

# MATH LESSONS FOR A LIVING EDUCATION

level 4

REVISED EDITION



**MASTERBOOKS®**  
— CURRICULUM —



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## Dedication

To Grace, who doesn't hate math anymore!



### Author Bio:

As a homeschooling mom and author, **Angela O'Dell** embraces many aspects of the Charlotte Mason method yet knows that modern children need an education that fits the needs of this generation. Based upon her foundational belief in a living God for a living education, she has worked to bring a curriculum that will reach deep into the heart of home-educated children and their families. She has written over 20 books, including her history series and her math series. Angela's goal is to bring materials that teach and train hearts and minds to find the answers for our generation in the never-changing truth of God and His Word.

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## Using This Course

**Features:** The suggested weekly schedule enclosed has easy-to-manage lessons that guide the reading, worksheets, and all assessments. The pages of this course are perforated and three-hole punched so materials are easy to tear out, hand out, grade, and store. Teachers are encouraged to adjust the schedule and materials needed in order to best work within their unique educational program.

**Lesson Scheduling:** Students are instructed to read the pages in their book and then complete the corresponding section provided by the teacher. Assessments that may include worksheets and activities are given at regular intervals with space to record each grade. Space is provided on the weekly schedule for assignment dates, and flexibility in scheduling is encouraged. Teachers may adapt the scheduled days per each unique student situation. As the student completes each assignment, this can be marked with an “X” in the box.



Approximately 30 minutes per lesson, five days a week, for 36 weeks



Solution Manual for worksheets is available in the back of this book



Review Time! sections can be used as quizzes



Worksheets are included for each section



Designed for grade 4 in a one-year course

## Course Description

Welcome to the fourth book in the **Math Lessons for a Living Education** series! You will find that *Math Lessons for a Living Education* is a unique approach to learning math. A blend of stories, copywork, oral narration, and hands-on experience brings the concepts to life and invites the child to explore the world around them. The tone of this math book is meant to speak personally to each child, and the method easily adapted to any teaching style.

The first 30 lessons have a story about the twins, taught through hands-on learning. Sometimes, this lesson is learned by the twins' explorations in nature. After the story, there are exercises for students to practice the lesson they learned and to review what they have learned earlier. The last 6 lessons are focused reviews, covering topics learned throughout the first 30 lessons.

## Course Objectives: Students completing this course will

- ✓ Explore multiplication, geometric concepts, and metric units of measurement
- ✓ Identify patterns on charts and graphs, and large number multiplication
- ✓ Learn equivalent fractions, money work, percentages, and basic geometry
- ✓ Review concepts focused on addition, subtraction, multiplication, division, decimals, and fractions

### Teaching mathematics as a living subject

As a teacher and a mother, I have discovered that true education is based on relationships: the relationship the child makes with the amazing concepts in the world around them; the relationship the teacher and the child make with each other; and most importantly and ultimately, the relationship the child makes with their Creator. It is built on discovering the God of the Universe — the One who holds the universe in His hands, but at the same time, lovingly indwells the heart of a little child. The story in Book 4 is meant to reach into a child's world, grab their attention and invite them into the learning process. The concepts are not taught through drill only, but also through

encouraging the student to hone their critical thinking skills and think outside of the box. This curriculum teaches the student math, but it is not result-oriented, focusing only on grades; instead it is skill and process-oriented. I have discovered that it is in the everyday that we grow and become who we are meant to be. It is in the little discoveries all along the path of life that we grow, learn, develop, and discover who God is and, in turn, see ourselves the way He sees us. Math concepts are learned well, as it is learned in the context of living, in the midst of discovery, and through the worldview glasses that focus on the bigger picture.

Teacher

*Instructor may need to review and give extra help for some of the new concepts introduced, especially in the first six lessons. Spend as much time as needed with the students, teaching or reviewing concepts they may be struggling with.*

### Grading subjective assignments

Most often with math the grading is very objective. For example,  $2 + 2 = 4$ , and no amount of individual expression changes this answer. However, there are times in this course when the answer may depend on a student's reflections of what he or she has learned on a particular day or in a week of assignments. In these subjective cases, the teacher can base a grade for these responses on several more objective measures. Does the student seem to understand the question and answer it as clearly as possible? Does the answer seem complete or does it fail to answer all aspects of the question? So a student may receive full credit if they seemed to meet all the assignment requirements, may get a passing grade if they meet some of the requirements, or may need to repeat the assignment if they didn't meet any of the requirements.

- A – Student showed complete mastery of concepts with no errors.
- B – Student showed mastery of concepts with minimal errors.
- C – Student showed partial mastery of concepts. Review of some concepts is needed.
- D – Student showed minimal understanding of concepts. Review is needed.
- F – Student did not show understanding of concepts. Review is needed.

## About manipulatives

In the back of the book, you will find a manipulatives section. It is imperative that you prepare these before you start the book. You will need these resources:

- contact paper and construction paper
- large index cards
- brass fasteners
- crayons, markers, and colored pencils
- glue or paste
- hole punch and hole reinforcers
- rings to keep flashcards together
- a plastic shoe box with lid in which to store manipulatives
- (optional but helpful) stickers to use for flashcards
- pictures from old magazines
- poster board (several large pieces)
- dried beans, buttons, craft sticks all work well
- 4 containers for your Place Value Village (1-extra large, 1-large, 1-medium, 1-small)
- snack-size baggies
- foot-long ruler (with inches marked)
- simple indoor/outdoor thermometer (non-digital)

Note about money manipulatives: you will need to have at least the following money available for students to use throughout this book:

- 10 dimes
- 20 nickels
- 100 pennies
- 4 quarters
- 5 \$1 bills
- tape measure (minimum 20 feet long)

## How to use everyday items as manipulatives

Contrary to popular opinion, you don't need fancy, expensive, and special manipulatives to teach math concepts. What? As shocking as that is, I can personally attest that it is 100 percent true; I've been doing it for years. So how do you turn all those small items that hang around your house or classroom and fill your "junk drawer" into useful math manipulatives? Well, let's start with my favorite, the trusty dried bean! When you are teaching your students place value, dried beans just might become your new best friends. How? Simply follow these steps:

When a student is counting 0–9, simply place single beans into the ONES' house, and have the student write the numbers 0–9 on their Place Value

Village Mat. As we all know, only 9 ones can live in the ONES' house, so all 9 beans jump out of their house and join up with their new friend, Mr. Tenth bean! They all then jump into a snack-size baggie (usable over and over) and go next door, to live in the TENS' house. Repeat this process until you have ten baggies of beans trying to live in the TENS' house. Of course, only nine can live there, so all the baggies of ten get traded in for a 100s counter (included in the manipulatives section) and make the move to their new house, the HUNDREDS' house. Dried kidney beans are the best for this, as they are very sturdy! You can also use buttons, paper clips, or basically any other small item. They don't even have to be all the same kind of item.

See Angela's video on the Place Value Village: <https://www.youtube.com/watch?v=fuZ7Y3fDe7c>.

## First Semester Suggested Daily Schedule

Date	Day	Assignment	Due Date	✓	Grade
First Semester-First Quarter					
Week 1	Day 1	Read Lesson 1 • Pages 15-16 Complete Lesson 1 Exercise 1 <b>Review Week</b> • Page 17			
	Day 2	Complete Lesson 1 Exercise 2 <b>Review Week</b> • Page 18			
	Day 3	Complete Lesson 1 Exercise 3 <b>Review Week</b> • Page 19			
	Day 4	Complete Lesson 1 Exercise 4 <b>Review Week</b> • Page 20			
	Day 5	Complete Lesson 1 Exercise 5 <b>Review Week</b> • Pages 21-22			
Week 2	Day 6	Read Lesson 2 • Page 23 Complete Lesson 2 Exercise 1 <b>Review Week</b> • Page 24			
	Day 7	Complete Lesson 2 Exercise 2 <b>Review Week</b> • Page 25			
	Day 8	Complete Lesson 2 Exercise 3 <b>Review Week</b> • Page 26			
	Day 9	Complete Lesson 2 Exercise 4 <b>Review Week</b> • Page 27			
	Day 10	Complete Lesson 2 Exercise 5 <b>Review Week</b> • Page 28			
Week 3	Day 11	Read Lesson 3 • Page 29 • See Appendix • Pages 337-338 Complete Lesson 3 Exercise 1 <b>Review Week</b> • Page 30			
	Day 12	Complete Lesson 3 Exercise 2 <b>Review Week</b> • Page 31			
	Day 13	Complete Lesson 3 Exercise 3 <b>Review Week</b> • Page 32			
	Day 14	Complete Lesson 3 Exercise 4 <b>Review Week</b> • Page 33			
	Day 15	Complete Lesson 3 Exercise 5 <b>Review Week</b> • Page 34			
Week 4	Day 16	Read Lesson 4 • Page 35 Begin Lesson 4 Exercise 1-2 <b>Review Week</b> • Page 37			
	Day 17	Finish Lesson 4 Exercise 1-2 <b>Review Week</b> • Page 37			
	Day 18	Complete Lesson 4 Exercise 3 <b>Review Week</b> • Page 38			
	Day 19	Complete Lesson 4 Exercise 4 <b>Review Week</b> • Page 39			
	Day 20	Complete Lesson 4 Exercise 5 <b>Review Week</b> • Page 40			
Week 5	Day 21	Read Lesson 5 • Page 41 Complete Lesson 5 Exercise 1 <b>Review Week</b> • Pages 42-43			
	Day 22	Complete Lesson 5 Exercise 2 <b>Review Week</b> • Page 44			
	Day 23	Complete Lesson 5 Exercise 3 <b>Review Week</b> • Page 45			
	Day 24	Complete Lesson 5 Exercise 4 <b>Review Week</b> • Pages 46-47			
	Day 25	Complete Lesson 5 Exercise 5 <b>Review Week</b> • Page 48			
Week 6	Day 26	Read Lesson 6 • Page 49 Complete Lesson 6 Exercise 1 <b>Review Week</b> • Page 50			
	Day 27	Complete Lesson 6 Exercise 2 <b>Review Week</b> • Page 51			
	Day 28	Complete Lesson 6 Exercise 3 <b>Review Week</b> • Page 52			
	Day 29	Complete Lesson 6 Exercise 4 <b>Review Week</b> • Page 53			
	Day 30	Complete Lesson 6 Exercise 5 <b>Review Week</b> • Page 54			

