

LEPANTO MATHEMATICS

LEVEL 3 WORKBOOK

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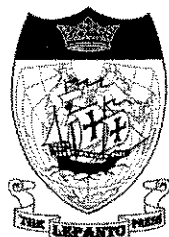


TABLE OF CONTENTS

CHAPTER 1

| | | |
|--------------|-------------------------------------|-----|
| Exercise 1a: | Numbers 10 and Under | 1 |
| 1b: | Word Problems & Adding Zero | 2 |
| 1c: | Word Problems & Adding Cents | 2-3 |
| 1d: | Counting Groups & Adding Numbers | 4-5 |
| 1e: | 3 & 4-digit Place Values | 6 |
| Exercise 2a: | Missing & Matching Numbers | 6-7 |
| 2b: | Adding Money Review | 8-9 |
| 2c: | Subtraction & Find The Pattern | 9 |
| 2d: | Subtraction & Word Problems | 10 |
| 2e: | Place Values | 11 |
| Exercise 3a: | Greater Than or Less Than, Equal To | 12 |
| 3b: | U.S. Money and Symbols | 13 |
| 3c: | Counting Coins and Dollars | 14 |
| 3d: | Addition Exercise | 15 |
| 3e: | DIAGNOSTIC TEST | 16 |
| | SKILLS TEST | 17 |

CHAPTER 2

| | | |
|--------------|------------------------------------|-------|
| Exercise 4a: | Basic Addition | 18 |
| 4b: | Addition Practice | 19 |
| 4c: | Circle the Right Symbol | 20 |
| | DIAGNOSTIC TEST | 21 |
| 4d: | Three-Digit Addition | 22 |
| 4e: | Numbers 1 to 1000 | 23 |
| Exercise 5a: | Two-Digit Addition with Regrouping | 24 |
| 5b: | More Practice with Regrouping | 25 |
| 5c: | Reading and Writing Numbers | 26 |
| 5d: | More Practice with Regrouping | 27-28 |
| 5e: | Practice With Regroup Adding | 28-29 |
| Exercise 6a: | Problem Solving Exercise | 30-31 |
| 6b: | Regrouping Tens as Hundreds | 31-32 |
| 6c: | Addition with One Regrouping | 35 |
| 6d: | Adding Practice | 36 |
| 6e: | Adding Columns | 37 |
| Exercise 7a: | Adding with Two Regroupings | 36-37 |
| 7b: | Adding Practice | 37-38 |
| 7c: | Adding By Similar Endings | 38-39 |
| 7d: | Adding Columns of Figures | 40 |
| 7e: | CHAPTER REVIEW TEST | 41 |

CHAPTER 3

| | | |
|--------------|---------------------------------|-------|
| Exercise 8a: | Review Adding | 42 |
| 8b: | Words That Tell You To Add | 43 |
| 8c: | Basic Facts | 44 |
| 8d: | Two-Digit Subtraction | 45-46 |
| 8e: | Three-Digit Subtraction | 46-47 |
| Exercise 9a: | Addition and Subtraction Review | 48-49 |
| 9b: | Adding Three-Digit Numbers | 50 |
| 9c: | Subtraction Problems | 51 |
| 9d: | Subtraction Problems | 52 |
| 9e: | Addition Review | 53 |

| | | |
|---------------|----------------------------------|-------|
| Exercise 10a: | Subtraction with Regrouping | 54 |
| 10b: | Addition Problems | 55 |
| 10c: | Subtraction with One Regrouping | 55-56 |
| 10d: | Adding Dollars and Cents | 57 |
| 10e: | DIAGNOSTIC TEST | 58-59 |
| Exercise 11a: | Subtracting with Two Regroupings | 60 |
| 11b: | Subtraction Review | 61 |
| 11c: | Words that Tell You to Subtract | 62 |
| 11d: | Three Digit Subtraction | 62-63 |
| 11e: | Word Problems | 63-64 |
| Exercise 12a: | Everyday Problems | 65 |
| 12b: | A Day at the Seashore | 65-66 |
| 12c: | Subtraction Problems | 66 |
| 12d: | Finding the Difference | 67 |
| 12e: | Regroup Across Zero | 67-68 |
| Exercise 13a: | Regroup Across Two Zeros | 68-69 |
| 13b: | Word Problems | 69-70 |
| 13c: | Subtracting Zeros | 70-71 |
| 13d: | Problem Test | 71 |
| 13e: | Subtraction Practice | 72 |
| Exercise 14a: | DIAGNOSTIC TEST - PART A | 73 |
| 14b: | DIAGNOSTIC TEST - PART B | 74 |
| | CHAPTER REVIEW TEST | 74-75 |

