

2 Fill in the missing numbers in each counting pattern on the number lines.

## example


b


## CHALLENGE

3 What are the first two numbers that the number lines in 2 a and 2 b will have in common? Explain your answer.
$\qquad$

## Using the Number Line to Find Differences

You can use a number line to count up from a smaller number to a larger number. This can help you find the difference between two numbers.

Use the number lines to solve each problem below.
She needs $\qquad$ more.


1 Clive and his family are driving to the beach. They will drive 136 miles total. So far, they have driven 84 miles. How much farther do they have to go? Show your work. Write your answer in the space below.


They have $\qquad$ more miles to go.


2 Shanice is reading a book that is 143 pages long. So far, she has read 56 pages. How many more pages does she have to read? Show your work. Write your answer in the space below.


She has $\qquad$ pages left to read.


## Inches \& Feet

1 Use a ruler marked in inches to measure each strip. Write the length in the space next to the strip. Label your answers with the correct units (inches, in. or ")

|  | Strip | Length |
| :--- | :---: | :---: |
| a |  |  |
| b |  |  |
| c |  |  |
| d |  |  |

2 There are 12 inches in 1 foot. Use this information to answer the questions below.
a How many feet are equal to 24 inches? $\qquad$
b How many feet are equal to 36 inches? $\qquad$

3 Rodney has a piece of rope that is 144 inches long. Simon has a piece of rope that is 87 inches long. How much longer is Rodney's piece of rope? Show all your work.

## CHALLENGE

4 Maria and Katy each have a piece of string. When they put the 2 pieces of string together end-to-end, the total length is 84 inches. Maria's string is 6 inches longer than Katy's. How long is Maria's piece of string? How long is Katy's piece of string? Show all your work. Use another piece of paper if you need to.
$\qquad$

## Double-Digit Subtraction

1 Solve the subtraction problems. Show all your work.

| a $67-28$ | b 83-37 | C 92-54 |
| :--- | :--- | :--- |
|  |  |  |

2 Mr. Jones needs 126 pieces of construction paper to do an art project with his students. All he has is a full pack with 50 sheets of paper and an open pack with some more sheets. How many more pieces of paper does he need to borrow from the teacher next door?
a Choose the information that will help you solve the problem.There are 24 students in the class.The open pack has 17 sheets of paper.Packs of construction paper cost \$3 each.He has 32 pencils.
b Solve the problem. Show all your work. Write your answer on the line at the bottom of the page.

Mr. Jones needs to borrow $\qquad$ more sheets of paper.

NAME $\qquad$
$\qquad$

## Target Practice

1 Circle the number you would add to the first number to get as close to the target number as you can. Use rounding and estimation to help. Then explain your thinking.

| Target Number | First Number | Circle one number. | Explain your thinking. |  |
| :--- | :---: | :---: | :---: | :---: |
| example 60 | 32 | 43 | 27 | $30+20$ is 50. Then you <br> have 2+7 more, so that's <br> very close to 60. |
| a 120 | 63 | 78 | 58 |  |
| b 150 | 56 | 91 | 76 |  |
| C 140 | 76 | 89 | 68 |  |

2 Solve the problems.

| 143 | 207 | 198 | 529 | 309 | 457 | 195 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| -68 | -39 | -99 | -405 | -206 | -28 | -174 |

## CHALLENGE

3 Fill in the missing digits.


$\qquad$

## Subtraction Problems

1 Solve the subtraction problem. Show all your work.
a 238-157
b Use addition to double check your answer.

2 Cliff had \$5 to spend at the store. He got an apple for 55\$, a bottle of juice for $\$ 1$, and a snack bar. How much change did he get back?
a Choose the information that will help you solve the problem.The snack bar cost 89¢.The cashier didn't have any dimes.The juice was in a 16 -ounce bottle.Ice cream bars cost 994.
b Solve the problem. Show all your work. Write your answer on the line at the bottom of the page.
$\qquad$ back in change.

$\qquad$

## Right, Acute \& Obtuse Angles

1 Use the information below to help solve the following problems.

| A right angle is <br> exactly 90 degrees. | An acute angle is <br> less than 90 degrees. | An obtuse angle is <br> more than 90 degrees. |
| :---: | :---: | :---: |

a Circle all the right angles.

b Circle all the acute angles.


C Circle all the obtuse angles.


2 Draw another ray to make an acute angle.

3 Draw another ray to make an obtuse angle.
$\qquad$

## Parallel, Intersecting \& Perpendicular Lines

Use the following information to help solve the problems below.

| Parallel lines are always the <br> same distance apart. <br> They will never cross. | Intersecting lines cross <br> each other. | Perpendicular lines are <br> special intersecting lines. <br> Where they cross, they <br> form a right angle. |
| :---: | :---: | :---: |

1 Fill in the bubble(s) next to the word(s) that best describe(s) each pair of lines.

| $a \xrightarrow{\longrightarrow}$ | $\bigcirc$ parallel $\bigcirc$ intersecting $\bigcirc$ perpendicular |
| :---: | :---: |
|  | $\bigcirc$ parallel $\bigcirc$ intersecting $\bigcirc$ perpendicular |
|  | $\bigcirc$ parallel $\bigcirc$ intersecting $\bigcirc$ perpendicular |
| d $\downarrow \downarrow$ | $\bigcirc$ parallel $\bigcirc$ intersecting $\bigcirc$ perpendicular |

2 Draw a pair of intersecting lines.

3 Draw three lines that are all parallel.
$\qquad$
$\qquad$

## Angles \& Sides

Use the following information to help solve the problems below.

| Right Angle <br> exactly $90^{\circ}$ <br> a square corner | Acute Angle <br> smaller than <br> a right angle | Obtuse Angle <br> larger than <br> a right angle |
| :--- | :--- | :--- | | Parallel Sides |
| :---: |
| would never cross if |
| they went on forever |

1 Circle the shape with exactly 1 pair of parallel sides.


2 Circle the shape that has only acute angles.


3 Circle the shape that has only obtuse angles.


4 Circle the two shapes that have only right angles.

$\qquad$

## Perimeter Practice

Perimeter is the total length of all sides of a shape. To find the perimeter, add the lengths of all the sides of a shape.

1 Use a ruler marked in inches to measure the sides of the squares and rectangles.
Label each side. Then find the perimeter of each shape. Show your work.

$\qquad$
$\qquad$

## Different Kinds of Quadrilaterals

A quadrilateral is a shape with 4 sides. Here are some different kinds of quadrilaterals.

| Trapezoid: a quadrilateral with exactly 1 pair |
| :--- | :--- |
| of parallel sides |
| Rectangle: a quadrilateral with 2 pairs of par- |
| allel sides and 4 right angles |
| all the same length |

1 Circle the word(s) that describe each shape.


2 Jackie circled all these words for this shape. Is she right or wrong? Explain your answer.

$\qquad$

## Finding the Perimeters of Quadrilaterals

1 Use a ruler to measure the sides of each quadrilateral in centimeters. Label all the sides of each shape. Then find the perimeter. Show your work.
example Perimeter $=\ldots$ Perimeter $=$

2a Which shape above is a rhombus? $\qquad$
b Explain how you can tell.
$\qquad$
$\qquad$

## Shape Sorting

1 Walt sorted some shapes into these two groups.

a Circle the shapes that belong in group B.

b What do the shapes in group B have in common?

2a How can you tell if a shape is a hexagon?
b Circle all the hexagons.

$\qquad$
$\qquad$

## More Perimeter Practice

1 Find the perimeter of each shape below. Think carefully about how it will be easiest for you to add the numbers. Show your work.

| example $\qquad$ 400 m $\qquad$ | a Perimeter $=$ $\qquad$ |
| :---: | :---: |
| b Perimeter = $\qquad$ | C Perimeter $=$ $\qquad$ |

## CHALLENGE

2 On another piece of paper, draw and label two different 4-sided shapes that each have a perimeter of exactly 20 centimeters.
$\qquad$

## Dividing \& Combining Shapes

1 Circle the shape you would make if you cut this triangle on the dotted line.


2 Circle the shape you would make if you cut the circle along the dotted line.


3 Circle the shape you would make if you cut the hexagon along the dotted line.


4 Circle the two shapes that would make the pentagon if you put them together.


5 Circle the two shapes that would make the octagon if you put them together.
P
$\qquad$

## Sandbox \& Garden Problems

$1 \mathbf{a}$ Mrs. Smith made a sandbox for her kindergarten students. It was 60 inches wide and 125 inches long. Make a labeled sketch of the sandbox below.
$\mathbf{b}$ What was the perimeter of the sandbox? Use your sketch to help solve the problem.

The perimeter of the sandbox was $\qquad$ inches.

2 Mai and her sister Keiko were planting a garden. They made two beds to plant flowers. One was 4 feet by 3 feet. The other was 5 feet by 5 feet. They want to outline the beds with bricks that are each 1 foot long. How many bricks will they need to outline both beds? Show all of your work.


They will need $\qquad$ bricks to outline both beds.
$\qquad$

## Adding 2-Digit Numbers

1 Add each pair of numbers. Show all your work.

| $\mathbf{a} 60+35=\ldots$ | $\mathbf{b} 27+61=\ldots$ | $\mathbf{C} 36+45$ |
| :--- | :--- | :--- |



## CHALLENGE

2 Fill in the missing digits.
$\square$ 8
$\square$
4

$\begin{array}{r}\square 7 \\ +\quad 77 \\ \hline 106\end{array}$

$\qquad$

## All About Circles

Use the following information to help solve the problems below.
A circle has different parts.

- The center is the point right in the middle.
- The circumference is the outline of the circle.
- The radius is a line segment that goes from the center to the circumference.
- The diameter is a line segment that goes between two points on the circumference and passes through the center.


1 The parts of this circle are labeled with letters. Fill in the bubbles to show the correct name of each part.

| $\mathbf{a} \bigcirc$ center | $\bigcirc$ circumference | $\bigcirc$ radius | $\bigcirc$ diameter |
| :--- | :--- | :--- | :--- | :--- |
| $\mathbf{b} \bigcirc$ center | $\bigcirc$ circumference | $\bigcirc$ radius | $\bigcirc$ diameter |
| $\mathbf{c} \bigcirc$ center | $\bigcirc$ circumference | $\bigcirc$ radius | $\bigcirc$ diameter |
| $\mathbf{d} \bigcirc$ center | $\bigcirc$ circumference | $\bigcirc$ radius | $\bigcirc$ diameter |

2 This ant wants to get from point $e$ to point $f$. She can walk along the diameter of the circle or along the circumference. Which way should she go if she wants to walk the shortest distance? Ocircumference $\bigcirc$ diameter


3 This ant wants to get from point $g$ to point $h$. Draw the path he should take in order to walk the shortest distance.