Date	Day	Assignment	Due Date	✓	Grade
Week 7	Day 31	Read Lesson 7 • Page 55 Complete Lesson 7 Exercise 1 • Pages 56-57			
	Day 32	Complete Lesson 7 Exercise 2 • Page 58 • Manipulative • Page 313			
	Day 33	Complete Lesson 7 Exercise 3 • Pages 59-60			
	Day 34	Complete Lesson 7 Exercise 4 • Page 61			
	Day 35	Complete Lesson 7 Exercise 5 <b>Review Time</b> • Page 62			
Week 8	Day 36	Read Lesson 8 • Pages 63-64 Complete Lesson 8 Exercise 1 • Pages 65-66			
	Day 37	Complete Lesson 8 Exercise 2 • Pages 67-68			
	Day 38	Complete Lesson 8 Exercise 3 • Pages 69-70			
	Day 39	Complete Lesson 8 Exercise 4 • Page 71			
	Day 40	Complete Lesson 8 Exercise 5 <b>Review Time</b> • Page 72			
Week 9	Day 41	Read Lesson 9 • Pages 73-74 Complete Lesson 9 Exercise 1 • Pages 75-76			
	Day 42	Complete Lesson 9 Exercise 2 • Pages 77-78			
	Day 43	Complete Lesson 9 Exercise 3 • Page 79			
	Day 44	Complete Lesson 9 Exercise 4 • Pages 80-81			
	Day 45	Complete Lesson 9 Exercise 5 • Page 82			
First Semester-Second Quarter					
Week 1	Day 46	Read Lesson 10 • Page 83 Begin Lesson 10 Exercise 1-2 <b>Review Week</b> • Pages 84-85			
	Day 47	Finish Lesson 10 Exercise 1-2 • Pages 84-85			
	Day 48	Complete Lesson 10 Exercise 3 • Page 86			
	Day 49	Begin Lesson 10 Exercise 4-5 • Pages 87-88			
	Day 50	Finish Lesson 10 Exercise 4-5 • Pages 87-88			
Week 2	Day 51	Read Lesson 11 • Pages 89-90 Complete Lesson 11 Exercise 1 • Pages 91-92 Manipulative • Page 323			
	Day 52	Complete Lesson 11 Exercise 2 • Page 93			
	Day 53	Complete Lesson 11 Exercise 3 • Page 94			
	Day 54	Complete Lesson 11 Exercise 4 • Page 95 Manipulative • Page 323			
	Day 55	Complete Lesson 11 Exercise 5 <b>Review Time</b> • Page 96			
Week 3	Day 56	Read Lesson 12 • Pages 97-98 Complete Lesson 12 Exercise 1 • Pages 99-100			
	Day 57	Complete Lesson 12 Exercise 2 • Pages 101-102 Manipulative • Page 323			
	Day 58	Complete Lesson 12 Exercise 3 • Pages 103-104			
	Day 59	Complete Lesson 12 Exercise 4 • Page 105			
	Day 60	Complete Lesson 12 Exercise 5 • Page 106			



Date	Day	Assignment	Due Date	✓	Grade
Week 4	Day 61	Read Lesson 13 • Pages 107-108 Complete Lesson 13 Exercise 1 • Pages 109-110 Manipulative • Page 325			
	Day 62	Complete Lesson 13 Exercise 2 • Pages 111-112			
	Day 63	Complete Lesson 13 Exercise 3 • Pages 113-114 Manipulative • Page 325			
	Day 64	Complete Lesson 13 Exercise 4 • Pages 115-116			
	Day 65	Complete Lesson 13 Exercise 5 <b>Review Time</b> • Page 117-118			
Week 5	Day 66	Read Lesson 14 • Pages 119-120 Complete Lesson 14 Exercise 1 • Pages 121-122 Manipulative • Page 327			
	Day 67	Complete Lesson 14 Exercise 2 • Pages 123-124 Manipulative • Page 325			
	Day 68	Complete Lesson 14 Exercise 3 • Pages 125-126			
	Day 69	Complete Lesson 14 Exercise 4 • Page 127			
	Day 70	Complete Lesson 14 Exercise 5 <b>Review Time</b> • Page 128			
Week 6	Day 71	Read Lesson 15 • Page 129 Complete Lesson 15 Exercise 1 • Pages 130-132			
	Day 72	Complete Lesson 15 Exercise 2 • Pages 133-134			
	Day 73	Complete Lesson 15 Exercise 3 • Page 135			
	Day 74	Complete Lesson 15 Exercise 4 • Page 136			
	Day 75	Complete Lesson 15 Exercise 5 • Pages 137-138			
Week 7	Day 76	Read Lesson 16 • Page 139 Complete Lesson 16 Exercise 1 • Page 140			
	Day 77	Complete Lesson 16 Exercise 2 • Page 141			
	Day 78	Complete Lesson 16 Exercise 3 • Page 142			
	Day 79	Complete Lesson 16 Exercise 4 • Page 143			
	Day 80	Complete Lesson 16 Exercise 5 <b>Review Time</b> • Page 144			
Week 8	Day 81	Read Lesson 17 • Pages 145-146 Complete Lesson 17 Exercise 1 • Page 147			
	Day 82	Complete Lesson 17 Exercise 2 • Pages 148-149 Manipulative • Page 329			
	Day 83	Complete Lesson 17 Exercise 3 • Page 150			
	Day 84	Complete Lesson 17 Exercise 4 • Pages 151-152 Manipulative • Page 329			
	Day 85	Complete Lesson 17 Exercise 5 <b>Review Time</b> • Pages 153-154			
Week 9	Day 86	Read Lesson 18 • Pages 155-156 Complete Lesson 18 Exercise 1 • Pages 157-158			
	Day 87	Complete Lesson 18 Exercise 2 • Page 159			
	Day 88	Complete Lesson 18 Exercise 3 • Pages 160-161			
	Day 89	Complete Lesson 18 Exercise 4 • Pages 162-163			
	Day 90	Complete Lesson 18 Exercise 5 <b>Review Time</b> • Pages 164-166			
		Mid-Term Grade			

## Second Semester Suggested Daily Schedule

Date	Day	Assignment	Due Date	✓	Grade
Second Semester-Third Quarter					
Week 1	Day 91	Read Lesson 19 • Pages 167-168 Complete Lesson 19 Exercise 1 • Pages 169-170			
	Day 92	Complete Lesson 19 Exercise 2 • Page 171			
	Day 93	Complete Lesson 19 Exercise 3 • Page 172			
	Day 94	Complete Lesson 19 Exercise 4 • Page 173			
	Day 95	Complete Lesson 19 Exercise 5 <b>Review Time</b> • Page 174			
Week 2	Day 96	Read Lesson 20 • Pages 175-176 Complete Lesson 20 Exercise 1 • Pages 177-178			
	Day 97	Complete Lesson 20 Exercise 2 • Pages 179-180 Manipulative • Page 325			
	Day 98	Complete Lesson 20 Exercise 3 • Pages 181-182			
	Day 99	Complete Lesson 20 Exercise 4 • Page 183			
	Day 100	Complete Lesson 20 Exercise 5 • Pages 184			
Week 3	Day 101	Read Lesson 21 • Page 185 Complete Lesson 21 Exercise 1 <b>Review Week</b> • Page 186			
	Day 102	Complete Lesson 21 Exercise 2 • Page 187			
	Day 103	Complete Lesson 21 Exercise 3 • Page 188			
	Day 104	Complete Lesson 21 Exercise 4 • Page 189			
	Day 105	Complete Lesson 21 Exercise 5 • Page 190			
Week 4	Day 106	Read Lesson 22 • Page 191 Complete Lesson 22 Exercise 1 • Pages 192-193			
	Day 107	Complete Lesson 22 Exercise 2 • Pages 194-195			
	Day 108	Complete Lesson 22 Exercise 3 • Pages 196-197			
	Day 109	Complete Lesson 22 Exercise 4 • Page 198 Manipulative • Page 331			
	Day 110	Complete Lesson 22 Exercise 5 <b>Review Time</b> • Pages 199-200			
Week 5	Day 111	Read Lesson 23 • Page 201 Complete Lesson 23 Exercise 1 • Pages 202-203 Manipulative • Page 333			
	Day 112	Complete Lesson 23 Exercise 2 • Pages 204-205			
	Day 113	Complete Lesson 23 Exercise 3 • Page 206			
	Day 114	Complete Lesson 23 Exercise 4 • Pages 207-208			
	Day 115	Complete Lesson 23 Exercise 5 <b>Review Time</b> • Pages 209-210			
Week 6	Day 116	Read Lesson 24 • Page 211 Complete Lesson 24 Exercise 1 • Pages 212-213			
	Day 117	Complete Lesson 24 Exercise 2 • Pages 214-215			
	Day 118	Complete Lesson 24 Exercise 3 • Page 216			
	Day 119	Complete Lesson 24 Exercise 4 • Page 217			
	Day 120	Complete Lesson 24 Exercise 5 <b>Review Time</b> • Page 218			