CHAPTER 4

| | | |
|---------------|-----------------------------------|-------|
| 14c: | Basic Multiplying Facts To One | 76 |
| 14d: | Basic Multiplying Facts for Two | 77 |
| 14e: | More Multiplying By Two | 78 |
| Exercise 15a: | Review Multiplying Twos | 79 |
| 15b: | More Multiplying By Two | 79 |
| 15c: | Mixed Practice | 80 |
| 15d: | Review: Addition & Subtraction | 80 |
| 15e: | More Mixed Practice | 81 |
| Exercise 16a: | Problem Test | 82 |
| 16b: | Solve the Problems | 82-83 |
| 16c: | Addition Review | 83 |
| 16d: | Basic Multiplying Facts for Three | 84 |
| 16e: | Subtraction and Review | 85 |
| Exercise 17a: | Subtraction and Review | 85 |
| 17b: | Basic Multiplying Facts for Four | 86 |
| 17c: | Measuring Lengths | 87 |
| 17d: | Measuring Heights | 88 |
| 17e: | Problem Test | 88 |
| Exercise 18a: | More Measurement Problems | 89 |
| 18b: | Basic Multiplying Facts for Five | 90 |
| 18c: | Short Division Problems | 90-91 |
| 18d: | How Many Left Over? | 91 |
| 18e: | More Division Problems | 92 |
| Exercise 19a: | Basic Multiplying Facts for Six | 93 |
| 19b: | Short Division Problems | 93-94 |
| 19c: | Give Correct Answers | 94 |
| 19d: | Short Division and Review | 95 |
| | PROBLEM TEST | 95 |
| 19e: | MID-TERM TEST | 96-97 |

TABLE OF CONTENTS

CHAPTER 5

| | |
|--|---------|
| Exercise 20a: Basic Multiplying Facts for Seven..... | 98 |
| 20b: Review: Addition & Subtraction | 98 |
| 20c: Liquid Measurements..... | 99 |
| 20d: Basic Multiplying Facts for Eight | 99-100 |
| 20e: Multiply Larger numbers By Four | 100-101 |
| Exercise 21a: Problem Test | 101 |
| 21b: Basic Multiplying Facts for Nine | 102 |
| 21c: Dividing Zero By Any Number..... | 102-103 |
| 21d: Multiplication Review | 103 |
| 21e: Division Problems | 104 |
| Exercise 22a: Multiplication Review..... | 105 |
| 22b: Remainders In Long Division | 106 |
| 22c: Dividing Three-Figure Numbers..... | 106-107 |
| 22d: Do You Multiply Or Divide | 107-108 |
| 22e: 2-Digit Multiplication Problems | 108-109 |
| Exercise 23a: Dividing By Five | 110-111 |
| 23b: Multiplying 2-Digits And Regrouping | 111-112 |
| 23c: Mixed Multiplication And Regroupings | 112-113 |
| 23d: Multiplication Practice | 113 |
| 23e: CHAPTER TEST..... | 115 |

CHAPTER 6

| | |
|--|---------|
| Exercise 24a: Numbers To Ten Thousand..... | 116 |
| 24b: Problem Solving Strategy | 117-118 |
| 24c: Roman Numerals..... | 119 |
| 24d: Review Of Multiplication | 119-120 |
| 24e: More Word Solving Strategy | 120-121 |
| Exercise 25a: Basic Facts In Division To 3..... | 121 |
| 25b: Addition Review | 122 |
| 25c: Sending Flowers To The City | 123 |
| 25d: Adding Long Columns..... | 124 |
| 25e: Diagnostic Test | 125 |
| Exercise 26a: Basic Facts In Division To 4 | 126 |
| 26b: Find The Quotients | 126 |
| 26c: Helps In Problem Solving..... | 127 |
| 26d: Basic Facts In Division To 5 | 128 |
| 26e: Exercises In Subtraction | 129 |
| Exercise 27a Subtracting Coins | 130 |
| 27b: Making Change | 130-131 |
| 27c: Basic Facts In Division To 6 | 131 |
| 27d: Diagnostic Test - Subtraction..... | 132 |
| 27e: Diagnostic Test - Multiplication | 133 |
| Exercise 28a Multiplication Review..... | 134 |
| 28b: Diagnostic Test - Division | 134 |
| 28c: Diagnostic Test - Division | 135 |
| 28d: Problem Solving Strategy | 135-136 |
| 28e: Dividing Larger Numbers..... | 136 |
| Exercise 29a Help Solving Word Problems | 137 |
| 29b: Fred's Garden..... | 137 |
| 29c: Basic Facts In Division To 7 | 138 |
| 29d: Review Word Problems..... | 139 |
| 29e: Diagnostic Test - Multiplication & Division | 140 |