$\qquad$

## More Subtraction Problems

1 Solve the subtraction problems. Show all your work.

| a <br>  <br> $-\quad 43$ <br>  | b | $\begin{array}{r} 236 \\ -\quad 29 \end{array}$ | C | $\begin{array}{r} 103 \\ -\quad 58 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{\|lr} \hline \mathbf{d} & 357 \\ & -124 \end{array}$ | e | $\begin{array}{r} 335 \\ -\quad 99 \end{array}$ | f | $\begin{array}{r} 387 \\ -149 \end{array}$ |

2 There are two third grade classes at our school. There are 28 students in one class and 25 students in the other. There are also two fourth grade classes at our school. There are 27 students in one class and 23 students in the other. Which grade has more students? Exactly how many more students does that grade have? Show all your work.
$\qquad$

## Perimeters of Different Shapes

1 Find the perimeter of each shape. Think carefully about how to add the numbers. Some numbers are easier to add together. Show all your work. Circle your answers.

| example $12 \mathrm{ft} . \frac{60 \mathrm{ft} .}{60 \mathrm{ft} .} 12 \mathrm{ft} .$ | $\begin{array}{ll} 60+60=120 \mathrm{ft} . & 120 \mathrm{ft} . \\ 12+12=24 \mathrm{ft} . & +24 \mathrm{ft} . \\ \hline 144 \mathrm{ft} \end{array}$ |
| :---: | :---: |
| a |  |
| b |  |

## CHALLENGE

2 Sketch and label a shape with 5 sides that has a perimeter of 120 feet.
$\qquad$
$\qquad$

## Thinking About Triangles

1 What is the same about all of these triangles?


All of the triangles $\qquad$

2

a All of the triangles in group A have something in common. Fill in the circle next to the triangle that belongs with them.

b How do you know the triangle you picked belongs in group A?

3 What do these three triangles have in common?


All of the triangles $\qquad$
$\qquad$
$\qquad$

## Different Types of Triangles

Use the following information to help solve the problems below.

- You can group triangles by the size of their angles.

- You can also group triangles by the lengths of their sides.


1 Fill in the bubble to show what kind of triangle each one is.

| a <br> acute right obtuse | b acute right obtuse | C acute right obtuse |
| :---: | :---: | :---: |
| d equilateral isosceles scalene | e equilateral isosceles scalene | f equilateral isosceles scalene |

$\qquad$
$\qquad$

## Drawing Line Segments, Lines \& Rays

Use the following information to help solve the problems below.

| A line segment connects <br> two points. | A line goes through two <br> points and keeps going in <br> both directions. | A ray starts at one point <br> and keeps going in just <br> one direction. |
| :---: | :---: | :---: |

1 Draw a line to connect the two points on each grid. You can use a ruler to make the lines straight.
a

b

C


2 Draw a ray that starts at point E and goes through point F on each grid.
a

b

C


3 Draw a line segment that goes from point A to point B on each grid.
a

b

C


## Drawing Shapes

1 Draw a shape with 5 sides and one right angle.


3 Draw a shape with 2 acute angles.


2 Draw a shape with only two parallel sides.


4 Draw a shape with only obtuse angles.


5 What is the smallest number of sides that the shape in problem 4 could have? Explain how you know.

## Slides, Turns \& Flips

There are three different kinds of transformations.

| Slide (translation) |  | Turn (rotation) |  | Flip (reflection) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

1 Fill in the bubble to name the transformation on each grid.
a


O slide
C


Slide
turn
$\bigcirc$
flipturn
$\bigcirc$ flip
b
slideturnflip
d
slide

turn

## Garden Patch Problems

1 Liam wanted to put a fence around his vegetable garden patch. His brother asked him to put a fence around his garden patch too. Liam's garden patch was 5 feet wide and 10 feet long. His brother's patch was 6 feet wide and 7 feet long. How many feet of fencing will Liam need? Show all your work.

2 Liam bought too much fencing and had 26 feet of it left over. He and his brother decided to make a rectangle-shaped garden patch for their little sister. They wanted to use all the extra fencing to outline her garden patch. What could be the dimensions of the patch they make for their sister? (Use only whole numbers of feet.) Show all your work.


## CHALLENGE

3 Draw and label two other ways Liam and his brother could use all 26 feet of fencing for their sister's garden.
$\qquad$
$\qquad$

## Equal Jumps on the Number Line

1 Complete the multiplication facts.

| 8 | 1 | 5 | 3 | 1 | 2 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 1$ | $\times 4$ | $\times 1$ | $\times 1$ | $\times 9$ | $\times 3$ | $\times 2$ |
| 2 | 2 | 5 | 7 | 2 | 9 | 2 |
| $\times 2$ | $\times 10$ | $\times 2$ | $\times 2$ | $\times 6$ | $\times 2$ | $\times 8$ |

2 Show equal jumps on the number line to solve each multiplication problem. If you already know the answer, use the number line to show how someone else could solve the problem. The first jump is done for you each time.
example $3 \times 2=\underline{6}$

a $7 \times 2=$ $\qquad$

b $9 \times 2=$ $\qquad$


C $8 \times 2=$ $\qquad$

$\qquad$

## Multiplication Story Problems

Write a story problem to go with each equation and picture. Then write the answer.
example

$\qquad$

## T-Shirts, Erasers \& Marbles

1 Fill in the bubble next to the equation that will help you solve each word problem.
a Marco wants to buy a T-shirt for each of his 4 cousins. Each T-shirt costs $\$ 12$. How much will Marco spend on the T-shirts in all?$4+12=?$
$4 \times 12=?$$12-4=?$
$12 \div 4=?$
b Kaylee has 4 erasers. Imani has 12 erasers. How many more erasers does Imani have than Kaylee?$4+12=?$$4 \times 12=?$$12-4=?$$12 \div 4=$ ?

C Lucia had 12 marbles. Her sister gave her 4 more. How many marbles does Lucia have now?
$4+12=$ ?$4 \times 12=$ ?$12-4=?$$12 \div 4=$ ?

## CHALLENGE

2 Use what you know about multiplication strategies to solve the problems below.


$$
\left[\left.\begin{array}{cc}
\infty & + \\
x
\end{array} \right\rvert\,\right.
$$

DATE

$$
\begin{aligned}
& \bar{\square} \times \\
& 0[
\end{aligned}
$$

Maltiplication Practice
1 Complete the multiplication facts.
$\sim$
$\times$
$\times$
1

$$
\begin{array}{r}
5 \\
\times 3 \\
\hline
\end{array}
$$

$$
\infty \quad \begin{gathered}
\square \\
\times
\end{gathered}
$$

$9 \times$
$I$

$$
\stackrel{0}{0} \begin{array}{ll}
n \\
& \times
\end{array}
$$

$\qquad$

## More Multiplication Story Problems

Write a story problem to go with each equation and picture. Then write the answer.

$\qquad$
$\qquad$

## Multiplication \& Division Fact Families

1 The fact family that belongs with each array is missing an equation. Write the missing equation for each fact family.


2 Fill in the missing number in each triangle and then write the fact family.

1 Fill in the missing numbers in the count-by-6 pattern. Use the number line to help.
$6,12, \ldots, 40,42, \ldots, \ldots 4$,

$\qquad$
$\qquad$

## Fact Families \& Missing Numbers

1 Write the multiplication and division fact family that belongs with each array.


2 Fill in the missing numbers below.


## CHALLENGE

3
a $16+20-(2 \times 4)=$ $\qquad$ b $(7 \times 5)+150=$ $\qquad$ C $(10 \times 10)-79=$ $\qquad$
$\qquad$

## Time in the Garden

1 Sara is helping her neighbor plant lettuce in her garden. It takes Sara two minutes to plant one lettuce plant. How many minutes would it take her to plant fifteen lettuce plants? Show all your work. You can use the clock to help if you want to.


2 Sara's neighbor says she will pay her $\$ 10$ per hour to help in the garden. If she asks Sara to plant 36 tomato plants and it takes Sara 5 minutes to plant each one, how much money will Sara earn? Show all your work. You can use the clock to help if you want to.

$\qquad$
$\qquad$

## Multiplication Arrays

1 Complete the multiplication facts.

| 3 | 3 | 4 | 4 | 6 | 3 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 4$ | $\times 3$ | $\times 6$ | $\times 4$ | $\times 3$ | $\times 8$ | $\times 9$ |
| 6 | 3 | 5 | 3 | 5 | 4 | 8 |
| $\times 7$ | $\times 9$ | $\times 2$ | $\times 5$ | $\times 4$ | $\times 7$ | $\times 0$ |

2 Use the array to show how you could solve each fact.

$\qquad$
$\qquad$

## Frank the Frog \& Bob the Beetle

1a Frank the frog goes 4 feet each time he jumps. How many times will he have to jump to make it 32 feet? Show all your work. Use the number line below to help.

b Complete the division equation to show your answer above: $32 \div 4=$ $\qquad$

2a Bob the beetle can crawl 6 feet in a minute. How long will it take him to crawl 18 feet? Show all your work. Use the number line below to help.

b Write a division equation to show your answer. $\qquad$


C How long would it take Bob to crawl 27 feet? Show all of your work.

$\qquad$
$\qquad$

## More Multiplication Arrays

1 Complete the multiplication facts.

| 6 | 3 | 4 | 9 | 4 | 3 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 7$ | $\times 8$ | $\times 9$ | $\times 9$ | $\times 7$ | $\times 9$ | $\times 3$ |
| 8 | 2 | 6 | 3 | 5 | 6 | 9 |
| $\times 2$ | $\times 9$ | $\times 8$ | $\times 6$ | $\times 9$ | $\times 6$ | $\times 7$ |

2 Use the array to show how you could solve each fact if you didn't already know the answer.

$\qquad$

## Flowers \& Gifts

1a Will is helping his mom get ready for a party. His mom wants Will to put flowers in jars to put on the tables. He needs to put 7 flowers in each jar. He has 45 flowers. How many jars can he fill? Show all your work.
b How many flowers did Will have left over?


2 Mai is buying gifts for her 4 friends. She wants to get each friend a bracelet that costs $\$ 4$ and a mechanical pencil that costs $\$ 3$. How much money will she spend in all? Show all your work.