Date	Day	Assignment	Due Date	✓	Grade
Week 7	Day 121	Read Lesson 25 • Page 219 Complete Lesson 25 Exercise 1 • Pages 220-222			
	Day 122	Complete Lesson 25 Exercise 2 • Page 223			
	Day 123	Complete Lesson 25 Exercise 3 • Pages 224-225			
	Day 124	Complete Lesson 25 Exercise 4 • Page 226			
	Day 125	Complete Lesson 25 Exercise 5 <b>Review Time</b> • Pages 227-228			
Week 8	Day 126	Read Lesson 26 • Page 229 Complete Lesson 26 Exercise 1 • Pages 230-231			
	Day 127	Complete Lesson 26 Exercise 2 • Pages 232-233			
	Day 128	Complete Lesson 26 Exercise 3 • Pages 234-235			
	Day 129	Complete Lesson 26 Exercise 4 • Pages 236-237			
	Day 130	Complete Lesson 26 Exercise 5 • Page 238			
Week 9	Day 131	Read Lesson 27 • Page 239 Begin Lesson 27 Exercise 1-2 • Page 240			
	Day 132	Finish Lesson 27 Exercise 1-2 • Page 240			
	Day 133	Begin Lesson 27 Exercise 3-4 • Page 241			
	Day 134	Finish Lesson 27 Exercise 3-4 • Page 241			
	Day 135	Complete Lesson 27 Exercise 5 • Page 242			
Second Semester-Fourth Quarter					
Week 1	Day 136	Read Lesson 28 • Page 243 Complete Lesson 28 Exercise 1 • Pages 244-245			
	Day 137	Complete Lesson 28 Exercise 2 • Pages 246-247			
	Day 138	Complete Lesson 28 Exercise 3 • Pages 248-249			
	Day 139	Complete Lesson 28 Exercise 4 • Pages 250-251			
	Day 140	Complete Lesson 28 Exercise 5 • Pages 252-254			
Week 2	Day 141	Read Lesson 29 • Page 255 Complete Lesson 29 Exercise 1 • Page 256			
	Day 142	Complete Lesson 29 Exercise 2 • Page 257			
	Day 143	Complete Lesson 29 Exercise 3 • Page 258			
	Day 144	Complete Lesson 29 Exercise 4 • Page 259			
	Day 145	Complete Lesson 29 Exercise 5 • Page 260			
Week 3	Day 146	Read Lesson 30 • Page 261 Complete Lesson 30 Exercise 1 • Page 262			
	Day 147	Complete Lesson 30 Exercise 2 • Pages 263-264			
	Day 148	Complete Lesson 30 Exercise 3 • Pages 265-266			
	Day 149	Complete Lesson 30 Exercise 4 • Page 267			
	Day 150	Complete Lesson 30 Exercise 5 <b>Review Time</b> • Page 268			

Date	Day	Assignment	Due Date	✓	Grade
Week 4	Day 151	Read Lesson 31 • Page 269 Complete Lesson 31 Exercise 1 <b>Review Week</b> • Page 270			
	Day 152	Complete Lesson 31 Exercise 2 • Page 271			
	Day 153	Complete Lesson 31 Exercise 3 • Page 272			
	Day 154	Complete Lesson 31 Exercise 4 • Page 273			
	Day 155	Complete Lesson 31 Exercise 5 • Page 274			
Week 5	Day 156	Read Lesson 32 • Page 275 Complete Lesson 32 Exercise 1 <b>Review Week</b> • Page 276			
	Day 157	Complete Lesson 32 Exercise 2 • Page 277			
	Day 158	Complete Lesson 32 Exercise 3 • Page 278			
	Day 159	Complete Lesson 32 Exercise 4 • Page 279			
	Day 160	Complete Lesson 32 Exercise 5 • Page 280			
Week 6	Day 161	Read Lesson 33 • Page 281 Complete Lesson 33 Exercise 1 <b>Review Week</b> • Pages 282-283			
	Day 162	Complete Lesson 33 Exercise 2 • Pages 284-285			
	Day 163	Complete Lesson 33 Exercise 3 • Pages 286-287			
	Day 164	Complete Lesson 33 Exercise 4 • Pages 288-289			
	Day 165	Complete Lesson 33 Exercise 5 • Page 290			
Week 7	Day 166	Read Lesson 34 • Page 291 Begin Lesson 34 Exercise 1-2 <b>Review Week</b> • Page 292			
	Day 167	Finish Lesson 34 Exercise 1-2 • Page 293			
	Day 168	Complete Lesson 34 Exercise 3 • Page 294			
	Day 169	Complete Lesson 34 Exercise 4 • Page 295			
	Day 170	Complete Lesson 34 Exercise 5 • Page 296			
Week 8	Day 171	Read Lesson 35 • Page 297 Complete Lesson 35 Exercise 1 <b>Review Week</b> • Page 298			
	Day 172	Complete Lesson 35 Exercise 2 • Page 299			
	Day 173	Complete Lesson 35 Exercise 3 • Page 300			
	Day 174	Complete Lesson 35 Exercise 4 • Page 301			
	Day 175	Complete Lesson 35 Exercise 5 • Page 302			
Week 9	Day 176	Read Lesson 36 • Page 303 Complete Lesson 36 Exercise 1 <b>Review Week</b> • Pages 304-305			
	Day 177	Complete Lesson 36 Exercise 2 • Page 306			
	Day 178	Complete Lesson 36 Exercise 3 • Page 307			
	Day 179	Complete Lesson 36 Exercise 4 • Pages 308-309			
	Day 180	Complete Lesson 36 Exercise 5 • Page 310			
		Final Grade			

# Review of All Addition and Subtraction Concepts

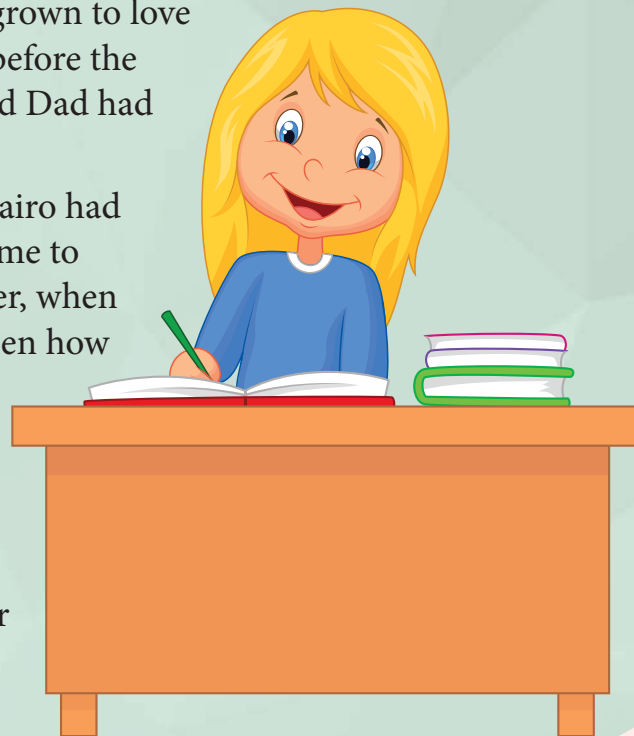
## Lesson 1



Tick...tock...tick...tock... The clock ticked loudly as Charlie, Charlotte, Natty, and Hairo worked quietly at their desks. Hairo watched as the seconds hand on the clock worked its way around the numbers. The room was quiet except for the sound of Mom's voice drifting in from the next room. She was reading "Goodnight Moon" to Ella in preparation for the toddler's nap time. Hairo glanced over at Natty. He could not believe how his sister had changed over the winter. He knew that he had also changed. His jeans didn't touch the top of his shoes anymore, and he gained weight, too, but Natalia, whom the family called "Natty," had changed and grown even more. Natty's hair was long now, and she was almost as tall as Charlotte. More than her appearance had changed; she was calmer and smiled more often.