CHAPTER 7

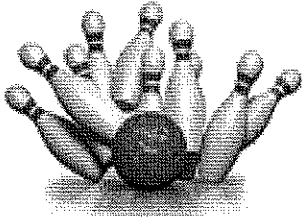
| | |
|--|---------|
| Exercise 30a: Addition Review | 141 |
| 30b: Subtraction Review | 142 |
| 30c: Word Problems | 143-144 |
| 30d: Using The Multiplication Table | 145 |
| 30e: Multiplying Dollars And Cents | 146 |
| Exercise 31a: Multiplication Exercises | 147 |
| 31b: Basic Facts For Division To 7 And 8 | 148 |
| 31c: Division Problems..... | 149 |
| 31d: Word Problems | 150 |
| 31e: Problems Without Numbers | 151 |
| Exercise 32a: Multiplication And Division..... | 152 |
| 32b: Problems And Practice | 153 |
| 32c: Division Problems..... | 154 |
| 32d: Addition Review..... | 154 |
| 32e: Division Problems..... | 155 |
| Exercise 33a: Studying The Clock | 156 |
| 33b: Dividing By 9..... | 157 |
| 33c: REVIEW TEST | 158-159 |
| 33d: Telling The Time - Minutes..... | 160 |
| 33e: Multiplication | 161 |
| Exercise 34a: Learning Customary Lengths..... | 162 |
| 34b: Division | 163-164 |
| 34c: Learning Metric Measurements | 165 |
| 34d: REVIEW TEST | 166 |
| 34e: Fractions - Part Of A Whole | 167 |
| Exercise 35a: Word Problems..... | 168 |
| 35b: More Fractions | 169 |
| 35c: Division With Remainders..... | 170 |
| 35d: Fractions - Part Of A Group | 171-172 |
| 35e: Word Problems | 172 |
| Exercise 36a: REVIEW TEST | 173 |
| 36b: Naming The Whole | 174 |
| 36c: One Third..... | 175 |
| 36d: One Third - Part Of A Group | 176 |
| 36e: Addition And Subtraction Review | 177 |
| Exercise 37a Two Third - Part Of A Group | 178 |
| 37b: The Calendar | 179-180 |
| 37c: Addition And Subtraction Review | 180-181 |
| 37d: Fraction Review..... | 181-182 |
| 37e: CHAPTER REVIEW TEST..... | 182-183 |

FINAL REVIEW

| | |
|--|---------|
| Exercise 38a Review Test - Addition & Subtraction..... | 184 |
| 38b: Review Test - Division | 185 |
| 38c: Review Test - Multiplication | 186 |
| 38d: FINAL TEST: Chapters 1 to 4 | 188-189 |
| 38e: FINAL TEST: Chapters 5 to 7 | 190-191 |

Numbers, Groups, & Place Values

Exercise 1a: Numbers - 10 and under



Bowling, or Ten Pins as it was called in earlier days, is an excellent way to learn to add and subtract numbers.

1. If Martin rolls a ball and knocks over six pins; then rolls a second ball and knocks down 2 more pins, his score for the two balls would be 6 plus 2. Martin says his total would equal 8.

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$

Is he correct? _____

2. These problems show other possible combinations that Martin could have scored with his 2 rolls. Write the total for each of these.

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

$$\begin{array}{r} 1 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 0 \\ \hline \end{array}$$

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

$$\begin{array}{r} 9 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 2 \\ \hline \end{array}$$

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

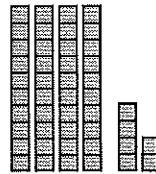
$$\begin{array}{r} 6 \\ + 3 \\ \hline \end{array}$$

3. All 2-digit whole numbers have a tens place and a ones place. Count the groups of tens and ones, (see example to the right) and write the number in the square provided.