3 Mai changed her mind and decided to get each of her 4 friends a comic book that cost $\$ 3.99$ and an eraser that cost 99¢. How much money did she spend in all? Show all of your work.

## Missing Numbers \& Fact Families

1 Fill in the missing numbers below.


2 Write the multiplication and division fact family that goes with each array. Use the arrays to find each product if you need to.

$\qquad$
$\qquad$

## Cats \& Kittens

Pick the equation you could use to solve each problem. Then solve the problem.

1a Ray's cat had 6 kittens. His neighbor adopted 2 of them.
How many kittens does Ray have left?
$6 \div 2=$ ?
$6+2=?$
6-2 $=$ ?$6 \times 2=$ ?
b Ray had $\qquad$ kittens left.

Da Marsha's cat had 6 kittens. She gave all of them away by giving 2 kittens each to some of her neighbors. How many neighbors got 2 kittens?
$6 \div 2=$ ?
$\bigcirc 6+2=$ ?$6-2=$ ?
$6 \times 2=?$
b $\qquad$ neighbors got 2 kittens each.

Ba One of Larry's cats had 6 kittens. Another one of his cats had only 2 kittens. How many kittens were there in all?
$6 \div 2=$ ?
$6+2=?$$6-2=$ ?$6 \times 2=?$
b There were $\qquad$ kittens in all.

## CHALLENGE

Aa Write a story problem to match this equation. $24 \div 3=$ $\qquad$
b Solve the story problem. Write your answer here: $\qquad$
$\qquad$
$\qquad$

## More Missing Numbers \& Fact Families

1 Write the multiplication and division fact family that goes with the array. Use the array to find the product if you need to.


2 Fill in the missing numbers below.


## Family Math Night

1 Flora was helping Mr. Jackson get ready for Family Math Night. Eight families were coming. Flora needed to count out 4 square pattern blocks and 3 triangle pattern blocks for each family. How many pattern blocks did she count out altogether? Show all your work.
b Solve the problem a different way or use estimation to show that your answer makes sense.

2a Mr. Jackson also wanted Flora to set out 22 game markers for each family. How many game markers did she set out in all? Show all your work.
b Solve the problem a different way or use estimation to show that your answer makes sense.
$\qquad$
$\qquad$

## Products \& Sums

1 Complete the multiplication facts. Do the ones that are easy for you first. Then go back and do the rest. Use the facts you know to help solve the ones you don't know.

| 1 | 2 | 5 | 10 | 2 | 0 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 8$ | $\times 3$ | $\times 7$ | $\times 6$ | $\times 8$ | $\times 9$ | $\times 7$ |
| 7 | 5 | 5 | 2 | 3 | 10 | 4 |
| $\times 2$ | $\times 6$ | $\times 3$ | $\times 2$ | $\times 3$ | $\times 3$ | $\times 9$ |
| 8 | 2 | 4 | 6 | 9 | 7 | 5 |
| $\times 5$ | $\times 1$ | $\times 5$ | $\times 6$ | $\times 3$ | $\times 4$ | $\times 9$ |

2 Find the mystery numbers for each pair of clues. A product is the number you get when you multiply numbers. A sum is a number you get when you add numbers.

| a Use these clues to help <br> - The product of these two numbers is 12 . <br> - The sum of these two numbers is 7 . | b Use these clues to help <br> - The product of these two numbers is 8 . <br> - The sum of these two numbers is 9 . |
| :---: | :---: |
| The numbers are ___ and | The numbers are ___ and |

$\qquad$

## Andrea, Erica \& Joe Go Shopping

1 Andrea, Erica, and Joe were shopping with their dad. He said they could split the money that was left after they bought what they needed. They bought a shovel for $\$ 8$, two packs of seeds that were $\$ 3$ each, and two bags of flower bulbs that were $\$ 4$ each. Their dad paid with two $\$ 20$ bills. How much money did Andrea, Erica, and Joe each get?
a Write a list of steps you will need to take to solve the problem:
b Solve the problem. Show all your work.


C How do you know your answer makes sense? You could solve it another way, use estimation to show that your answer makes sense, or start with your answer and work backwards through the problem.

$\qquad$
$\qquad$

## Addition \& Subtraction Review

1 Complete the addition facts.

| 2 | 8 | 4 | 9 | 7 | 8 | 9 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +8 | +4 |  |  |  |  |  |

2 Complete the subtraction facts.

| 13 | 16 | 14 | 15 | 13 | 17 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| -7 | -8 |  |  |  |  |
| - | -6 | -8 | -5 | -9 | -9 |
|  |  |  |  |  |  |
|  | 15 | 12 | 18 | 15 | 13 |

## CHALLENGE

3 Use what you know about basic facts to complete these problems.

| 28 | 30 | 18 | 24 | 193 | 40 | 130 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| + 6 | + 30 | + 5 | + 6 | + 7 | + 20 | + 2 |
| 107 | 875 | 60 | 117 | 515 | 313 | 412 |
| - 98 | - 2 | - 54 | - 108 | - 309 | - 104 | - 108 |

$\qquad$

## Grams \& Kilograms

There are 1,000 grams in 1 kilogram.
1 John's cat weighs 5 kilograms. How many grams is that?

2 Carly's dog weighs 18 kilograms. How many grams is that?

3 Ramona weighs 27 kilograms. How many grams is that?

4 John's cat had kittens. One of them weighed 500 grams. How many kilograms is that?

5 Frank was measuring out some peanuts. He wanted exactly 1 kilogram of peanuts. So far, he has 300 grams. How many more grams does he need to get exactly 1 kilogram of peanuts? Show all of your work.

6 One baby chick weighs about 50 grams. How many baby chicks would it take to make 1 kilogram? Show all of your work.

$\qquad$
$\qquad$

## Multiplication Review

1 Complete the multiplication facts.

| 10 | 3 | 5 | 9 | 4 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 6$ | $\times 1$ | $\times 8$ | $\times 0$ | $\times 7$ | $\times 3$ | $\times 4$ |
| 8 | 2 | 9 | 4 | 9 | 5 | 8 |
| $\times 2$ | $\times 9$ | $\times 10$ | $\times 6$ | $\times 3$ | $\times 9$ | $\times 4$ |

2 Fill in the missing number in each fact. Then write a related division equation.


## CHALLENGE

3 Use what you know about basic facts to complete these problems.

| 20 | 21 | 43 | 62 | 62 | 87 | 382 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 10$ | $\times 4$ | $\times 2$ | $\times 10$ | $\times 5$ | $\times 1$ |  |
| 24 | 14 | 14 | 63 | 52 | 10 | 24 |
| $\times 2$ | $\times 10$ | $\times 5$ | $\times 2$ | $\times 3$ | $\times 69$ |  |

$\qquad$

## Kilograms \& Pounds

A kilogram is a little bit more than 2 pounds. There are 2 pounds and a little more in 1 kilogram.

1 Mr. Fuentes bought 6 pounds of apples at the store. About how many kilograms is that?

2 Julia's big cat Smokey weighs 7 kilograms. About how many pounds is that?

3 Mr. Pratt got a new puppy that weighs 18 pounds. About how many kilograms is that?

4 Mrs. Larsen weighs 150 pounds. About how many kilograms is that?

5 Lacy bought 6 pounds of cherries at the store. Did she buy a little more or a little less than 3 kilograms?
a a little more than 3 kilograms
a little less than 3 kilograms
b Use pictures, numbers, and/or words to show how you know.

$\qquad$
$\qquad$

## Rounding to the Nearest Ten

You can use a number line to help round to the nearest ten. If the digit in the ones place is 5 or higher, round up. If the digit in the ones place is less than 5 , round down.


3 Round each number to the nearest ten. (Look at the digit in the ones place. Think about a number line if it helps you.)
a 132 $\qquad$ b 365 $\qquad$ C 646
d 282 $\qquad$ e 617 $\qquad$
f 539
$\qquad$
$\qquad$

## Rounding to the Nearest Hundred

You can use a number line to help round to the nearest hundred. If the digit in the tens place is 5 or higher, round up. If the digit in the tens place is less than 5, round down. You don't need to think about the number in the ones place.
example Round each number to the nearest hundred. Use the number line to help.

a 127 $\qquad$

1 Round each number to the nearest hundred. Use the number line to help.

a 217
$\qquad$ b 256 $\qquad$ C 283

2 Round each number to the nearest hundred. Use the number line to help.

a 560 $\qquad$ b 507
C 552
$\qquad$

3 Round each number to the nearest hundred. (Look at the digit in the tens place. Think about a number line if it helps you.)
a 552 $\qquad$ b 389 $\qquad$ C 249
d 438 $\qquad$
e 817
$\qquad$
f 270
$\qquad$
$\qquad$
$\qquad$

## Rounding to Estimate the Sum

1 Rounding numbers can help you make good estimates. Round each pair of numbers to the nearest ten and then add the rounded numbers to estimate the sum.


2 Answer each question yes or no by rounding and estimating.
a Randy has $\$ 400$. He wants to buy a video game player that costs $\$ 299$ and two video games that each cost $\$ 53$. Does he have enough money?
b Laura is reading a book that is 250 pages long. She read 187 pages last week. If she reads 28 pages tonight, will she finish the book?

C Anton and his dad are driving to another state. They have 460 miles to drive in all. They drove 289 miles yesterday. If they drive 107 miles today, will they complete their trip?
$\qquad$

## Two Different Addition Methods

There are many ways to solve addition problems. One is to break the numbers you are adding into ones, tens, and hundreds and then add them. Another way is to use a number line to add up from one number. See the examples below.