Natty had suffered greatly from their parents' passing, and she had picked up many nervous habits during their stay at the children's home in Peru. Hairo smiled to himself remembering how surprised he and his sister had been the day of the adoption announcement. He had kept this memory tucked in a special place in his heart. It had been last summer when his "new" family had come to Peru on a mission trip. They had spent most of their time together and grown to love each other dearly. At the end of the summer, shortly before the family was scheduled to return to the States, Mom and Dad had excitedly broken the news of the adoption.

Natty had been excited to the point of tears, but Hairo had been more hesitant. Even when they had all flown home to Minnesota, Hairo had harbored reservations. However, when they had arrived at their new home, and Hairo had seen how much love had gone into the preparations for their arrival, he had slowly lowered the guard around his heart. Over the winter, they all had adjusted to Hairo's and Natty's presence in the home. Now it was spring, and there was only a few weeks of school left before summer break! Hairo had enjoyed his first year of homeschool, but he was excited for summer.





“Hairo!” Charlie’s voice made Hairo jump. “You look like you’re half asleep!”

“I’m not asleep,” Hairo replied, “but I am tired. The ticking of the clock was making me sleepy.” Hairo yawned and ran his hands through his dark hair, making it stick straight up.

Mom poked her head around the corner to check on the children.

“Are you children finished with your handwriting?” she asked.

Charlie and Hairo shook their heads “no.”

“I am, Mom,” Natty proudly waved her paper in the air. Mom came over to look at Natty’s paper and gave the little girl a hug. She was so happy that Natty now called her “Mom.” Both of her adopted children had started calling her this as a Christmas present. The first time Hairo had called her “Mom” instead of “Mrs. Stevens,” she had cried. Both of these darling, dark-eyed children were so precious to her! Now she looked at Natty’s carefully-written cursive and exclaimed, “Natty, this is beautiful! Do you want to hang it on the wall?”

“I would really like to give it to Grandma Violet, if that is ok,” Natty replied thoughtfully.

“Natty, that is a great idea! Mom, may I give Grandma mine, too?” Charlotte asked.

“Yes, of course you may! Why don’t we all take a break for a few minutes and go outside? Then we can come back in to finish our math lesson,” Mom suggested.



Name \_\_\_\_\_

# Exercise 1

Day 1

Let's practice and review our addition and subtraction facts.

$2 + 5 =$	$5 + 6 =$	$7 + 7 =$	$9 - 0 =$
$3 + 5 =$	$6 + 6 =$	$9 - 8 =$	$10 - 8 =$
$4 + 5 =$	$7 + 6 =$	$9 - 7 =$	$10 - 7 =$
$5 + 5 =$	$13 + 17 =$	$9 - 6 =$	$10 - 6 =$
$6 + 5 =$	$21 + 16 =$	$9 - 5 =$	$10 - 5 =$
$7 + 5 =$	$3 + 7 =$	$9 - 4 =$	$10 - 4 =$
$2 + 6 =$	$4 + 7 =$	$9 - 3 =$	$10 - 3 =$
$3 + 6 =$	$5 + 7 =$	$9 - 2 =$	$10 - 2 =$
$4 + 6 =$	$6 + 7 =$	$9 - 1 =$	$99 - 66 =$

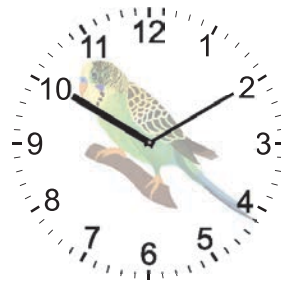
What time is it?



\_\_\_\_\_ : \_\_\_\_\_



\_\_\_\_\_ : \_\_\_\_\_



\_\_\_\_\_ : \_\_\_\_\_



\_\_\_\_\_ : \_\_\_\_\_

Fill in the clocks with the correct time.



School begins

\_\_\_\_\_ : \_\_\_\_\_



Lunchtime

\_\_\_\_\_ : \_\_\_\_\_



School ends

\_\_\_\_\_ : \_\_\_\_\_



bedtime

\_\_\_\_\_ : \_\_\_\_\_

Name \_\_\_\_\_

# Exercise 2

Day  
2

Fill in the missing numbers. Narrate to your teacher what you are doing.

$4 + \underline{\quad} = 9$	$\underline{\quad} + 2 = 10$	$2 + \underline{\quad} = 14$
$12 - \underline{\quad} = 7$	$\underline{\quad} - 7 = 4$	$10 - \underline{\quad} = 9$
$1 + \underline{\quad} = 8$	$\underline{\quad} + 1 = 14$	$9 + \underline{\quad} = 19$
$13 - \underline{\quad} = 8$	$\underline{\quad} - 7 = 10$	$20 - \underline{\quad} = 15$
$9 + \underline{\quad} = 11$	$\underline{\quad} + 2 = 20$	$3 + \underline{\quad} = 16$
$10 + \underline{\quad} = 17$	$\underline{\quad} - 9 = 12$	$11 - \underline{\quad} = 3$

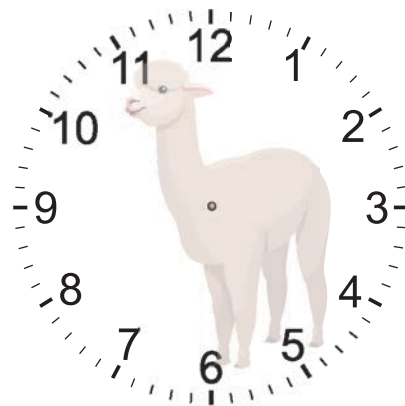
Fill in the blanks with either = or  $\neq$ .

$4 + 2 \underline{\quad} 8$	$11 \underline{\quad} 4 + 7$
$1 + 3 \underline{\quad} 7 - 2$	$13 - 2 \underline{\quad} 9 + 2$

Fill in the blanks with either < or >.

$5 + 4 \underline{\quad} 4 + 8$	$9 + 9 \underline{\quad} 8 + 9$
$4 + 7 \underline{\quad} 12 - 4$	$12 + 2 \underline{\quad} 6 \times 2$

If it's 10:20 now, What time will it be in 4 hours and 10 minutes?



Draw and write the time

\_\_\_\_\_ : \_\_\_\_\_



Name \_\_\_\_\_

# Exercise 3

Day  
3

Add:

$$\begin{array}{r} \$ 12.77 \\ 22.23 \\ + 16.12 \\ \hline \end{array}$$

$$\begin{array}{r} \$ 3.56 \\ 2.12 \\ + 1.45 \\ \hline \end{array}$$

$$\begin{array}{r} \$ 458.17 \\ 326.29 \\ + 891.00 \\ \hline \end{array}$$

$$\begin{array}{r} 5,248 \\ 1,274 \\ + 2,468 \\ \hline \end{array}$$

$$\begin{array}{r} 7,319 \\ 1,274 \\ + 2,468 \\ \hline \end{array}$$

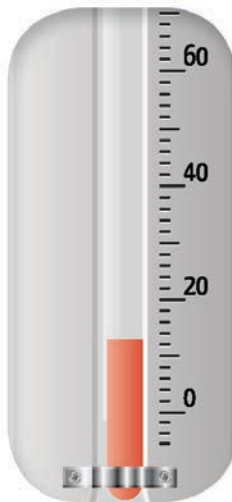
$$\begin{array}{r} 4,091 \\ 2,890 \\ + 1,002 \\ \hline \end{array}$$

$$\begin{array}{r} 1,900 \\ 2,310 \\ + 3,451 \\ \hline \end{array}$$

Write the temperatures.

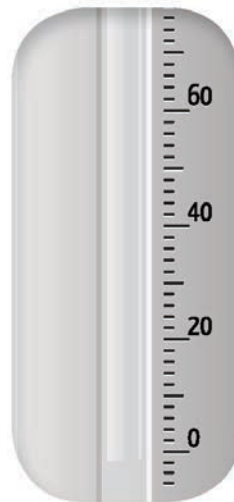


\_\_\_\_\_°

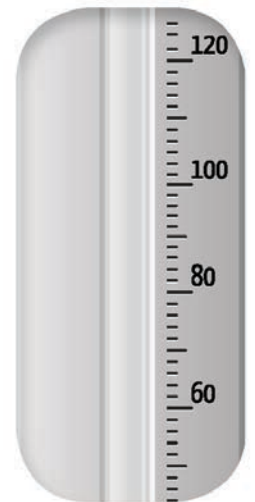


\_\_\_\_\_°

Shade the temperatures on the thermometers.



46°



122°

Name \_\_\_\_\_

## Exercise 4

Day  
4

Solve and show work.