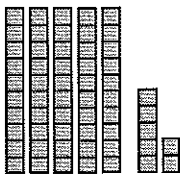
| | <table border="1"> <tr> <th>Tens</th> <th>Ones</th> <td rowspan="2">=</td> <td rowspan="2">□</td> </tr> <tr> <td>3</td> <td>5</td> </tr> </table> | Tens | Ones | = | □ | 3 | 5 |
|------|---|------|------|---|---|---|---|
| Tens | Ones | = | □ | | | | |
| 3 | 5 | | | | | | |



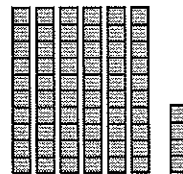
| Tens | Ones | = | □ |
|------|------|---|---|
| | | | |



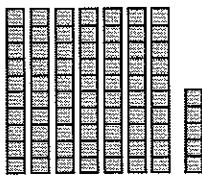
| Tens | Ones | = | □ |
|------|------|---|---|
| | | | |



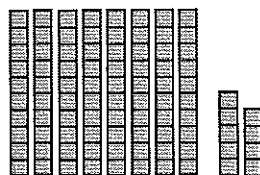
| Tens | Ones | = | □ |
|------|------|---|---|
| | | | |



| Tens | Ones | = | □ |
|------|------|---|---|
| | | | |



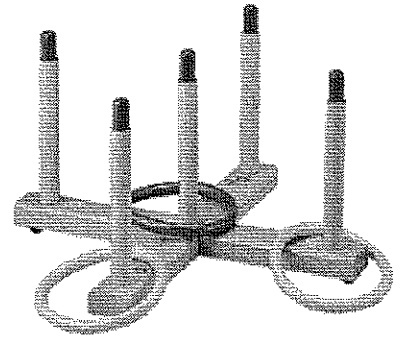
| Tens | Ones | = | □ |
|------|------|---|---|
| | | | |



| Tens | Ones | = | □ |
|------|------|---|---|
| | | | |

Exercise 1b: Word Problems & Adding Zero

Tina and Elizabeth are playing a Ring Toss Game with Robert and Steven, and they are keeping score of the points they receive for each of the rings they toss.



1. Tina tosses her first two rings. Her first ring scores 5 points, and the other also scores 5 points.

What is her score? _____

$$\begin{array}{r} 5 \\ + 5 \\ \hline \end{array}$$

2. Elizabeth tosses her first two rings, one scores 7 points, and the other misses and scores 0 points.

What is her score? _____

$$\begin{array}{r} 7 \\ + 0 \\ \hline \end{array}$$

3. Robert tosses his first two rings. His first ring scores 10 points, and the other one scores 6 points.

What is his score? _____

$$\begin{array}{r} 10 \\ + 6 \\ \hline \end{array}$$

4. Steven tosses his first two rings, one scores 10 points, and the other one only scores 4 points.

What is his score? _____

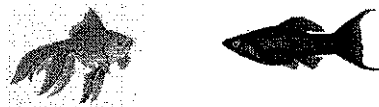
$$\begin{array}{r} 10 \\ + 4 \\ \hline \end{array}$$

5. Below are some of the scores that Tina and Elizabeth received on tosses as they continued their game of Ring Toss. Can you add each score?

| | | | | | | | |
|---|---|--|---|---|--|---|---|
| $\begin{array}{r} 2 \\ + 8 \\ \hline \end{array}$ | $\begin{array}{r} 5 \\ + 3 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ + 7 \\ \hline \end{array}$ | $\begin{array}{r} 8 \\ + 5 \\ \hline \end{array}$ | $\begin{array}{r} 9 \\ + 0 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ + 5 \\ \hline \end{array}$ | $\begin{array}{r} 3 \\ + 8 \\ \hline \end{array}$ | $\begin{array}{r} 10 \\ + 10 \\ \hline \end{array}$ |
|---|---|--|---|---|--|---|---|

Exercise 1c: Word Problems & Adding Cents

1. Michael has 4 gold fish and 3 black fish in his aquarium. How many total fish does he have?



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

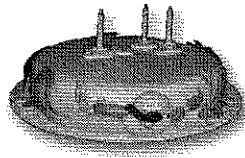
2. Martha is raising chicks. One hen hatches 11 eggs, and the other hen hatches 8 eggs. How many chicks does Martha have now?



