

Math Explorations

Part 1 Workbook

2013 Edition

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MATH EXPLORATIONS PART 1 WORKBOOK

table of contents

| | |
|--|-----------|
| CH. 1 EXPLORING INTEGERS | 1 |
| Section 1.1 Building Number Lines | 1 |
| Section 1.2 Less Than and Greater Than | 5 |
| Section 1.3 Applications of the Number Line | 9 |
| Section 1.4 Distance Between Points..... | 15 |
| Section 1.5 Addition of Integers | 19 |
| Section 1.6 Subtraction of Integers..... | 25 |
| Section 1.7 Variables and Expressions | 31 |
| Section 1.8 Graphing on the Coordinate System | 35 |
| Chapter 1 Spiral Review | 41 |
| | |
| CH. 2 MULTIPLYING AND DIVIDING | 45 |
| Section 2.1 Skip Counting with Integers | 45 |
| Section 2.2 Area Model for Multiplication | 53 |
| Section 2.3 Linear Model for Division | 59 |
| Section 2.4 The Division Algorithm..... | 65 |
| Section 2.5 Long Division..... | 69 |
| Chapter 2 Spiral Review | 73 |
| | |
| CH. 3 FACTORS AND MULTIPLES | 77 |
| Section 3.1 Factors, Multiples, Primes, and Composites | 77 |
| Section 3.2 Exponents and Order of Operations | 89 |
| Section 3.3 Prime Factorization | 97 |
| Section 3.4 Common Factors and the GCF..... | 103 |
| Section 3.5 Common Multiples and the LCM | 111 |
| Chapter 3 Spiral Review | 119 |

MATH EXPLORATIONS PART 1 WORKBOOK

table of contents

| | |
|---|------------|
| CH. 4 FRACTIONS | 125 |
| Section 4.1 Models for Fractions | 125 |
| Section 4.2 Comparing and Ordering Fractions..... | 139 |
| Section 4.3 Unit, Mixed, Proper and Improper Fractions..... | 145 |
| Section 4.4 Addition and Subtraction of Fractions..... | 153 |
| Section 4.5 Common Denominators and Mixed Fractions..... | 165 |
| Chapter 4 Spiral Review | 173 |
| | |
| CH. 5 DECIMAL AND PERCENT REPRESENTATIONS | 177 |
| Section 5.1 Constructing Decimals | 177 |
| Section 5.2 Operating with Decimals..... | 187 |
| Section 5.3 Numbers as Decimals and Fractions | 197 |
| Section 5.4 Fractions, Decimals, and Percents..... | 203 |
| Chapter 5 Spiral Review | 211 |
| | |
| CH. 6 EQUATIONS, INEQUALITIES, AND FUNCTIONS | 215 |
| Section 6.1 Patterns and Sequences | 215 |
| Section 6.2 Equations | 223 |
| Section 6.3 Equations and Inequalities on Number Lines..... | 233 |
| Section 6.4 Functions | 237 |
| Chapter 6 Spiral Review | 249 |
| | |
| CH. 7 RATES, RATIOS, AND PROPORTIONS | 253 |
| Section 7.1 Multiplying Fractions | 253 |
| Section 7.2 Division of Fractions..... | 259 |
| Section 7.3 Rates and Ratios..... | 265 |
| Section 7.4 Proportions..... | 271 |
| Chapter 7 Spiral Review | 279 |

MATH EXPLORATIONS PART 1 WORKBOOK

table of contents

| | |
|---|------------|
| CH. 8 MEASUREMENT | 283 |
| Section 8.1 Length..... | 283 |
| Section 8.2 Capacity and Volume..... | 289 |
| Section 8.3 Weight and Mass..... | 295 |
| Section 8.4 Time and Temperature | 301 |
| Chapter 8 Spiral Review | 305 |
| | |
| CH. 9 GEOMETRY | 309 |
| Section 9.1 Measuring Angles | 309 |
| Section 9.2 Triangles..... | 323 |
| Section 9.3 Quadrilaterals and Other Polygons | 333 |
| Section 9.4 Perimeter and Area..... | 343 |
| Section 9.5 Circles | 355 |
| Section 9.6 Three-Dimensional Shapes | 365 |
| Chapter 9 Spiral Review | 377 |
| | |
| CH. 10 DATA ANALYSIS | 381 |
| Section 10.1 Measures of Central Tendency..... | 381 |
| Section 10.2 Graphing Data..... | 397 |
| Section 10.3 Probability..... | 405 |
| Section 10.4 Rule of Product and Rule of Sum | 415 |
| Chapter 10 Spiral Review | 423 |
| | |
| CH. 11 MATH OF FINANCE | 427 |
| Section 11.1 Types of Charge Cards..... | 427 |
| Section 11.2 Credit Reports..... | 431 |
| Section 11.3 Going to College | 433 |

EXPLORING INTEGERS 1

Name: _____ Date: _____ Period: _____

SECTION 1.1 BUILDING NUMBER LINES

VOCABULARY

| DEFINITION | EXAMPLE |
|---|---------|
| Number Line Model: | |
| Counting Numbers/Natural Numbers/Positive Integers: | |
| Whole Numbers: | |
| Integers: | |
| Origin: | |

Big Idea: How do we categorize numbers? How do we construct number lines?

EXPLORATION: CONSTRUCTING A NUMBER LINE

1. Draw a straight line.
2. Pick a point on the line and call this point the origin. Label the origin with the number 0.
3. Locate the numbers 1, 2, 3, ... 10, and -1, -2, -3, ..., -10.

4. Where would 20, 30, 50 be located? 100? 1,000?
5. Find the negative numbers corresponding to the numbers in question 4.

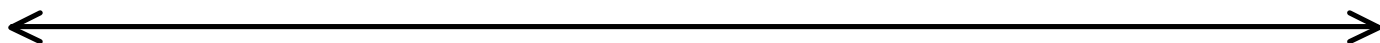
PROBLEMS:

1. At the mall, the card shop is at the origin. Label it as point 0. The Ice cream Shop is located 5 units to the right of the origin. The pet shop is 3 units to the left of the Ice cream Shop. There is a sunglasses shop 4 units to the right of the jeans warehouse, and the jeans warehouse is 8 units to the left of the origin. Draw a number line representing the mall. Label each of the locations on the number line. **Watch your spacing.**



2. Write an integer for each situation. Find the point on the number line that corresponds to the integer. (Create a number line from -15 to 15, counting by fives and leaving a mark for each integer.)

| | |
|----------------------|-------------------|
| a. a deposit of \$14 | b. 6° below zero |
| c. descend 11 yards | d. a growth of 3" |



3. Chris visits Edmonton, Canada where it is -7° C. Carmen visits Winnipeg, Canada where it is 9° C. Which temperature is closer to the freezing point? Draw a thermometer to prove your answer. Remember, when we measure temperature in degrees Celsius, 0°C is the freezing point of water.

4. For each of the following pairs of integers, decide which integer is further to the right on the number line. (Circle your answer) Show why on the number line.
- a. 7 and 9
 - b. 132 and 28
 - c. 9 and -14
 - d. -5 and -7
 - e. 4 and -22
 - f. -9 and -10
 - g. -255 and -217
 - h. -11 and -15

5. Make a list of words that indicate a positive or negative integer.

| Negative Key Words | Positive Key Words |
|--------------------|--------------------|
| Example: withdraw | Example: deposit |

6. Name each number as an integer, whole number, counting number, or none of the above. Use all the names that apply.

$$7, \frac{1}{7}, -7, 0, 101, -1, 1$$

SUMMARY (What I learned in this section)