1. There are 50 fence posts in the fence around Grandpa's barn, 129 posts around the back pasture, and 125 around the front cow pasture. How many fence posts are there all together?
2. When the girls helped Mom and Grandma Violet pick apples last fall, they picked 210 apples one day and 275 apples the second day. How many more apples did they pick the second day? Solve the problem and circle the words in the problem that helped you know what to do.
3. The girls helped Grandma Violet and Mom can the apples. There were 72 quart-sized jars of applesauce, 30 jars of apple pie filling, and 10 pint-sized jars of baby applesauce for Ella. How many jars of preserved apples did they make all together?
4. The boys went with Dad and Grandpa Peter on two construction jobs during the fall. They traveled 119 miles to one of the locations and 310 miles to the second one. How many more miles away was the second location?

Name \_\_\_\_\_

# Exercise 5

Day  
5

Subtract:

$$\begin{array}{r} 3,446 \\ - 1,458 \\ \hline \end{array}$$

$$\begin{array}{r} 6,400 \\ - 1,211 \\ \hline \end{array}$$

$$\begin{array}{r} 3,000 \\ - 2,232 \\ \hline \end{array}$$

$$\begin{array}{r} 4,377 \\ - 2,473 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ - 48 \\ \hline \end{array}$$

$$\begin{array}{r} 74 \\ - 56 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ - 24 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ - 29 \\ \hline \end{array}$$

Draw lines starting at the stars.

$3\frac{1}{2}$  inches ☆

$6\frac{1}{4}$  inches ☆

$\frac{1}{2}$  inch ☆

**Puzzle Time.**

**Sudoku** is a popular math puzzle that appeared first in the 19th century newspapers in France, but was not popularized until the late 1980s in Japan.

The puzzle below features a 9 x 9 box (count the first row of blocks = 9 and then count the first column of blocks = 9) divided into three 3 x 3 grids. The game requires the player to use the numbers 1–9 only one time per 3 x 3 square, on each column, and each row. So when you read the numbers by row or by column or within the 3 x 3 squares, the numbers 1–9 appear only once.

See if you can solve the 3 x 3 square in the center of the puzzle. (Hint: Look at the numbers that already exist in the rows that are missing a number. Write down the missing numbers for each row and column. Now, compare those numbers to the numbers that already are either in the 3 x 3 square, row, or column. Then see how you can place the missing numbers and not repeat numbers 1–9 in the 3 x 3 area, the column, or the row.) It's a little hard at first, but remember this is a fun way to learn! (If you're not sure what to do, ask your teacher for help.)

3 x 3 = 9 Rows								
2	1	9	5	4	3	6	7	8
5	4	3	8	7	6	9	1	2
8	7	6	2	1	9	3	4	5
4	3	2	7			8	9	1
7	6	5			8	2	3	4
1	9	8		3		5	6	7
3	2	1	6	5	4	7	8	9
6	5	4	9	8	7	1	2	3
9	8	7	3	2	1	4	5	6
3 x 3 = 9 Columns								

# Number Grouping — Understanding Larger Multiplication

## Lesson 12



What a wonderful vacation the Stevens family was having! During the past week, they had explored the badlands, which is a dry, desolate region in South Dakota, comprised of many rocky structures carved by wind and water. The kids had really enjoyed hiking and climbing on these strangely-shaped rocky formations.

They also had driven through the Black Hills and had seen many spectacular views. Dad had explained to the children that the Black Hills got their name because, from a distance, they appear black. This was the result of the many evergreen trees that grow on the mountains. While traveling through the Black Hills, they had seen many herds of buffalo, some mountain goats, a couple of bighorn sheep, and even one little prairie dog.

They had explored Custer State Park one day as well. Mom told the children that the park has one of the largest herds of buffalo in the United States. The park guide told Charlie and his siblings that about 1,500 buffalo roam throughout Custer State Park, and that every year, all of them are rounded up and given any necessary medical care. Charlie wondered if he would ever be visiting the park during the round-up! That would be amazing, he thought, to see that many buffalo all together!

Today, after the family cleaned up from breakfast, they would be on their way to Mount Rushmore. As the family all pitched in and helped with the dishes, Charlie exclaimed, “I can’t wait to see Mount Rushmore! Which four presidents’ faces are carved on the mountain, Mom? I can’t remember all of them.”

Mom, smiling at her son’s contagious enthusiasm, responded, “Which ones do you remember?”

Charlie’s eyes lit up as he answered, “Well, I do know George Washington, our country’s first president, is up there. And I remember that Abraham Lincoln, our sixteenth president, is up there as well! But, I can’t remember the other two; Charlotte, do you remember?” Charlie’s gaze shifted to his twin.

Charlotte timidly aimed her answer at Mom, with questioning eyes, “Is another one Thomas Jefferson?”

Mom nodded and Charlotte went on, “And is the fourth one Theodore Roosevelt?”

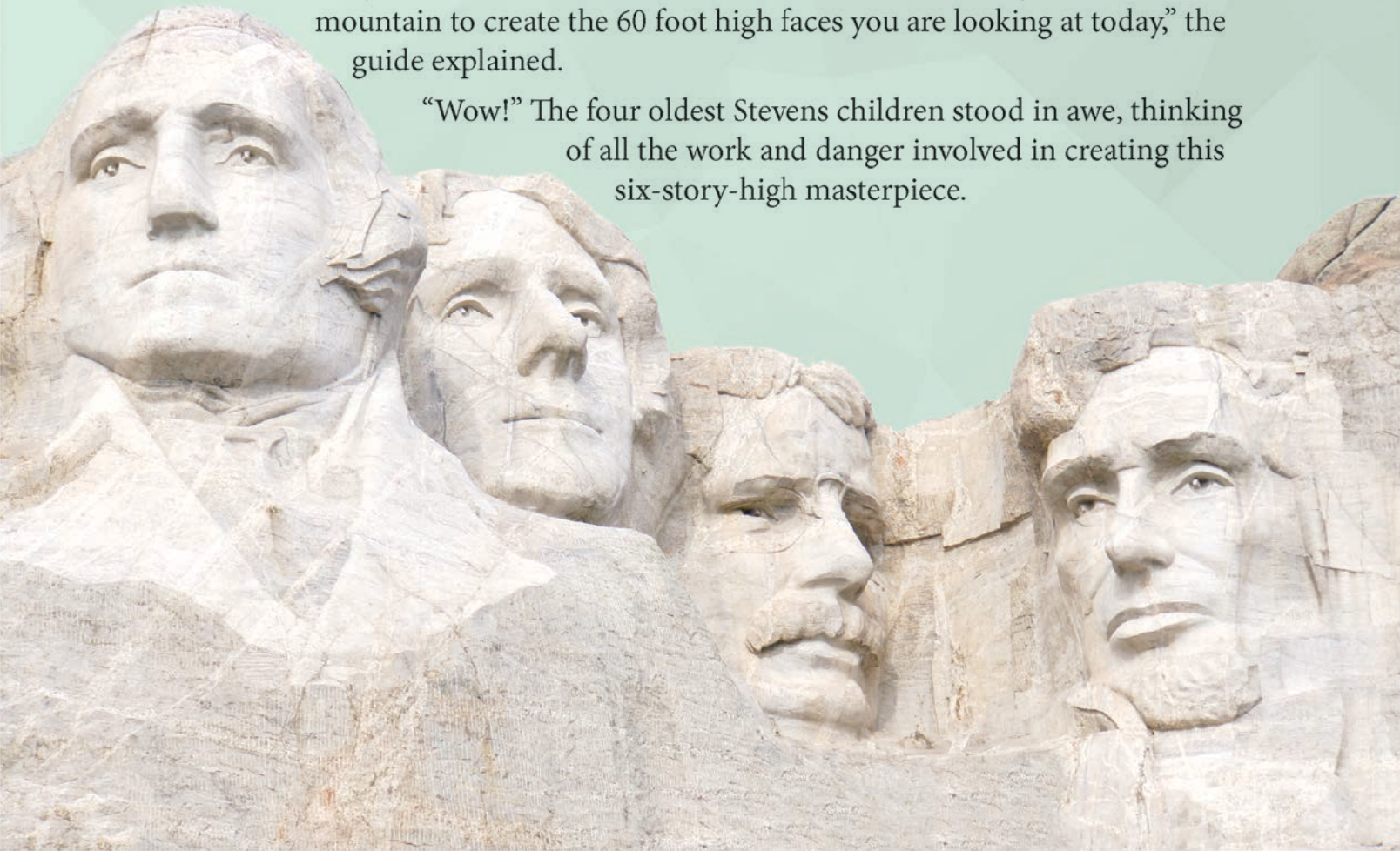
“Yes, you are correct, Charlotte,” Mom smiled with encouragement, “and now that the dishes are done, and our picnic is packed, who’s ready to go see Mount Rushmore?”

All five kids squealed with delight and headed to the van. Charlie and Hairo grabbed the cooler, which held their lunch, and loaded it into the back of the van.

Arriving at Mount Rushmore, the family stood in awe on the observation deck and listened as the tour guide told them how this national treasure came to be.