$$\begin{array}{r} 11 \\ + 8 \\ \hline 19 \end{array}$$

CHAPTER 1: REVIEW

3. At Ted's birthday party, there were 8 boys and 7 girls.
How many children attended his party?



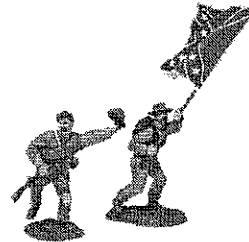
$$\begin{array}{r} 8 \\ + 7 \\ \hline \end{array}$$

4. Maria has 12 cents in her pocket. Her mother gives her another 10 cents after doing her chores very well. How many cents does she have now?



$$\begin{array}{r} 12 \\ + 10 \\ \hline \end{array}$$

5. Thomas has 15 Civil War toy soldiers. His father gives him 12 more for his birthday. How many toys soldiers does he have now?



$$\begin{array}{r} 15 \\ + 12 \\ \hline \end{array}$$

6. Cindy spends 4 cents for milk and 15 cents for cookies each day at morning break. How much does she spend for the milk and cookies?



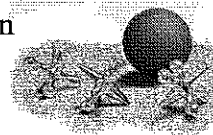
$$\begin{array}{r} 4 \\ + 15 \\ \hline \end{array}$$

7. Mark bought a toy airplane for 15 cents and a candy bar for 10 cents. How much money did Mark spend?



$$\begin{array}{r} 15 \\ + 10 \\ \hline \end{array}$$

8. Linda is playing jacks. She picks up 6 on her first turn, and 9 on her second turn. How many jacks did she pick up in both turns?



$$\begin{array}{r} 6 \\ + 9 \\ \hline \end{array}$$

9. Roger bought 2 pencils for 10 cents each. How much money did he have to spend to get the pencils?



$$\begin{array}{r} 10 \\ + 10 \\ \hline \end{array}$$

10. Susan earned 25 cents yesterday. Today she did not earn any money. How much money did she earn for both days?



$$\begin{array}{r} 25 \\ + 0 \\ \hline \end{array}$$

11. Write these grouped numbers as whole numbers.

| | | | | |
|--|--|--|--|--|
| $\frac{\tau}{1} \frac{o}{2} = \square$ | $\frac{\tau}{2} \frac{o}{4} = \square$ | $\frac{\tau}{3} \frac{o}{6} = \square$ | $\frac{\tau}{1} \frac{o}{1} = \square$ | $\frac{\tau}{2} \frac{o}{7} = \square$ |
| $\frac{\tau}{0} \frac{o}{1} = \square$ | $\frac{\tau}{1} \frac{o}{0} = \square$ | $\frac{\tau}{3} \frac{o}{2} = \square$ | $\frac{\tau}{1} \frac{o}{7} = \square$ | $\frac{\tau}{0} \frac{o}{6} = \square$ |
| $\frac{\tau}{2} \frac{o}{5} = \square$ | $\frac{\tau}{4} \frac{o}{6} = \square$ | $\frac{\tau}{5} \frac{o}{1} = \square$ | $\frac{\tau}{4} \frac{o}{4} = \square$ | $\frac{\tau}{5} \frac{o}{5} = \square$ |

Exercise 1d: Counting Groups

Every 3–digit whole number has a hundreds place, a tens place, and a ones place.

Count the groups of hundreds, tens and ones. Write grouped numbers. Write whole numbers.

| | | |
|---|---|---|
| H | T | O |
| 3 | 2 | 4 |

= 324

Count the grouped images of hundreds, tens, and ones. Write the grouped numbers, then write the whole number.

1. =

| | | |
|---|---|---|
| H | T | O |
| | | |

 =

2. =

| | | |
|---|---|---|
| H | T | O |
| | | |

 =

3. =

| | | |
|---|---|---|
| H | T | O |
| | | |

 =

4. =

| | | |
|---|---|---|
| H | T | O |
| | | |

 =

5. =

| | | |
|---|---|---|
| H | T | O |
| | | |

 =

CHAPTER 5: MULTIPLICATION & DIVISION

Exercise 20a:

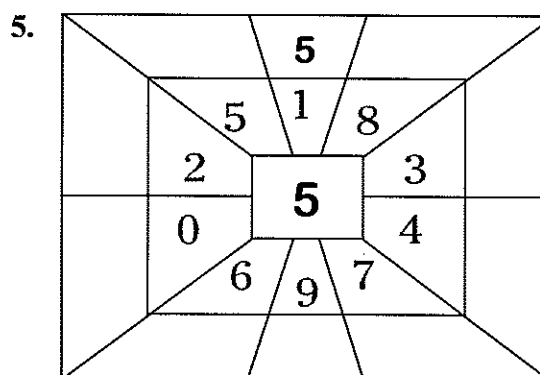
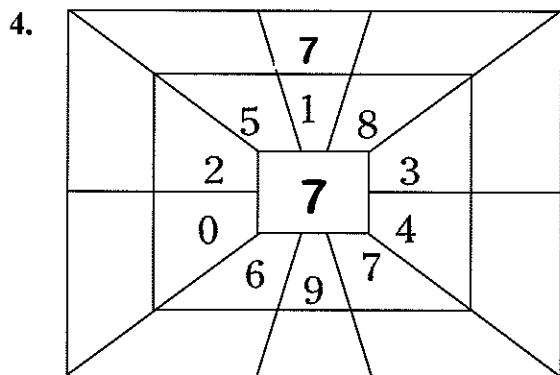
Basic Multiplying Facts for Seven

Memorize these multiplication facts when multiplying with 7.

| | | | | | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| $\times 7$ | $\times 7$ | $\times 7$ | $\times 7$ | $\times 7$ | $\times 7$ | $\times 7$ | $\times 7$ | $\times 7$ | $\times 7$ | $\times 7$ |
| 0 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |

Multiply these problems.

- | | | | | | | | |
|----|--|--|--|--|--|--|--|
| | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> |
| 1. | $\begin{array}{r} 7 \\ \times 0 \\ \hline 0 \end{array}$ | $\begin{array}{r} 7 \\ \times 1 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 0 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$ |
| 3. | $\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$ | $\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 1 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$ |



Exercise 20b: Review Addition & Subtraction

- | | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|---|---|
| | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> | <i>h</i> | <i>i</i> | <i>j</i> |
| 1. | $\begin{array}{r} 40 \\ 14 \\ + 87 \\ \hline \end{array}$ | $\begin{array}{r} 22 \\ 25 \\ + 68 \\ \hline \end{array}$ | $\begin{array}{r} 98 \\ 35 \\ + 10 \\ \hline \end{array}$ | $\begin{array}{r} 24 \\ 42 \\ + 41 \\ \hline \end{array}$ | $\begin{array}{r} 40 \\ 23 \\ + 67 \\ \hline \end{array}$ | $\begin{array}{r} 38 \\ 14 \\ + 74 \\ \hline \end{array}$ | $\begin{array}{r} 95 \\ 26 \\ + 13 \\ \hline \end{array}$ | $\begin{array}{r} 91 \\ 76 \\ 17 \\ + 12 \\ \hline \end{array}$ | $\begin{array}{r} 42 \\ 36 \\ 79 \\ + 29 \\ \hline \end{array}$ | $\begin{array}{r} 73 \\ 67 \\ 40 \\ + 79 \\ \hline \end{array}$ |

2. Subtract these problems.

- | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| $\begin{array}{r} 946 \\ - 565 \\ \hline \end{array}$ | $\begin{array}{r} 543 \\ - 224 \\ \hline \end{array}$ | $\begin{array}{r} 716 \\ - 434 \\ \hline \end{array}$ | $\begin{array}{r} 492 \\ - 426 \\ \hline \end{array}$ | $\begin{array}{r} 696 \\ - 347 \\ \hline \end{array}$ | $\begin{array}{r} 718 \\ - 163 \\ \hline \end{array}$ | $\begin{array}{r} 700 \\ - 233 \\ \hline \end{array}$ | $\begin{array}{r} 200 \\ - 105 \\ \hline \end{array}$ | $\begin{array}{r} 512 \\ - 204 \\ \hline \end{array}$ | $\begin{array}{r} 820 \\ - 696 \\ \hline \end{array}$ |
|---|---|---|---|---|---|---|---|---|---|

Review the Sevens Times Table.

CHAPTER 5: MULTIPLICATION & DIVISION

Exercise 20c:

LIQUID MEASUREMENTS

- How much milk does your mother buy each day? What other liquids are sold by the pint or by the quart? by the gallon?
- Fill a pint bottle with water and pour it into an empty quart bottle. Then pour another pint into the quart bottle. Does this fill the quart bottle?
How many pints make a quart?
- Pour a quart of water into an empty gallon can. Repeat until the can is filled. How many quarts equal 1 gallon?
- Memorize this table of U. S. *liquid measure*:
- If 4 cups can be filled with 1 qt. of water, how many cups will be needed to fill 2 quarts?
or 1 pint?