1 Solve the addition problems below. Use the Break Apart Method to solve two problems. Use the Number Line Method to solve two problems.

$$
\text { a } \begin{array}{r}
237 \\
+\quad 156 \\
\hline
\end{array}
$$

b
$+357$
C
638
$+185$
d 544
$+369$
$\qquad$
$\qquad$

## Round, Estimate \& Find the Sum

Before you start adding numbers, it is a good idea to estimate what their sum will be. That way, you can tell if your final answer is reasonable. Round each pair of numbers to the nearest ten and then add the rounded numbers to estimate the sum. Then use the standard algorithm to find the exact sum.

| Numbers to Add | Round and Add | Estimated Sum | Exact Sum (use the algorithm) |
| :---: | :---: | :---: | :---: |
| $\text { ex } \begin{array}{r} 348 \\ +\quad 173 \\ \hline \end{array}$ | $\begin{array}{r} 1 \\ 350 \\ +170 \\ \hline 520 \end{array}$ | The sum will be $\qquad$ about 520 | $\begin{array}{r} 11 \\ 348 \\ +\quad 173 \\ \hline 521 \end{array}$ |
| $\begin{array}{\|r} 267 \\ \hline 1 \\ +\quad 338 \\ \hline \end{array}$ |  | The sum will be about $\qquad$ | $\begin{array}{r} 267 \\ +\quad 338 \end{array}$ |
| $\begin{array}{\|r} \hline 238 \\ \hline \\ \\ +\quad 583 \\ \hline \end{array}$ |  | The sum will be about $\qquad$ | $\begin{array}{r} 438 \\ +\quad 583 \end{array}$ |
| $\begin{array}{\|rr} \hline 3 & 842 \\ & +159 \end{array}$ |  | The sum will be about $\qquad$ | $\begin{array}{r} 842 \\ +\quad 159 \end{array}$ |

## Reasonable Estimates

1 Make a reasonable estimate before adding each pair of numbers. Then use any strategy you like to find the exact sum. Compare the exact sum to your estimate to make sure that it makes sense. If your answer does not make sense, double check your work or solve the problem another way.

| Numbers to Add | Estimated Sum | Exact Sum | Check your answer if <br> the sum and estimate <br> were far apart. |
| :--- | :--- | :--- | :--- |
| a386 <br> +275 |  |  |  |
| b517 <br> +378 |  |  |  |
| C |  |  |  |

2 Use estimation to answer each question yes or no. Do not find exact sums.
a Shawna has a photo album with space for 160 pictures. She has 33 pictures of her family, 48 pictures from summer camp, and 57 pictures from school. Does she have enough pictures to fill the photo album?
b Fred needs 400 game markers to play a game with his classmates and their families on Family Math Night. He has 96 red markers, 123 blue markers, 106 yellow markers, and 72 green markers. Does he have enough game markers to play the game?
$\qquad$

## Rounding to the Nearest Ten, Hundred \& Thousand

When you are rounding, look at the digit one place to the right of where you want to round. If you round to the nearest ten, look at the digit in the ones place. If you round to the nearest hundred, look at the digit in the tens place. If you round to the nearest thousand, look at the digit in the hundreds place.

If the digit is 5 or higher, round up. If it is less than 5 , round down.
1 Underline the number in the ones place. Then circle up or down to show whether you are rounding up or down. Then round the number to the nearest ten.

a 26 rounds up/down to $\qquad$ .
b 182 rounds up/down to $\qquad$ .

C 1,208 rounds up/down to $\qquad$ .

2 Underline the number in the tens place. Then circle up or down to show whether you are rounding up or down. Then round the number to the nearest hundred.
a 129 rounds up/down to $\qquad$ .
b 467 rounds up/down to
C 253 rounds up/down to $\qquad$ . d 3,348 rounds up/down to $\qquad$ .

3 Underline the number in the hundreds place. Then circle up or down to show whether you are rounding up or down. Then round the number to the nearest thousand.
a 5,702 rounds up/down to $\qquad$ .
b 4,207 rounds up/down to $\qquad$ .

C 2,540 rounds up/down to $\qquad$ .
d 8,395 rounds up/down to $\qquad$ .

4 Complete the addition facts.

| 5 | 7 | 10 | 7 | 9 | 12 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| +6 | +8 | +11 | +6 | +8 | +13 |

$\qquad$

## Close Estimates

1 Estimate the sum for each problem below. Then solve it using the strategy that makes the best sense to you. If your exact answer does not come close to your estimate, try solving the problem with a different strategy.

| Numbers to Add | Estimate | Exact Sum | Does your exact sum come close to your estimate? (yes or no) | Check your answer if the sum and estimate were far from each other. |
| :---: | :---: | :---: | :---: | :---: |
| a $\begin{array}{r} 176 \\ +\quad 235 \end{array}$ |  |  |  |  |
| $\begin{array}{rr} \hline \mathbf{b} & 4,309 \\ +\quad 246 \end{array}$ |  |  |  |  |
| $\begin{array}{\|rr} \hline \text { C } & 3,817 \\ \\ + & 2,436 \end{array}$ |  |  |  |  |

## CHALLENGE

2 Fill in the missing numbers below.

$\qquad$ DATE

## Round \& Subtract

1 Rounding numbers can help you make good estimates. Round each pair of numbers to the nearest ten and then subtract the rounded numbers to estimate the difference.

| Numbers to Subtract | Rounded to the Nearest Ten | Estimated Difference |
| :---: | :---: | :---: |
| ex 867-485 | $870-490$ | $\begin{array}{r} 7870 \\ -490 \\ \hline 380 \end{array}$ |
| The difference between 867 and 485 is about equal to - 380 |  |  |
| a 608-263 |  |  |
| The difference between 608 and 263 is about equal to ___. |  |  |
| b 732-546 |  |  |
| The difference between 732 and 546 is about equal to ___. |  |  |

2 Now round to the nearest hundred and then subtract to estimate the difference.

| a 1,508-620 |  |  |
| :---: | :---: | :---: |
| The difference between 1,508 and 620 is about equal to |  |  |
| b 2,482-936 |  |  |
| The difference between 2,482 and 936 is about equal to |  |  |

$\qquad$

## Add to Find the Difference

You can add up from the smaller number to find the difference between two numbers. A number line can help you keep track of your jumps. Add up all the jumps to find the difference between the two numbers.

| Use the number line to make jumps from the smaller number to the larger number. | Add up all the jumps to find the difference. |
| :---: | :---: |
|  | $\begin{array}{r} 400 \\ 40 \\ +\quad 4 \\ +\quad 3 \\ \hline 447 \end{array}$ |
|  |  |
| $\begin{array}{\|r} \left.\mathbf{2} \begin{array}{r} 653 \\ -377 \\ -\quad \\ \underset{377}{ } \end{array}\right] \end{array}$ |  |
| $3 \begin{array}{r}1,345 \\ -\quad 893 \\ \hline\end{array}$ |  |

$\qquad$
$\qquad$

## Rounding Review

When you are rounding, look at the digit one place to the right of where you want to round. If you round to the nearest ten, look at the digit in the ones place. If you round to the nearest hundred, look at the digit in the tens place. If you round to the nearest thousand, look at the digit in the hundreds place.

If the digit is 5 or higher, round up. If it is less than 5 , round down.

1 Underline the number in the ones place. Then circle up or down to show whether you are rounding up or down. Then round the number to the nearest ten.
example 334 rounds up/down to 330 .
b 2,053 rounds up/down to $\qquad$ .

C 4,388 rounds up/down to $\qquad$ .

2 Underline the number in the tens place. Then circle $u p$ or down to show whether you are rounding up or down. Then round the number to the nearest hundred.
a 328 rounds up/down to
b 961 rounds up/down to $\qquad$ .

C 4,553 rounds up/down to $\qquad$ .
d 3,348 rounds up/down to $\qquad$ .

3 Underline the number in the hundreds place. Then circle up or down to show whether you are rounding up or down. Then round the number to the nearest thousand.
a 4,389 rounds up/down to $\qquad$ .
b 2,503 rounds up/down to ___. d 6,614 rounds up/down to $\qquad$ .

4 Complete the subtraction facts.

| 16 | 15 | 18 | 12 | 13 | 11 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| -7 | -8 | -9 | -3 | -8 | -8 |

## Estimates \& Exact Answers

1 Use estimation to answer each question yes or no.
a Sue has $\$ 346$ dollars. She wants to buy a bike and still have $\$ 150$ left. She found a bike that costs $\$ 189$. Can she buy it and still have $\$ 150$ left?
b Bruce decided to give away some of his 400 baseball cards. He wants to keep at least 150 of them. If Bruce gives one friend 167 cards and another friend 112 cards, will he have at least 150 left?

C Luis and Carlos are in a reading contest to see who can read the most pages. Luis wants to win by at least 150 pages. Carlos read 427 pages. If Luis reads 526 pages, will he win by at least 150 pages?

2 First estimate the difference between the two numbers. You could round them and then subtract, or you could think about what you have to add to the smaller number to get to the bigger number. Then find the exact difference between the two numbers. Check your answer with your estimate to be sure it makes sense: if it doesn't make sense, check your work or do it another way.

| Numbers to Subtract | Estimated Difference | Exact Difference |
| :--- | :--- | :--- | :--- |
| a487 <br> -309 |  |  |
| b1,825 <br> -643 |  |  |

$\qquad$
$\qquad$

## Place Value Four-Digit Numbers

1 Complete each equation by writing each number in standard form. example $8,000+20+6=8,026$
a $4,000+800+30+1=$ $\qquad$
b $9,000+400+60+2=$
C $\qquad$ $=7,000+60+2$
d $5,000+300+80=$ $\qquad$
$\boldsymbol{e} \ldots=2,000+100+4$

2 Fill in the missing numbers or words.

| Numbers | Words |
| :--- | :--- |
| exa 5,629 | five thousand six hundred twenty-nine |
| ex $\mathbf{b} 3,082$ | three thousand eighty-two |
| a | two thousand twelve |
| b | eight thousand five hundred sixty-seven |
| C 6,032 |  |
| d 1,583 |  |

3 Use your estimation skills to answer each question yes or no without adding or subtracting to find an exact answer.
a The Lighting Bolts need 200 points to make it to the next round of the basketball tournament. So far, they have 154 points. If they score 37 more points by the end of the game, will they make it to the next round?
b Simon has $\$ 300$ to spend. Can he afford to buy a bike for $\$ 150$, safety lights for $\$ 34$, and a good helment for $\$ 56$ ?
$\qquad$

## Flora's Book \& Greg's TV

1 Flora was reading a book that was 283 pages long. She read 56 pages on Thursday, 45 pages on Friday, and 72 pages on Saturday. How many pages will she have to read on Sunday to finish her book? Show all your work.


2 Greg wants to buy a new TV that costs $\$ 1,679$. He has $\$ 326$ in his bank account. His grandma gave him $\$ 50$ for his birthday. He will earn $\$ 385$ mowing lawns this summer. How much more money will he need to buy the TV? Show all your work.