“In 1927, sculptor Gutzon Borglum began work on Mount Rushmore National Memorial. The original plan was to carve the presidents down to their waists. However, this proved to be a problem, as the granite on the lower part of the mountain was not suitable for carving. The work was extremely difficult, but not one worker was killed or permanently injured while carving the presidents. Seated in special steel-framed seats, and fastened with two safety straps each, the workers were lowered down from the top of the mountain. More than 90% of Mount Rushmore’s stone was removed using dynamite, and it took until 1941, fourteen years later, to remove almost half a million tons of granite from the mountain to create the 60 foot high faces you are looking at today,” the guide explained.

“Wow!” The four oldest Stevens children stood in awe, thinking of all the work and danger involved in creating this six-story-high masterpiece.



**Math Facts Review!**

x	1	2	3	4	5	6	7	8	9	10	11	12
11												
12												

**Let's Practice!**

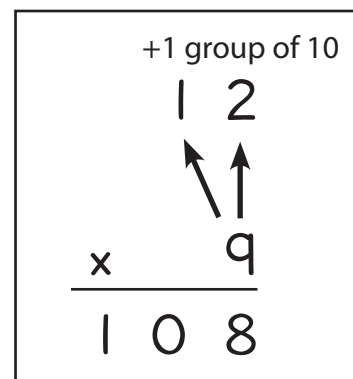
As you remember, we have learned to multiply two digit by one digit numbers. We have also learned to carry like this: →

Let's review this concept.

$$\begin{array}{r} 12 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 29 \\ \times 3 \\ \hline \end{array}$$



32	factor
<u>6</u>	factor
	product

Do you remember the parts of a multiplication problem?  
Solve the problem and trace the words.



**Review!**

How much money?



\_\_\_\_\_

Name \_\_\_\_\_

Round:

- to the nearest 10                      23 \_\_\_\_\_
- to the nearest 100                    587 \_\_\_\_\_
- to the nearest 1,000                4,363 \_\_\_\_\_

Put each digit in the proper place to show its value.

	Thousands	Hundreds	Tens	Ones
4,890				
2,743				
7,000				
9,321				

Write the missing numerals.

I, \_\_\_\_\_, III, \_\_\_\_\_, V, VI, VII, \_\_\_\_\_, IX, \_\_\_\_\_, XI,  
 \_\_\_\_\_



**Math Facts Review!**

x	1	2	3	4	5
10					
11					
12					

The answer to a multiplication problem is called the \_\_\_\_\_.

**New Concept**

When Mount Rushmore was being designed and built, the workers used many helpful math concepts. One of these was multiplication of large numbers. In our last exercise, we reviewed multiplication with carrying, and today we will add onto this concept. Study the example below.

TWO 2-DIGIT FACTORS

$$\begin{array}{r}
 22 \\
 \times 12 \\
 \hline
 44 \\
 + 220 \\
 \hline
 264
 \end{array}$$

factor

factor

partial product

partial product

product

1. First, multiply by the ones' digit of the bottom factor:  
 $22 \times 2 = 44$
2. Next, multiply the top factor by the tens' digit in the bottom factor:  
 $22 \times 1(0) = 220$
3. Last, add the two partial products.

There is a "Break it Down" card #3, which covers this concept, located in the back. Find it, cut it out, and laminate it before moving on with the exercise.

Name \_\_\_\_\_

**Let's Practice!**

Now you try it!

$$\begin{array}{r} 12 \\ \times 14 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 33 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 21 \\ \hline \end{array}$$

Review!

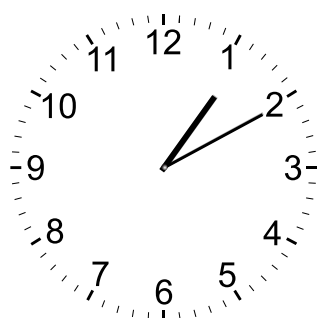
$$\begin{array}{r} 421 \\ 539 \\ + 210 \\ \hline \end{array}$$

$$\begin{array}{r} 371 \\ 410 \\ + 172 \\ \hline \end{array}$$

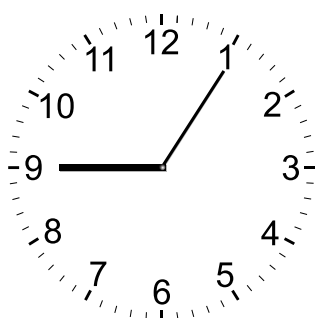
$$\begin{array}{r} 619 \\ - 327 \\ \hline \end{array}$$

$$\begin{array}{r} 310 \\ - 266 \\ \hline \end{array}$$

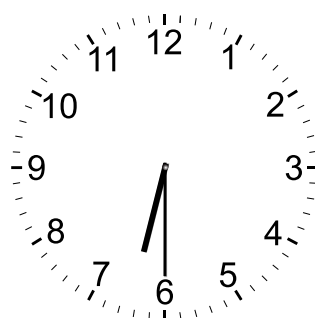
Cross out the clocks with the wrong times.



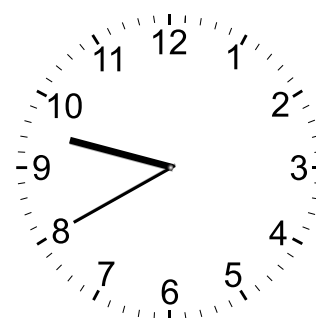
1:10



1:45



6:30



9:08

Name \_\_\_\_\_

Exercise **3**Day  
58**Math Facts Review!**

x	5	6	7	8	9
4					
6					
8					

**Let's Practice!** Work through each problem carefully and narrate what you are doing through each step. Use your Break it Down card if you need help.

$$\begin{array}{r} 23 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 93 \\ \hline \end{array}$$

Watch for carrying!

$$\begin{array}{r} 23 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 231 \\ \times 3 \\ \hline \end{array}$$

**Review!**

$$6 \overline{)18}$$

$$8 \overline{)24}$$

$$5 \overline{)15}$$

Name \_\_\_\_\_

# Exercise 3

Day  
58

Number these from least to greatest.

\_\_\_\_\_ peck  
\_\_\_\_\_ gallon  
\_\_\_\_\_ bushel

\_\_\_\_\_ year  
\_\_\_\_\_ day  
\_\_\_\_\_ hour  
\_\_\_\_\_ minute

\_\_\_\_\_ pound  
\_\_\_\_\_ ounce  
\_\_\_\_\_ ton

Draw each one.

line

segment

ray

angle

Name \_\_\_\_\_

# Exercise 4

Day  
59

## Math Facts Review!

x	5	6	7	8	9
4					
6					
8					

Let's Practice and Review! Multiply each one.

$$\begin{array}{r} 13 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 90 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ \times 4 \\ \hline \end{array}$$

## Word Problems:

1. If the boys stacked 15 rocks, that were 4 inches thick, on top of each other, how tall would their pile be? They would need Dad to help them!
2. The family drove for 8 hours. If they drove 60 miles each hour, how many miles did they drive?

Solve:

x	1	2	3	4	5	6	7	8	9	10	11	12
12												

$$6 \overline{)12}$$

$$2 \overline{)16}$$

$$4 \overline{)20}$$

Name \_\_\_\_\_

**Hands ON!**

Narrate the processes shown on Break It Down cards 1–3.

**Research and Answer!**

1. How long did it take to complete Mount Rushmore?
2. Are the faces the same size?
3. How tall is Mount Rushmore?
4. Who was the designer?



# Relationship Between Fractions, Decimals, and Percents

This story was so interesting! Charlotte wished Charlie was here to hear it; she decided to tell him the story when he got home.

“What happens next? What happens next?” Charlotte asked.

“Wait a few minutes, Charlotte. Let me continue the story,” Mom responded, smiling.

“Oooh! I can’t wait to hear the next part!” Natty clapped her hands, and Ella giggled and clapped her hands, too.

Mom paused and studied her oldest daughter’s face. Something in Charlotte’s face tugged at her heart with memories. She clearly remembered being this age. Everything seemed to have changed overnight for her, just as it was for this daughter. She remembered the battle of emotions as she realized that she was turning into a young lady. As Mom studied Charlotte’s face, she recognized this familiar inner battle.

Charlotte sat up straight and thought hard. “Mom, in some ways, I’m like the girl in this story. Sometimes I say things that I don’t mean to say. I hear words come out of my mouth and wish I could grab them before they reach anyone’s ears!” Charlotte sighed and leaned back. The hurt look on Natty’s face drifted back across her mind, and she sighed again.

Mom smiled a little and squeezed Charlotte’s hand. “What do you think the reward is, in this story? Do you think it is money?” The girls looked at each other and shook their heads, no.

“No, I don’t think it’s money. But I’m not sure what it is though,” Natty said thoughtfully.

Proverbs 22:1

*A good name (an honorable character) is rather to be chosen than great riches, and loving favor rather than silver and gold.*



Name \_\_\_\_\_

**Mental Math Review!**

$500 + 200 =$

$70 + 70 =$

$800 + 100 + 100 =$

**Let's Practice a New Concept!**

We have learned that decimals and fractions express parts of a whole. Today, we will discover percents. You can think of decimals, fractions, and percents as being three siblings, because they are all related to each other! Where decimals and fractions may express many different fractional parts, percents always express hundredths. For example, a quarter is expressed \$.25 (decimal),  $\frac{25}{100}$  (fraction), and 25% as a percent. (The symbol “%” means percent.)