2 cups (c.) = 1 pint (pt.)
 2 pints (pt.) = 1 quart (qt.)
 4 quarts (qt.) = 1 gallon (gal.)

- If child would drink 4 cups of milk every day, how many quarts of milk is that?
How many pints is it?
- How many quarts are there in 1 gal.?
in 2 gal.?
- What numbers should be put in place of the dots ?

| | | |
|--------------------|--------------------|--------------------|
| 1 gal. = qt. | 6 gal. = qt. | 1 qt. = cups |
| 7 gal. = qt. | 9 gal. = qt. | 3 qt. = cups |
| 5 gal. = qt. | 3 qt. = pts. | 4 qt. = pt. |

- Mary made 5 qt. of lemonade. How many cups full would 5 qt. make?
- It cost Mary 4¢ a quart to make the lemonade. How much did the 5 qt. cost?

Exercise 20d:

Basic Multiplying Facts for Eight

Memorize these multiplication facts when multiplying with 8.

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| x 8 | x 8 | x 8 | x 8 | x 8 | x 8 | x 8 | x 8 | x 8 | x 8 | x 8 |
| 0 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |

CHAPTER 7: MULTIPLICATION & DIVISION

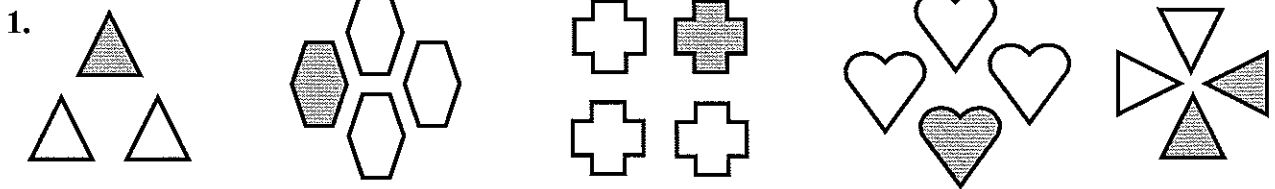
Exercise 35d:

FRACTIONS - PART OF A GROUP

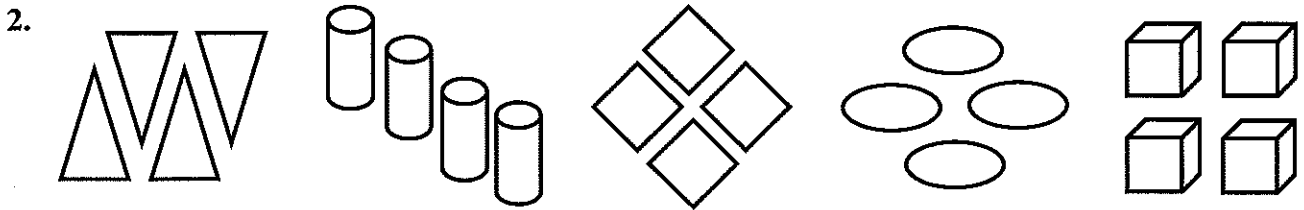
Groups of objects can be divided into equal parts. A part of a group is also a fraction.

| | | | | |
|---|---|--|---|---|
| 1 | 1 | Object <u>1</u> is colored gray. Objects <u>2, 3 & 4</u> are colored white. Each object is EQUAL to one quarter of the group. | 1 | 2 |
| 1 | 1 | | 3 | 4 |

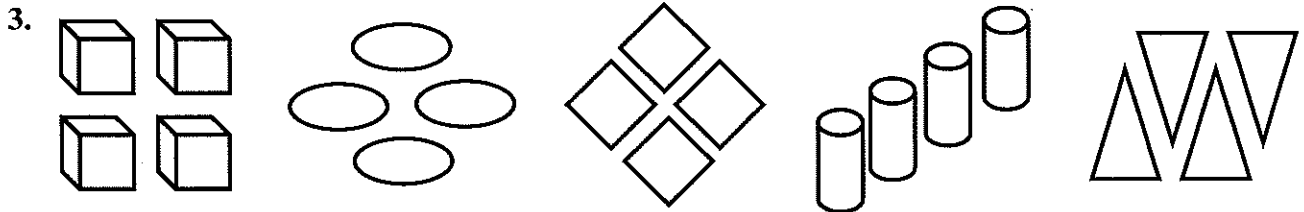
Circle the groups that have $\frac{1}{4}$ of the group shaded in gray.