$\qquad$

## Estimate Before You Subtract

Before you start subtracting numbers, it is a good idea to estimate what the difference will be. That way, you can tell if your final answer is reasonable. Round each pair of numbers to the nearest ten and then subtract the rounded numbers to estimate the difference. Then use the algorithm to find the exact difference.

| Numbers to Subtract | Round and Subtract | Estimated Difference | Exact Difference (use the algorithm) |
| :---: | :---: | :---: | :---: |
| example $\begin{array}{r} 1,357 \\ -\quad 849 \end{array}$ | $\begin{array}{r} 1,360 \\ -\quad 850 \\ \hline 510 \end{array}$ | 510 | $\begin{array}{r} 1,31 \\ -\quad 849 \\ \hline 508 \end{array}$ |
| $1$ $\begin{array}{r} 643 \\ -427 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 643 \\ -427 \\ \hline \end{array}$ |
| $\begin{array}{\|rr} \hline \mathbf{2} & \\ & 812 \\ & -364 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 812 \\ -\quad 364 \\ \hline \end{array}$ |
| $\begin{array}{\|r} \hline 3 \\ \hline \end{array} \begin{array}{r} 4,302 \\ -\quad 656 \end{array}$ |  |  | $\begin{array}{r} 4,302 \\ -\quad 656 \\ \hline \end{array}$ |

## Pages \& Miles

1a Tasha and her friends are in a reading contest. Last year, the winning team read 2,546 pages. So far, Tasha has read 186 pages. Her friend Lisa has read 203 pages, and her friend Robert has read 215 pages. Estimate how many more pages they need to read altogether to beat last year's winning team.
b Exactly how many pages do they need to read to beat last year's winning team? Show all your work. Make sure your answer comes close to your estimate. If it does not, check your work or solve the problem another way.


2a Esteban and his mom are driving to see his grandma. They have to drive 865 miles altogether. On Monday, they drove 186 miles. On Tuesday, they drove 267 miles. Estimate how many miles they will need to drive on Wednesay to get to his grandma's house.
b Exactly how many miles do they need to drive on Wednesday to get to his grandma's house? Show all your work. Make sure your answer comes close to your estimate. If it does not, check your work or solve the problem another way.

$\qquad$
$\qquad$

## Using the Standard Algorithm to Add \& Subtract

1 Solve each addition problem using the standard algorithm.

| $\begin{array}{\|ll} \hline \text { ex } & \\ & 1 \\ & 457 \\ & 392 \\ \hline & 849 \end{array}$ | a $\begin{array}{r} 638 \\ +\quad 365 \\ \hline \end{array}$ | b $\begin{array}{r} 237 \\ +\quad 108 \end{array}$ | c $\begin{array}{r} 428 \\ +\quad 296 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: |
| d $\begin{array}{r} 3,804 \\ +\quad 568 \end{array}$ | e $\begin{array}{r} 2,153 \\ +\quad 1,939 \end{array}$ | f $\begin{array}{r} 687 \\ +\quad 654 \end{array}$ | 9 $\begin{array}{r} 7,689 \\ +\quad 8,584 \end{array}$ |

2 Solve each subtraction problem using the standard algorithm.

| $\begin{array}{\|cc} \text { ex } & 29 \\ & 1,295 \\ -648 \\ \hline & 657 \end{array}$ | a $\begin{array}{r} 745 \\ -\quad 382 \end{array}$ | $b$ $\begin{array}{r} 687 \\ -\quad 278 \end{array}$ | C $\begin{array}{r} 402 \\ -\quad 367 \end{array}$ |
| :---: | :---: | :---: | :---: |
| d $\begin{array}{r} 3,213 \\ -\quad 935 \end{array}$ | e $\begin{array}{r} 2,063 \\ -1,347 \end{array}$ | f $\begin{array}{r} 2,560 \\ -1,698 \end{array}$ | $\begin{array}{\|ll} \mathbf{8} & \\ & 2,502 \\ -\quad 873 \end{array}$ |

## CHALLENGE

3 Fill in the missing number to make each equation true.
a $146+($ $\qquad$ $\times 5)=186$
b (6 $\times$ $\qquad$ ) $+50=74$
C $(15 \times$ $\qquad$ ) $+45=90$
d 270-( $\qquad$ $\times 7)=207$
$\qquad$

## Too Much Homework?

Mrs. Flowers' fourth graders complained that they were spending too much time on their homework, so she asked them to collect information about how many minutes they spent on their homework each night. The table below shows the results.

| Time Spent <br> Each Night <br> (minutes) | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of <br> Students | $\\|$ | $\\|\\|$ | $\mid$ | $\\|H\\| \\|$ | $\\|\\|$ | $\\|\\|$ | $\\|$ |  |  | $\mid$ |

1 Use the information from the table to complete the line plot below.
Minutes Spent on Homework Each Nisht

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | $X$ |  |  |  |  |  |  |  |  |  |
|  |  |  | $X$ |  |  |  |  |  |  |  |  |  |

2 What does each X stand for on the line plot?

3 How many students said they spend 40 minutes on their homework each night?

4 Mrs. Flowers says she thinks her students should spend between 30 and 40 minutes on homework each night. Do you think she is giving her students the right amount of homework? Use information from the line plot and table to back up your answer.
$\qquad$
$\qquad$

## Fraction Fill \& Compare

1 Fill in the shapes to show each fraction.


2 Look at the fractions you shaded in above. Use them to help complete each number sentence by writing <, >, or $=$.

| ex $\frac{1}{3}$ | $>$ | $\frac{1}{9}$ | a $\frac{1}{5}$ | $\frac{1}{3}$ | b $\frac{1}{3}$ | $\frac{2}{9}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| C $\frac{2}{10}$ | $\frac{2}{9}$ | d $\frac{1}{5}$ | $\frac{2}{10}$ | e $\frac{2}{5}$ | $\frac{2}{10}$ |  |

## CHALLENGE

3 Use what you know about fractions to complete each number sentence by writing <, >, or $=$.

| a $\frac{1}{100}$ | $\frac{1}{50}$ | b $\frac{2}{100}$ | $\frac{1}{50}$ | C $\frac{1}{4}$ | $\frac{1}{16}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

## The 18¢ Problem

1 What are all the different ways can you make $18 \phi$ with pennies, nickels, and dimes?
a Choose the strategy you will use to solve this problem.
Odraw a picture
guess and checkmake an organized list
b Why does this strategy make the most sense to you?

C Solve the problem with the strategy you picked. Show all your work.

$\qquad$

## Division \& Fractions

1 Complete the division facts. They may help you with the next problem.
a $20 \div 5=$
b $20 \div 10=$ $\qquad$ C $18 \div 2=$
d $18 \div 3=$ $\qquad$
e $18 \div 6=$ $\qquad$
f $18 \div 9=$ $\qquad$

2 Divide each set into equal groups. Shade in some circles as directed.

| ex Shade in $\frac{3}{5}$ of the circles. | a Shade in $\frac{2}{10}$ of the circles. Hint: Divide |
| :--- | :--- |
| the set into 10 equal groups. |  |

3a Find two fractions above that are equal. Write them here:
b How do you know these fractions are equal?
$\qquad$

## The Third Graders' Garden Plot

1 Last year, the third graders at Jackson Elementary had a garden plot that was 12 feet by 33 feet. This year the third graders made the plot bigger by making it 16 feet by 38 feet. How much bigger was the perimeter of the plot this year?
a Choose the strategy you will use to solve this problem.
draw a pictureguess and check
make an organized list
b Why does this strategy make the most sense to you?

C Solve the problem with the strategy you picked. Show all your work.

$\qquad$
$\qquad$

## Addition \& Subtraction with the Standard Algorithm

1 Solve each addition problem using the standard algorithm.

| example $\begin{array}{r} 1 \\ 457 \\ +\quad 392 \\ \hline 849 \end{array}$ | a | $\begin{array}{r} 403 \\ +\quad 238 \\ \hline \end{array}$ | b | $\begin{array}{r} 573 \\ +\quad 348 \\ \hline \end{array}$ | C | $\begin{array}{r} 226 \\ +\quad 901 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| d $\begin{array}{r} 2,740 \\ +\quad 342 \end{array}$ | e | $\begin{array}{r} 3,029 \\ +\quad 1,452 \end{array}$ | f | $\begin{array}{r} 4,098 \\ +\quad 3,429 \end{array}$ | 9 | $\begin{array}{r} 5,768 \\ +\quad 7,431 \end{array}$ |

2 Solve each subtraction problem using the standard algorithm.

| $\begin{array}{\|r} \hline \text { example } \\ 1,305 \\ -\quad 648 \\ \hline 657 \end{array}$ | a | $\begin{array}{r} 638 \\ -553 \end{array}$ | b | $\begin{array}{r} 503 \\ -229 \end{array}$ | C | $\begin{array}{r} 1,800 \\ -925 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{d}$ $\begin{array}{r} 4,309 \\ -526 \end{array}$ | e | $\begin{array}{r} 6,005 \\ -1,347 \end{array}$ | f | $\begin{array}{r} 5,078 \\ -5,019 \end{array}$ | 8 | $\begin{array}{r} 2,455 \\ -1,990 \end{array}$ |

## CHALLENGE

3 Fill in the missing number to make each equation true.
a $700=670+($ $\qquad$ $\times 5)$
b $842=(7 \times \ldots)+800$
C $(9+3)+(3 \times$ $\qquad$ ) $=36$
d $(\ldots \quad \times 25)-42=33$
$\qquad$

## Sandwich Fractions

1 Wanda and her sister Lola were eating sandwiches. The sandwiches were the same size. Wanda ate $\frac{1}{2}$ of her sandwich. Lola ate $\frac{3}{4}$ of her sandwich. Who ate more of her sandwich, Wanda or Lola? Explain how you know using pictures, numbers, and/or words.

2 Lucy and her brother Bob were eating sandwiches at a picnic. The sandwiches were all the same size. Lucy ate $\frac{1}{2}$ of a peanut butter sandwich and $\frac{1}{4}$ of an egg salad sandwich. Bob ate $\frac{1}{4}$ of a tuna sandwich and $\frac{3}{4}$ of a turkey sandwich. Who ate more, Lucy or Bob? Explain how you know using pictures, numbers, and/or words.