Over the next two exercises, you will be using your special charts to help you understand the relationship between fractions, decimals, and percents. First, follow these directions.

**Remove your Fraction/Decimal with Percents Chart #3 from the back.** Laminate your chart and use a washable marker to do the following exercise. Show these fractions, decimals, and percents on your Fraction/Decimal Chart #3.

	What it looks like	Fractional	Decimal	Percent
<input checked="" type="checkbox"/> $\frac{50}{100}$		$\frac{50}{100}$	0.50	50%
<input type="checkbox"/> $\frac{30}{100}$				
<input type="checkbox"/> $\frac{15}{100}$				
<input type="checkbox"/> $\frac{82}{100}$				
<input type="checkbox"/> $\frac{56}{100}$				
<input type="checkbox"/> $\frac{67}{100}$				
<input type="checkbox"/> $\frac{9}{100}$				
<input type="checkbox"/> $\frac{42}{100}$				



Name \_\_\_\_\_

# Exercise 1

Day  
116

Fractions, decimals, and percents are three ways to name part of a whole. All three have numerators and denominators.

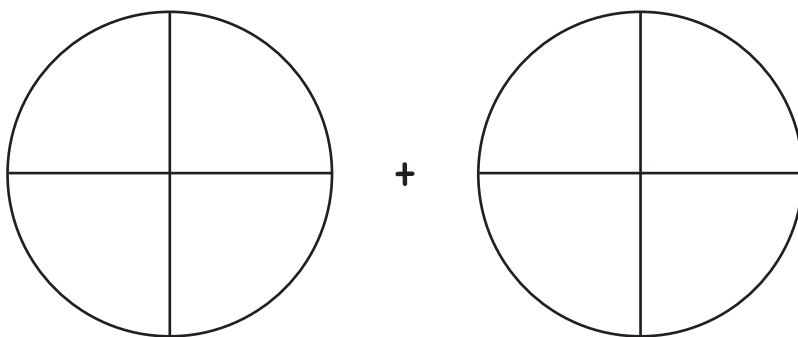
For instance, in the chart above,  $\frac{50}{100}$  shows 50 parts of 100. The decimal 0.50 is read 50 hundredths and shows 50 parts of 100. In the last column, percent means hundredths, so 50% also means 50 parts of 100.

### More Practice:

Draw a circle and shade 25% of it. What decimal part of the circle did you shade? \_\_\_\_\_

Solve the problem and shade the fraction circles to show the problem.

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



**Math Facts Review!**

Write your 9s, 11s, and 12s on a separate sheet of paper.

Multiply:

x	1	2	3	4	5	6	7	8	9	10	11	12
9												
11												
12												



1 dollar (whole) has 100 cents (parts).  
 1 whole dollar is 100/100.  
 1 whole dollar is 100%

**Let's Practice!**

Write each amount as a decimal, fraction, and percent. The first one is done for you.



\$ .50

$\frac{50}{100}$

50%



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

# Exercise 2

Day  
117



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After solving the above problems, show them on your chart 3. Narrate to your teacher what you are doing.

### Review!

$$\begin{array}{r} \$ 472.98 \\ + 51.62 \\ \hline \end{array}$$

$$\begin{array}{r} \$ 836.94 \\ - 81.50 \\ \hline \end{array}$$

$$\begin{array}{r} \$ 550.61 \\ - 177.82 \\ \hline \end{array}$$

Name \_\_\_\_\_

## Exercise 3

Day  
118

Copywork! Copy each section and explain/show your teacher what each concept means. You may use whatever manipulatives you need.

Fractions, decimals, and percents are three ways to name part of a whole. All three have numerators and denominators.

---

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---

1 dollar (whole) has 100 cents (parts). 1 whole dollar is  $\frac{100}{100}$ .  
1 whole dollar is 100%

---

---

When reading mixed numbers, such as  $2\frac{1}{2}$ , we read the whole number first, followed by the word "and." Lastly, we read the fraction. (two and one half)

---

---

---

The larger the denominator, the smaller the fraction.

---

---

**Math Facts Review!**

x	4	10	8	3	11	6	12
6							
7							
8							

**Let's Practice!** Use charts 1, 2, and 3 to show the following decimals, fractions, and percents.

- |  |   |
|--|---|
| <input type="checkbox"/> 0.8                               | <input type="checkbox"/> 0.63             |
| <input type="checkbox"/> 25% (remember % means hundredths) | <input type="checkbox"/> 50%              |
| <input type="checkbox"/> 0.10                              | <input type="checkbox"/> $\frac{50}{100}$ |
| <input type="checkbox"/> 85%                               | <input type="checkbox"/> $\frac{3}{10}$   |
| <input type="checkbox"/> $\frac{75}{100}$                  |   |

**Word Problems:**

1. Grandpa Peter asked Charlie and Hairo to dig fence post holes on the farm. He needed twenty holes dug, and he told the boys that he would pay them \$5 per hole. How much did the boys make on this job?
2. When the boys came home from Grandpa's farm, they were excited to divide the money evenly between the two of them. How much did they each earn?

**Draw a line for each length.**

6 cm ➤

$2\frac{1}{4}$  inches ➤

$5\frac{5}{8}$  inches ➤  $3\frac{1}{2}$  cm ➤

**Review Time!**

Use charts 1, 2, and 3 to show the following decimals, fractions, and percents. Remember that “%” means percent.

0.6

0.82

15%

30%

.20

$\frac{25}{100}$

35%

$\frac{2}{10}$

$\frac{35}{100}$

$\frac{62}{100}$

Write each amount as a decimal, fraction, and percent. The first one is done for you.



\$.75

$$\frac{75}{100}$$

75%



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Review of All Decimal Concepts

## Lesson 36

REMINDER: When we write the value of a dime, we write \$.10, and we know that this means ten cents. We know that one dime is  $\frac{1}{10}$  of a dollar because there are 10 dimes in a dollar.

The “.” in \$.10 is called a decimal. Whenever you see a decimal, it is another way of writing a part of a whole or a fractional part.

In decimal place value, the place to the right of the decimal is the tenths place.

The second place to the right of a decimal is the hundredths place. For example, we write the worth of a quarter, \$.25 because it is 25 cents or  $\frac{25}{100}$  of a dollar.

**\$.25**

Name \_\_\_\_\_

# Exercise 1

Day  
176

**Review Time!** Copywork:

In decimal place value, the place to the right of the decimal is the tenths place.

---

---

The second place to the right of a decimal is the hundredths place.

For example, we write the worth of a quarter, \$.25 because it is 25 cents or  $\frac{25}{100}$  of a dollar.

---

---

---

When we add or subtract decimals, we need to line up the decimal points.

---

---

0.3 is read three tenths

---



Name \_\_\_\_\_

# Exercise 1

Day  
176

0.03 is read three hundredths

---

0.6 is read six tenths

---

0.06 is read six hundredths

---

Hands-on!

**Teacher**

*Have the student(s) pile money (play or real) on the table. Use Fractions/Decimal/Percent Charts 1–3 to show individual coin's worth, or ask students to create amounts less than \$1 to show on the charts. Discuss how money can be shown as fractions, decimals, and percents.*

Name \_\_\_\_\_

**Review Time!** Solve:

$4.2 + 0.4 =$

$3.7 - 0.9 =$

$22.5 + 0.6 =$

$$\begin{array}{r} \$31.81 \\ - 19.82 \\ \hline \end{array}$$

$$\begin{array}{r} \$170.65 \\ + 817.91 \\ \hline \end{array}$$

$$\begin{array}{r} \$890.00 \\ - 38.88 \\ \hline \end{array}$$

Using Decimal/Fraction Chart 1 and Fraction/Decimal Chart 2, write these as decimals and fractions.

- eight tenths
- three hundredths
- one tenth
- six hundredths
- fifty-three hundredths
- six tenths

**Review Time!** Copywork:

Fractions, decimals, and percents are three ways to name part of a whole. All three have numerators and denominators.

$\frac{50}{100}$  shows 50 parts of 100. The decimal 0.50 is read 50 hundredths and shows 50 parts of 100. Percent means hundredths, so 50% also means 50 parts of 100.

Use chart 3 to show these fractions as decimals and percents.

$\frac{40}{100}$

$\frac{63}{100}$

$\frac{18}{100}$

$\frac{85}{100}$

$\frac{22}{100}$

$\frac{78}{100}$

$\frac{6}{100}$

$\frac{35}{100}$

Name \_\_\_\_\_

Exercise **4** Day 179

**Review Time!** Write each amount as a decimal, fraction, and percent.



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\_\_\_\_\_

1 dollar (whole) has 100 cents (parts).

1 whole dollar is  $\frac{100}{100}$ .

1 whole dollar is 100%

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Use charts 1, 2, and 3 to show the following decimals, fractions, and percents.