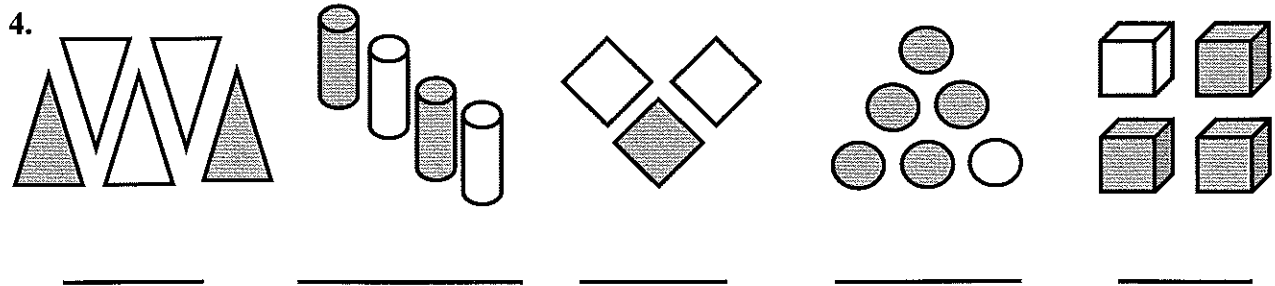
Shade in $\frac{1}{4}$ of each of these groups of objects.*



Shade in $\frac{1}{2}$ of each of these groups of objects.*



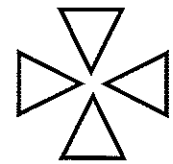
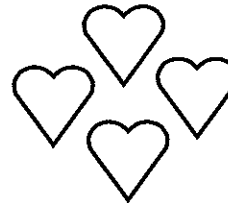
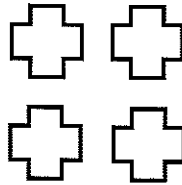
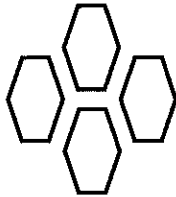
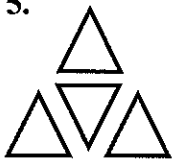
Write what fraction of each group of objects is shaded in gray.



Exercise 35d: Continued

Shade in $\frac{3}{4}$ of each of these groups of objects.

5.

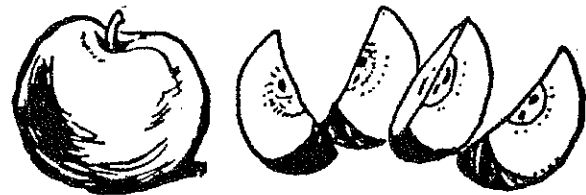


Exercise 35e:

WORD PROBLEMS

LEARNING ABOUT ONE FOURTH

1. When one thing, like an apple, is divided into 4 equal parts, each part is called *one fourth* of the whole thing. One fourth is written like: _____



2. Which is the larger part, $\frac{1}{4}$ of an apple or $\frac{1}{2}$ of an apple? _____

3. Betsy has 12 daisies. She divides them into 4 equal groups. Each group has *one fourth*, or $\frac{1}{4}$, of the whole number of daisies. How many daisies is $\frac{1}{4}$? _____



4. Count how many daisies Betsy has in each group. Then divide 12 by 4. Is $\frac{1}{4}$ of 12 the same as $12 \div 4$? _____

To find $\frac{1}{4}$ of a number, divide it by 4.

5. Edwin earned \$24. He spent $\frac{1}{4}$ of it for a trip to the country. How much did the trip cost? _____

6. Alice has a piece of ribbon 20 in. long. She wants to make 4 badges of the same size from it. How many inches long will each badge be? _____

7. Grace earned \$16 by helping Mrs. Roth. She put one fourth of it into her savings account. How much did Grace save? _____

Find the following:

| a | b | c |
|-------------------------------|---------------------------|---------------------------------|
| 8. $\frac{1}{4}$ of 8 _____ | $\frac{1}{4}$ of 32 _____ | $\frac{1}{4}$ of 28 men _____ |
| 9. $\frac{1}{4}$ of 12 _____ | $\frac{1}{4}$ of 20 _____ | $\frac{1}{4}$ of 4 plums _____ |
| 10. $\frac{1}{4}$ of 16 _____ | $\frac{1}{4}$ of 24 _____ | $\frac{1}{4}$ of 36 cents _____ |