## More Division \& Fractions

1 Complete the division facts. They may help you with the next problem.
a $20 \div 5=$
b $20 \div 10=$ $\qquad$ C $18 \div 2=$ $\qquad$
d $18 \div 3=$ $\qquad$
e $18 \div 6=$ $\qquad$
f $18 \div 9=$ $\qquad$

2 Divide each set into equal groups. Shade in some circles to show each fraction. (Hint: The denominator (bottom number) shows how many equal groups. The division problems above will help you think about how many circles should be in each equal group.)

| ex Shade in $\frac{2}{5}$ of the circles. <br> 5 equal groups. 2 groups are shaded in. | a Shade in $\frac{4}{10}$ of the circles. |
| :---: | :---: |
| Shade in $\frac{3}{6}$ of the circles. <br> $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ <br> $0 \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ <br> $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ | C Shade in $\frac{5}{6}$ of the circles. <br> 000000 <br> $0000 \bigcirc 0$ <br> $\bigcirc 0 \bigcirc \bigcirc \bigcirc 0$ |
| Shade in $\frac{2}{3}$ of the circles. $\begin{aligned} & 000000 \\ & 000000 \\ & 000000 \end{aligned}$ | Shade in $\frac{8}{9}$ of the circles. $\begin{aligned} & 000000 \\ & 000000 \\ & 000000 \end{aligned}$ |

3 Which fraction or fractions above are less than $\frac{1}{2}$ ?

4 Write $<,>$, or $=$ to compare two fractions. Use the pictures above to help.

| a $\frac{2}{5}$ | $\frac{2}{3}$ | b $\frac{5}{6}$ | $\frac{8}{9}$ | C $\frac{3}{6}$ | $\frac{2}{3}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

$\qquad$

## Sophie's Marbles \& Ricky's Fish

1a Sophie had a big bag of marbles. $\frac{1}{4}$ of them were blue, $\frac{1}{8}$ of them were red, $\frac{1}{2}$ of them were green, and $\frac{1}{8}$ of them were yellow. Were there more blue, red, green, or yellow marbles? Use numbers, pictures, and/or words to explain how you know.
b Were there more blue or red marbles? Use numbers, pictures, and/or words to explain how you know.


2 Ricky had 20 small fish in his fish tank. $\frac{2}{5}$ of them were blue and $\frac{1}{4}$ of them were purple. Did he have more blue fish or purple fish? Use numbers, pictures, and/or words to explain how you know.
$\qquad$

## True or False?

1 An equation is true if both sides are equal. It is false if both sides are not equal. Circle true or false for each equation. You do not need to explain all your answers.

| Equation | Circle One |  | Optional Explanation |  |
| :--- | :--- | :--- | :--- | :---: |
| ex $32 \div 4=3 \times 3$ | true false | $32 \div 4=8$ | $3 \times 3=9 \quad 8$ and 9 are not equal. |  |
| a $4 \times 3=360-348$ | true | false |  |  |
| b $0 \times 3,471=674 \times 0$ | true | false |  |  |
| C $9 \times 3=40-23$ | true | false |  |  |
| d $36 \div 4=64 \div 8$ | true | false |  |  |
| e $40 \div 8=35 \div 5$ | true | false |  |  |

2 Use <, >, or = to complete each number sentence.
ex $32+876$
$>870+24$
a $400 \div 10$
$400 \div 5$
b $8 \times 2$
$4 \times 4$
C 845-208
845-32

3 Pick the equation that will help you solve the problem. Then solve the problem.
a Sara got 5 packs of baseball cards from each of her 3 cousins. She gave 2 packs to her brother. How many packs of baseball cards did she have left?
〇 $5-3=$ ?
$5-3+2=$ ?
$(5 \times 3)-2=$ ?
$(5-2) \times 3=?$

Sara has $\qquad$ packs of baseball cards.
b The pet shop got 84 fish. They sold 34 of the fish right away. They divided the rest of the fish into 2 tanks. How many fish were in each tank?
O $84-34=$ ?
$(84-34) \div 2=$ ?
$(84+34) \times 2=?$
$84+34+2=?$

There are $\qquad$ fish in each tank.
$\qquad$
$\qquad$

## Fractions on the Number Line

1 Fill in the missing numerators on the number line below.


2 When you are comparing fractions, it can help to think about how close those fractions are to landmarks like one whole and one-half. Use the number line to help complete the tables below.

| Circle the fraction that is greater than $\frac{1}{2}$. | Write a number sentence showing <br> which fraction is greater. |
| :--- | :--- |
| example $\frac{3}{5}$ or $\frac{3}{10}$ | $\frac{3}{5}>\frac{3}{10}$ |$|$| a $\frac{2}{5}$ or $\frac{8}{10}$ |  |
| :--- | :--- |
| C $\frac{4}{5}$ or $\frac{4}{10}$ |  |
| Circle the fraction that is greater. | Write a number sentence showing |
| which fraction is greater. |  |

$\qquad$

## Working with Equations

1 Fill in the missing numbers to make each equation true.
example $35 \div 7=20 \div \underline{4}$
a $8 \times 3=40-$ $\qquad$
b $8 \times \ldots=36+28$
C $0 \times 67=$ $\qquad$ $\times 45$
d $19+$ $\qquad$ $=9 \times 5$
e $9 \times$ $\qquad$ = 668-587
f $3 \times 9=68-$ $\qquad$ S $42 \div 6=63-$ $\qquad$

2 Use $<,>$, or $=$ to complete each number sentence.

| example $54 \div 6<54 \div 2$ | a $32 \times 10$ | $13 \times 100$ |  |
| :--- | :--- | :--- | :--- |
| b $125+230$ | $100+255$ | c $144 \div 12$ | $144 \div 6$ |
| d $197+326$ | $284+139$ | e $300-250$ | $350-300$ |

## CHALLENGE

3 Fill in the missing number to make each equation true.

| $\mathbf{a}(20 \times \ldots) \div 4=25$ | $\mathbf{b}(36 \div 4) \times \ldots=81$ |
| :--- | :--- |
| $\mathbf{C} 350=(\ldots \times 50)-50$ | $\mathbf{d} 1,826=(10 \times \ldots)-100-74$ |
| $\boldsymbol{e}(245+\ldots) \times 3=900$ | $\mathbf{f}(1,008-508) \div \ldots=5$ |

4 Use $<,>$, or $=$ to complete each number sentence.

| $\mathbf{a}(25 \times 4) \div 10$ | $81 \div 9$ | $\mathbf{b}(514-489) \times 6$ | $50 \times 3$ |
| :--- | :---: | :--- | :--- |
| $\mathbf{C}(75 \times 2)-51$ | $(100 \div 2) \times 4$ | $\mathbf{d}(328+22)-150$ | $500 \div 2$ |
| $\boldsymbol{e}(739+261) \div 10$ | $20 \times 5$ | $\mathbf{f} 5 \times 5 \times 5$ | $(200 \div 2)+50$ |

$\qquad$
$\qquad$

## Fraction Problems

1 Fill in the missing numerators on the number line below.


2 Use the number line above to help answer the questions below.
a Chris ran $\frac{8}{10}$ of a mile. Dan ran $\frac{3}{5}$ of a mile. Who ran farther?
b Jenny has $\frac{4}{10}$ of a meter of yarn. Sue has $\frac{4}{5}$ of a meter of yarn. Who has more yarn?

C Lewis and his brother Sam were walking to their grandma's house. Lewis walked $\frac{7}{10}$ of the way and then stopped to rest. Sam walked half the way there and then stopped to rest. Who walked farther before stopping to rest?

3 Use the number line above to compare the fractions below. Use the symbols $<,>$, or $=$ to complete each number sentence.

| ex $\frac{7}{10}>\frac{3}{10}$ | a $\frac{1}{5}$ | $\frac{4}{5}$ | b $\frac{7}{10}$ | $\frac{4}{5}$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| C $\frac{3}{5}$ | $\frac{5}{10}$ | d $\frac{2}{5}$ | $\frac{4}{10}$ | e $\frac{1}{5}$ | $\frac{3}{10}$ |

## CHALLENGE

4 Fill in the missing numerals below.

| a $\frac{1}{10}=\overline{20}$ | b $\frac{1}{5}=\overline{20}$ | C $\frac{3}{5}=\overline{20}$ |
| :--- | :--- | :--- |

## Thinking About Fractions

1 Marty ordered a small milk at lunch. His brother Bob ordered a large milk. They each drank three-fourths of their milk. Who drank more milk, Marty or Bob? Explain how you know.


2 At the movies Laura got a large popcorn. Her sister Susan got a small popcorn. They each ate half their popcorn. Who ate more popcorn, Laura or Susan? Explain how you know.

3 At lunch Steven ate a third of a jumbo burger. His mother ate a third of a regular burger. Who ate more, Steven or his mom?


## CHALLENGE

4 Jim drank $\frac{2}{3}$ of a bottle of juice that was 24 ounces. Frank drank $\frac{3}{4}$ of a bottle of juice that was 16 ounces. Who drank more juice? Use pictures, numbers, and/ or words to explain how you know.

$\qquad$
$\qquad$

## Fruit Fractions

1 A farm stand was selling 2-pound boxes of strawberries. Noah's family ate $\frac{2}{5}$ of a box. Zach's family ate $\frac{3}{4}$ of a box. Which family ate more strawberries? Use pictures, numbers, and/or words to explain how you know.


2 Ronda and Shawna bought a bunch of grapes. Ronda ate $\frac{5}{16}$ of the grapes and Shawna ate $\frac{1}{2}$ of the grapes. Who ate more grapes? Use pictures, numbers, and/or words to explain how you know.


3 Violet's mom got a melon at the store and cut it into 8 equal pieces. Violet ate $\frac{3}{8}$ of the melon. Her mom ate $\frac{1}{4}$ of the melon. Who ate more melon? Use pictures, numbers, and/or words to explain how you know.
$\qquad$
$\qquad$

## Pizza Problems

1 Jim and Emma were eating pizza for lunch. Jim ate $\frac{2}{6}$ of the pizza. Emma ate $\frac{3}{6}$ of the pizza. How much pizza did they eat altogether? Use pictures, numbers, and/or words to explain how you got the answer.


2 Rosa and Carmen made two mini-pizzas for lunch. They cut both pizzas into fourths. Rosa ate $\frac{3}{4}$ of a pizza. Carmen ate $\frac{3}{4}$ of a pizza. Altogether, how much pizza did they eat? Use pictures, numbers, and/or words to explain how you got the answer.


3a Carl and his brother Noel ordered a pizza. Carl ate $\frac{1}{4}$ of the pizza. Noel ate $\frac{3}{8}$ of the pizza. How much of the pizza did they eat altogether? Use pictures, numbers, and/or words to explain how you got the answer.

$\mathbf{b}$ How much of the pizza was left after Carl and Noel were done eating? Use pictures, numbers, and/or words to explain how you got the answer.

## Money \& Chair Problems

1 Jasmine's neighbor paid her \$32 for helping with some yard work. Jasmine gave her brother $\$ 8$ because he helped her with some of the work. Then she went shopping with the rest of the money. She bought 3 books that were $\$ 6$ each and a bottle of juice for $\$ 1.89$. How much money did she have left? Show all your work.


2a The third graders are putting on a play for the fourth and fifth graders. They need to set up chairs in the gym for the fourth and fifth graders to sit on. There are 86 fourth graders, 79 fifth graders, 3 fourth grade teachers, and 3 fifth grade teachers. How many chairs will the third graders need to set up? Show all your work.
b The third graders can put no more than 20 chairs in a row. How many rows of chairs will they need? Show all your work.

$\qquad$

## Multiplication, Division \& Perimeter Practice

1 Complete the multiplication facts.


9
$\times 2$


2 Complete the division facts.
$40 \div 5=$ $\qquad$
$12 \div 2=$ $\qquad$
$90 \div 10=$ $\qquad$
$8 \div 1=$ $\qquad$
$25 \div 5=$ $\qquad$
$14 \div 2=$
$\qquad$

3 Find the perimeter of each rectangle.


4 What is the difference between the perimeters of rectangles above?
$\qquad$

## Curtains \& Movies

1 Maddie is making 6 curtains for her room. She wants to put a strip of ribbon at the bottom of each curtain. She needs 36 inches of ribbon for each one. The ribbon she wants to use costs $60 \phi$ per foot. How much will it cost it her to buy enough ribbon for all 6 curtains? Show all your work. Remember that there are 12 inches in 1 foot.


2 Ralph's mom said he and his brother could go to a movie while she went shopping. She dropped them off at the theater at 1:45 and said she would be back at 4:00 to get them. They had three choices of movies. Which movie could they see and be done by the time their mom came to get them? Show all your work.

| Movie | Start Time | Length <br> (Including Previews) |
| :---: | :---: | :---: |
| Beetle Goes <br> to Town | $1: 55$ | 130 minutes |
| Arctic <br> Adventure | $2: 00$ | 125 minutes |
| Rainy Day Dos | $2: 15$ | 100 minutes |

$\qquad$
$\qquad$

## Multiplying \& Dividing

1 Complete the multiplication facts.

| 5 | 2 | 1 | 5 | 3 | 8 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 6$ | $\times 7$ | $\times 2$ | $\times 7$ | $\times 5$ | $\times 5$ | $\times 9$ |
| 4 | 2 | 9 | 2 | 10 | 10 | 4 |
| $\times 2$ | $\times 2$ | $\times 2$ | $\times 5$ | $\times 3$ | $\times 5$ | $\times 6$ |
| 10 | 1 | 2 | 7 | 6 | 10 | 3 |
| $\times 0$ | $\times 8$ | $\times 3$ | $\times 4$ | $\times 6$ | $\times 8$ | $\times 9$ |

2 Complete the division facts.
$100 \div 10=$ $\qquad$
$16 \div 2=$ $\qquad$
$25 \div 5=$ $\qquad$
$12 \div 2=$ $\qquad$
$3 \div 1=$ $\qquad$
$20 \div 2=$ $\qquad$

## CHALLENGE

3 Use what you know about basic fact strategies to solve these multiplication problems.

| 24 | 42 | 329 | 13 | 1,946 | 500 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $\times \quad 5$ |  |  |  |  |  |
| $\times \quad 5$ | $\times \quad 0$ | $\times 10$ |  |  |  |

4 Answer these questions.

| a Would the product of these two <br> numbers be odd or even? <br> $3,407 \times 10$ | b How do you know? |
| :--- | :--- |
|  |  |

$\qquad$

## Larger Multiplication

You can break a two-digit number into tens and ones to multiply it by another number.
Use this method to solve the multiplication problems below.

| Problem | Break larger numbers into tens and ones. Then multiply. | Add the two products. | Your Answer |
| :---: | :---: | :---: | :---: |
| $\begin{array}{rr} \text { ex } \\ \\ 16 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 4 \\ \hline 40 \end{array} \quad \begin{array}{r} 6 \\ \hline 24 \end{array}$ <br> Break 16 into 10 and 6. Multiply both by 4 | $40+24=64$ | $\begin{array}{r} 16 \\ \times 4 \\ \hline 64 \end{array}$ |
| $\begin{array}{\|rr} \hline 1 & \\ & 14 \\ \times \quad 4 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 14 \\ \times \quad 4 \\ \hline \end{array}$ |
| $\begin{array}{rr} \mathbf{2} & \\ & 13 \\ \times 6 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 13 \\ \times \quad 6 \\ \hline \end{array}$ |
| $\begin{array}{\|r} \hline 3 \\ \\ \\ \times \quad 7 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 15 \\ \times 7 \\ \hline \end{array}$ |
| 4 $\begin{array}{r} 18 \\ \times 8 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 18 \\ \times 8 \\ \hline \end{array}$ |

$\qquad$

## Operations Review Add, Subtract, Multiply \& Divide

1 Complete the multiplication facts.

| 5 | 2 | 10 | 5 | 1 | 10 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 3$ | $\times 6$ | $\times 4$ | $\times 9$ | $\times 6$ | $\times 10$ | $\times 4$ |
| 4 | 2 | 1 | 10 | 5 | 9 | 2 |
| $\times 5$ | $\times 3$ | $\times 1$ | $\times 6$ | $\times 5$ | $\times 0$ | $\times 9$ |
| 8 | 10 | 2 | 8 | 7 | 10 | 3 |
| $\times 2$ | $\times 7$ | $\times 5$ | $\times 4$ | $\times 3$ | $\times 6$ | $\times 8$ |

2 Complete the division facts.
$40 \div 5=$
$10 \div 2=$ $\qquad$ $35 \div 5=$ $\qquad$ $14 \div 2=$ $\qquad$

3 Solve the addition and subtraction problems.

| 357 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $+\quad 88$ | | 208 |
| ---: | ---: | ---: |
| $+\quad 153$ |

## Even More Multiplication Story Problems

1 Jose and his three cousins helped their grandma work in her garden on Saturday. She gave them each $\$ 16$ to thank them for their help. How much money did she give them altogether? Show all your work.


2 Laura and her four sisters went apple picking. They each picked 14 apples. How many apples did they pick altogether? Show all your work.

## CHALLENGE

3a Gregory's mom said to him, "You drink too much soda!" Gregory said, "I only drink 3 cans of soda a day." His mom said that was way too much. If there are 12 ounces of soda in each can, how many ounces of soda does Gregory drink every week? Show all your work.
b Gregory's mom said, "You drink gallons of soda each week!" There are 128 ounces in a gallon. Was his mom correct? Explain your answer.
$\qquad$
$\qquad$

## Fractions of a Circle

1 Fill in the circle to show each fraction.

| example $\frac{1}{4}$ | $\square$ | $\left\lvert\, \begin{gathered} \mathbf{a} \\ \frac{1}{3} \end{gathered}\right.$ |  |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \hline \mathbf{b} \\ & \frac{2}{3} \end{aligned}$ |  | $\begin{gathered} \text { C } \\ \frac{1}{5} \end{gathered}$ |  |
| $\begin{aligned} & \hline \mathbf{d} \\ & \frac{2}{10} \end{aligned}$ |  | $\begin{aligned} & \hline \boldsymbol{e} \\ & \frac{2}{5} \end{aligned}$ |  |

2 Look at the fractions you shaded in above. Use them to help complete each number sentence by writing <, >, or $=$.

| ex $\frac{1}{3}$ | $>$ | $\frac{1}{5}$ | a $\frac{2}{5}$ | $\frac{2}{3}$ | b $\frac{2}{3}$ | $\frac{2}{10}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| c $\frac{2}{10}$ | $\frac{1}{5}$ | d $\frac{2}{5}$ | $\frac{2}{10}$ | e $\frac{1}{4}$ | $\frac{2}{10}$ |  |

## CHALLENGE

| $f \frac{1}{18}$ | $\frac{1}{9}$ | $\mathbf{S} \frac{2}{18}$ | $\frac{1}{9}$ | h $\frac{1}{9}$ | $\frac{2}{20}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

## Liters \& Quarts

1 Use this information to answer the questions below.

- A liter is about equal to a quart.
- A liter is a little bit more than a quart.

a Soda comes in 2-liter bottles. About how many quarts are in a 2-liter bottle of soda?
b There are exactly 4 quarts in a gallon. Are there more than 4 liters or fewer than 4 liters in a gallon? Use pictures, numbers, and/or words to explain how you know.

2 Complete the addition and subtraction problems.

| 347 | 904 | 6,078 | 803 | 347 | 4,843 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| +826 | +148 | $+2,989$ | -416 | -252 | $-\underline{-2,176}$ |

3 John read 176 pages last month. This month he read 483 pages. Frannie read 245 pages last month. This month she read 861 pages. Who made a bigger jump in the number of pages they read, John or Frannie? Without doing the subtraction, explain how you can tell.

## Lemonade \& Bracelets

1a Philipe is making lemonade with his dad to serve at their party. Their recipe makes 6 glasses of lemonade. The recipe calls for 4 lemons, 1 cup of sugar, and 6 cups of water. If they want to make enough lemonade for 30 people to drink a glass, how many lemons will they need to buy?
b Use words, numbers, or pictures to explain how you know your answer above makes sense.


2a Lisa is making bracelets for four of her friends. She needs 18 beads for each bracelet. How many beads does she need altogether?
b Use words, numbers, or pictures to explain how you know your answer above makes sense.

## CHALLENGE

C If each bead costs 15¢, how much would it cost for Lisa to buy all those beads? Show your work.

$\qquad$

## Pencils \& Cupcakes

1a Mr. Sutton bought 36 mechanical pencils to give away as prizes for his students. $\frac{1}{4}$ of the pencils were red and $\frac{1}{3}$ of the pencils were purple. Were there more red or purple pencils? Use pictures, numbers, and/or words to explain how you know.
$\mathbf{b}$ The rest of the pencils were yellow. How many yellow pencils did Mr. Sutton buy? Use pictures, numbers, and/ or words to explain your answer.

2a Ellie made 24 cupcakes to take to her friend's party. She put vanilla icing on them all. Then she put chocolate sprinkles or red sugar on some of them. She put chocolate sprinkles on $\frac{1}{4}$ of them. She put red sugar on $\frac{1}{2}$ of them. She left the rest of them plain. What did most of her cupcakes have on them?


## CHALLENGE

b What fraction of Ellie's cupcakes had no sprinkles or sugar on top? How many cupcakes was that? Use pictures, numbers, and/or words to explain your answers.
$\qquad$

## Shopping Problems

1 Serena bought 3 T-shirts for $\$ 13$ each. She also bought a skirt for $\$ 42$ and a jacket for $\$ 76$. Her sister Lisa got a pair of jeans for $\$ 34$ and a pair of sneakers for $\$ 46$. Who spent more money? Exactly how much more money did she spend? Show all your work.


2 It is Rick's turn to bring oranges for his soccer team to eat at half-time. There are 15 people on his team. He wants each person to be able to eat 2 oranges. Oranges cost $\$ 1.20$ per pound, and each orange weighs about half a pound. About how much will it cost for Rick to get enough oranges for the team? Show all your work.

$\qquad$

## Feet, Yards \& Miles

1a When Danny gets wild, his mom tells him to do laps around the block. His block is 66 yards wide and 80 yards long. How many yards are in one lap around Danny's block? Show all your work.


## CHALLENGE

b There are 1,760 yards in a mile.
How many full laps would Danny have to run around the block to run a mile? Show all your work.

2 Danny and his mom are building a fenced area for their dog in the backyard. The area measures 18 ft . by 27 ft . The gate they plan to put in is 3 feet wide. How many feet of fencing will they need? Show all your work.


## Expanded Form \& Rounding Review

1 Fill in the table below by writing each number in standard form, expanded form, or words.

| Standard Form | Expanded Form | Words |
| :--- | :---: | :---: |
| example 8,603 | $8,000+600+3$ | eight thousand six hundred three |
| a 1,427 |  |  |
| b | $3,000+200+50+1$ |  |
| C |  | seven thousand sixty-two |
| d 6,845 |  |  |

2 Fill in the table by rounding each number to the nearest ten, hundred, or thousand.

| Round this number to <br> the nearest... | Ten <br> (Look at the ones.) | Hundred <br> (Look at the tens.) | Thousand <br> (Look at the hundreds.) |
| :--- | :---: | :---: | :---: |
| example 842 | 840 | 800 | 1,000 |
| a 3,425 |  |  |  |
| b 8,186 |  |  |  |
| C 374 |  |  |  |
| d 6,538 |  |  |  |

## Morning Math Games \& Breakfast

1 Ms. Suarez and her third grade students are planning morning math games and breakfast for their families. Ms. Suarez wanted to know what kind of food to serve, so she asked her students what they and their families like to eat in the morning. The table shows the third graders' answers. Show the information from the table on the bar graph. Title the graph and label the y-axis.

| Food | Number of <br> Students |
| :---: | :---: |
| Bagels | 13 |
| Muffins | 6 |
| Doushnuts | 5 |

Title $\qquad$


2 What was the most popular food?

3 How many students did Ms. Suarez survey?

4 Ms. Suarez estimates that about 20 people will join her students for morning math games and breakfast. What kind of food and how much of it should she serve? Use information from the table and bar graph to explain your answer.
$\qquad$
$\qquad$

## Fraction Review

1 On each square, fill in a fraction of the square that is less than $\frac{1}{2}$. Then write a number sentence comparing your fraction to $\frac{1}{2}$.


2 On each square, fill in a fraction of the square that is greater than $\frac{1}{2}$. Then write a number sentence comparing your fraction to $\frac{1}{2}$.


3 Write each of the following fractions where they belong on the number line below.

| $\frac{9}{10}$ | $\frac{1}{4}$ | $\frac{2}{5}$ | $\frac{2}{3}$ |
| :--- | :--- | :--- | :--- |


$\qquad$

## The Soccer Field

1 Jake and his mom run laps around the soccer field in their neighborhood. The field is 100 yards by 60 yards, and they run 4 laps around the field each time. When they went to visit Jake's uncle, they did laps around the kids' soccer field in his neighborhood. The field was 30 yards by 55 yards, and they ran 8 laps around it. Did they run more at Jake's uncle's house or in their own neighborhood? Exactly how much more? Show all your work.


## CHALLENGE

2 A rectangle has a perimeter of 36 feet. It is twice as long as it is wide. What are the dimensions of the rectangle? Show all your work.
$\qquad$
$\qquad$

## Basic Multiplication \& Division Review

1 Complete the multiplication facts.

| 2 | 4 | 7 | 2 | 10 | 9 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\times 3$ | $\times 5$ | $\times 5$ | $\times 6$ | $\times 8$ | $\times 2$ | $\times 3$ |
| 0 | 5 | 7 | 3 | 9 | 5 | 3 |
| $\times 2$ | $\times 6$ | $\times 2$ | $\times 5$ | $\times 5$ | $\times 5$ | $\times 8$ |
| 8 | 5 | 7 | 4 | 6 | 7 | 4 |
| $\times 2$ | $\times 8$ | $\times 1$ | $\times 6$ | $\times 6$ | $\times 4$ | $\times 8$ |

2 Complete the division facts.
$10 \div 5=$ $\qquad$
$9 \div 1=$ $\qquad$
$20 \div 10=$ $\qquad$
$50 \div 5=$ $\qquad$
$30 \div 5=$ $\qquad$
$18 \div 2=$
$\qquad$

## CHALLENGE

3 Charlie says that if the sides of a rectangle are all whole numbers, it is impossible for the rectangle's perimeter to be odd. Is he correct? Use pictures, numbers, and/or words to explain your answer.
$\qquad$

## Sandwiches \& Mini-Chip Cookies

1a Rosa and Clarice are making sandwiches for all the students in their class and their teacher. There are 23 students in their class. Each loaf of bread has 16 slices. They don't want to use the slices on the end of the bread, because most students don't like them. If they make 1 sandwich for each student and for the teacher, how many loaves of bread will they need? Show all your work.
b Rosa and Clarice realized they would have some bread leftover (not including the end pieces), so they decided to make sandwiches for the librarian, office staff, and custodian. How many sandwiches will they be able to make?


2 Frank, Joe, and Carl went with their grandma to the bakery. She said that they could use the change she got back to buy mini-chip cookies to share equally. She bought a cake for $\$ 11$ and two loaves of bread for $\$ 2.70$ each. She paid with a $\$ 20$ bill. The mini-chip cookies cost $40 \phi$ each. How many cookies did each boy get? Show all your work.

$\qquad$
$\qquad$

## Add, Subtract \& Multiply

1 Solve the addition and subtraction problems.

| 427 | 728 | 246 | 500 | 280 |
| :---: | :---: | :---: | :---: | :---: |
| + 92 | + 436 | + 795 | - 150 | - 145 |
| 285 | 964 | 835 | 603 | 460 |
| - 143 | - 528 | - 297 | - 465 | - 235 |

2 Write a greater than, less than, or equal sign to complete each number sentence.

| example $36+4<26+20$ | a $5 \times 8$ | $\times 3$ |
| :---: | :---: | :---: |
| $2+28$ | C 25-10 | 5-20 |
| $2 \times 8$ | e $1 \times 9 \quad 3 \times 4$ |  |
| f 890-500 756-540 | S 400 | $150+250$ |
| 2 h $2 \times 96 \quad 4 \times 50$ | 7 i $1 \times 450$ | 500-50 |

3 Pick the equation that will help you solve the problem. Then solve the problem. Jake found 32 shells on the beach. He gave half of them to his brother. Then his sister gave Jake 18 more shells. How many shells does Jake have now?
O $32 \times 2)+18=?$
$(32 \times 2)-18=$ ?
$(32 \div 2)+18=?$

Jake has $\qquad$ shells.

$\qquad$

## Multiplying Two-Digit by One-Digit Numbers

You can break a two-digit number into tens and ones to multiply it by another number.
Use this method to solve the multiplication problems below.

| Problem | Break larger numbers into tens and ones. Then multiply. | Add the two products. | Your Answer |
| :---: | :---: | :---: | :---: |
| $\text { ex } \begin{array}{r} 16 \\ \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ \times 4 \\ \hline 40 \end{array} \begin{array}{r} 6 \\ \hline 24 \end{array}$ <br> Break 16 into 10 and 6. Multiply both by 4 | $40+24=64$ | $\begin{array}{r} 16 \\ \times 4 \\ \hline 64 \end{array}$ |
| $\begin{array}{\|rr} \hline 1 & \\ & 13 \\ \times 5 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 13 \\ \times 5 \\ \hline \end{array}$ |
| $\begin{array}{\|r} \hline 2 \\ \\ \hline \end{array}$ |  |  | $\begin{array}{r} 18 \\ \times 3 \\ \hline \end{array}$ |
| $\begin{array}{\|rr} \hline 3 & \\ & 16 \\ \times \quad 9 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 16 \\ \times 9 \\ \hline \end{array}$ |
| 4 $\begin{array}{r} 14 \\ \times 7 \\ \hline \end{array}$ |  |  | $\begin{array}{r} 14 \\ \times 7 \\ \hline \end{array}$ |

$\qquad$
$\qquad$

## Quadrilateral Review

A quadrilateral is a shape with 4 sides. Here are some different kinds of quadrilaterals.

| Trapezoid: a quadrilateral with exactly 1 pair |  |
| :--- | :--- |
| of parallel sides | Rectangle: a quadrilateral with 2 pairs of <br> parallel sides and 4 right angles |
| Rhombus: a quadrilateral with 4 sides that are |  |
| all the same length | Square: a quadrilateral with 4 right ansles and <br> 4 sides that are all the same length |
| Parallelogram: a quadrilateral with 2 pairs of parallel sides |  |

1 Draw in the missing sides to complete each quadrilateral.
a square


C parallelogram

d trapezoid


2 Mayra says that squares and rectangles are parallelograms too, but rhombuses are not. Is she correct? Explain your answer. Use the grid if you want to.


## Angles, Sides \& Shapes Review

Use the information below to help solve the following problems.

| Right Angle <br> exactly 90 <br> a square corner | Acute Angle <br> smaller than a <br> right angle | Obtuse Angle <br> larger than a <br> right angle | Parallel Sides <br> would never cross if <br> they went on forever |
| :---: | :---: | :---: | :---: |

1 Follow the instructions to draw a quadrilateral on grids a, b and c. There will be more than one way to draw a figure that matches each description. Then fill in the bubble next to the word or words that name the figure you drew.

| example It has 4 equal sides and no right angles. | a It has only 1 pair of parallel sides and no right angles. | b It has 2 pairs of parallel sides and no right angles. | C It has exactly 2 right angles. |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| rhombus <br> trapezoid <br> parallelogram | rhombus trapezoid parallelogram | rhombus trapezoid parallelogram | rhombus trapezoid parallelogram |

## CHALLENGE

2 Shamim says that you can draw figure 1b with all obtuse angles. Is he correct? Explain how you know. You can draw on the grid to help.