- 0.6
- 0.78
- 40% (remember % means hundredths)
- 80%
- 0.20
- $\frac{75}{100}$
- 82%
- $\frac{7}{10}$

**Review Time!** Dad took the family out to the ice cream shoppe. Charlie asked for a 3 scoop cone of neapolitan. Hairo ordered a triple scoop of rocky road. Charlotte and Natty each wanted a double scoop cone of peaches & cream. Mom and Ella shared a 2 scoop cone of chocolate fudge. Dad ordered a “Monster” of rocky road, vanilla bean, and strawberry swirl.

1. What was the family’s total spent?
2. How many scoops did they eat all together?
3. How much more did Dad’s treat cost than Hairo’s and Charlie’s together?
4. How much more did Dad’s and the boys’ ice cream cost than Mom’s and the girls’ ice cream?
5. Have you ever eaten 6 scoops of ice cream?



That’s all for now!




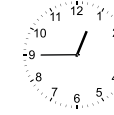
# Solutions Manual: Lesson 1

Name \_\_\_\_\_ **Exercise 1** Day 1

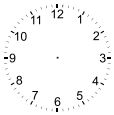
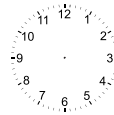
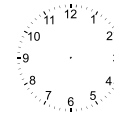
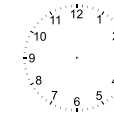
Let's practice and review our addition and subtraction facts.

$2 + 5 = 7$	$5 + 6 = 11$	$9 - 8 = 1$	$10 - 8 = 2$
$3 + 5 = 8$	$6 + 6 = 12$	$9 - 7 = 2$	$10 - 7 = 3$
$4 + 5 = 9$	$7 + 6 = 13$	$9 - 6 = 3$	$10 - 6 = 4$
$5 + 5 = 10$	$1 + 6 = 7$	$9 - 5 = 4$	$10 - 5 = 5$
$6 + 5 = 11$	$3 + 7 = 10$	$9 - 4 = 5$	$10 - 4 = 6$
$7 + 5 = 12$	$4 + 7 = 11$	$9 - 3 = 6$	$10 - 3 = 7$
$2 + 6 = 8$	$5 + 7 = 12$	$9 - 2 = 7$	$10 - 2 = 8$
$3 + 6 = 9$	$6 + 7 = 13$	$9 - 1 = 8$	$10 - 1 = 9$
$4 + 6 = 10$	$7 + 7 = 14$	$9 - 0 = 9$	

What time is it?

			
2:25	5:30	10:10	12:45

Fill in the clocks with the correct time.

			
School begins Answers will vary.	Lunchtime Answers will vary.	School ends Answers will vary.	bedtime Answers will vary.

Math Level 4 – Lesson 1 17

Name \_\_\_\_\_ **Exercise 2** Day 2

Fill in the missing numbers. Narrate to your teacher what you are doing.

$4 + 5 = 9$	$8 + 2 = 10$	$2 + 12 = 14$
$12 - 5 = 7$	$11 - 7 = 4$	$10 - 1 = 9$
$1 + 7 = 8$	$13 + 1 = 14$	$9 + 10 = 19$
$13 - 5 = 8$	$17 - 7 = 10$	$20 - 5 = 15$
$9 + 2 = 11$	$18 + 2 = 20$	$3 + 13 = 16$
$10 + 7 = 17$	$21 - 9 = 12$	$11 - 8 = 3$


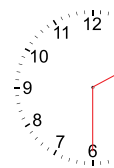
Fill in the blanks with either = or ≠.

$4 + 2 \neq 8$	$11 = 4 + 7$
$1 + 3 \neq 7 - 2$	$13 - 2 = 9 + 2$

Fill in the blanks with either < or >.

$5 + 4 < 4 + 8$	$9 + 9 > 8 + 9$
$4 + 7 > 12 - 4$	$12 + 2 > 6 \times 2$

If it's 10:20 now, What time will it be in 4 hours and 10 minutes?

	
	Draw and write the time 2:30





18 Math Level 4 – Lesson 1

Name \_\_\_\_\_ **Exercise 3** Day 3

Add:

$\begin{array}{r} \$12.77 \\ 22.23 \\ + 16.12 \\ \hline \$51.12 \end{array}$	$\begin{array}{r} \$3.56 \\ 2.12 \\ + 1.45 \\ \hline \$7.13 \end{array}$	$\begin{array}{r} \$458.17 \\ 326.29 \\ + 891.00 \\ \hline \$1675.46 \end{array}$
$\begin{array}{r} 5,248 \\ 1,274 \\ + 2,468 \\ \hline 8,990 \end{array}$	$\begin{array}{r} 7,319 \\ 1,274 \\ + 2,468 \\ \hline 11,061 \end{array}$	$\begin{array}{r} 4,091 \\ 2,890 \\ + 1,002 \\ \hline 7,983 \end{array}$
		$\begin{array}{r} 1,900 \\ 2,310 \\ + 3,451 \\ \hline 7,661 \end{array}$

Write the temperatures.

			
71°	13°	46°	122°

Shade the temperatures on the thermometers.

Math Level 4 – Lesson 1 19

Name \_\_\_\_\_ **Exercise 4** Day 4

Solve and show work.

- There are 50 fence posts in the fence around Grandpa's barn, 129 posts around the back pasture, and 125 around the front cow pasture. How many fence posts are there all together?
 
$$\begin{array}{r} 50 \\ 129 \\ + 125 \\ \hline 304 \end{array}$$
- When the girls helped Mom and Grandma Violet pick apples last fall, they picked 210 apples one day and 275 apples the second day. How many more apples did they pick the second day? Solve the problem and circle the words in the problem that helped you know what to do.
 
$$\begin{array}{r} 275 \\ - 210 \\ \hline 65 \end{array}$$
- The girls helped Grandma Violet and Mom can the apples. There were 72 quart-sized jars of applesauce, 30 jars of apple pie filling, and 10 pint-sized jars of baby applesauce for Ella. How many jars of preserved apples did they make all together?
 
$$\begin{array}{r} 72 \\ 30 \\ + 10 \\ \hline 112 \end{array}$$
- The boys went with Dad and Grandpa Peter on two construction jobs during the fall. They traveled 119 miles to one of the locations and 310 miles to the second one. How many more miles away was the second location?
 
$$\begin{array}{r} 310 \\ - 119 \\ \hline 191 \end{array}$$

20 Math Level 4 – Lesson 1

# Solutions Manual: Lesson 1 – Lesson 2

Name \_\_\_\_\_

**Exercise 5** Day 5

**Subtract:**

$\begin{array}{r} 98 \\ - 48 \\ \hline 50 \end{array}$	$\begin{array}{r} 67 \\ - 56 \\ \hline 18 \end{array}$	$\begin{array}{r} 36 \\ - 24 \\ \hline 12 \end{array}$	$\begin{array}{r} 37 \\ - 29 \\ \hline 18 \end{array}$
$\begin{array}{r} 2133 \\ 3,446 \\ - 1,458 \\ \hline 1,988 \end{array}$	$\begin{array}{r} 39 \\ 6,400 \\ - 1,211 \\ \hline 5,189 \end{array}$	$\begin{array}{r} 299 \\ 3,000 \\ - 2,232 \\ \hline 768 \end{array}$	$\begin{array}{r} 37 \\ 4,377 \\ - 2,473 \\ \hline 1,904 \end{array}$

Math Level 4 – Lesson 1 21

Name \_\_\_\_\_

**Exercise 5** Day 5

**Draw lines starting at the stars.**

$3\frac{1}{2}$  inches ☆ \_\_\_\_\_

$6\frac{1}{4}$  inches ☆ \_\_\_\_\_

$\frac{1}{2}$  inch ☆ \_\_\_\_\_

Math Level 4 – Lesson 1 22

Name \_\_\_\_\_

**Exercise 1** Day 6

**Round each of the following numbers.** Explain the steps to your teacher or write them below.

To the nearest 10.

27	20 or <u>30</u>	_____
12	<u>10</u> or 20	_____
76	70 or <u>80</u>	_____
94	<u>90</u> or 100	_____
81	<u>80</u> or 90	_____
63	<u>60</u> or 70	_____
56	50 or <u>60</u>	_____
49	40 or <u>50</u>	_____
38	30 or <u>40</u>	_____

To the nearest 100.

268	200 or <u>300</u>
482	400 or <u>500</u>
822	<u>800</u> or 900
179	100 or <u>200</u>
413	<u>400</u> or 500

To the nearest 1,000.

4,200	<u>4,000</u> or 5,000
1,958	1,000 or <u>2,000</u>
5,529	5,000 or <u>6,000</u>
3,015	<u>3,000</u> or 4,000
7,777	7,000 or <u>8,000</u>

Math Level 4 – Lesson 2 24

Name \_\_\_\_\_

**Exercise 2** Day 7

**Round and estimate.**

$\begin{array}{r} 421 \text{ rounds to } 400 \\ + 246 \text{ rounds to } 200 \\ \hline 667 \\ \text{the estimated sum: } 600 \end{array}$	$\begin{array}{r} 25 \text{ rounds to } 30 \\ + 49 \text{ rounds to } 50 \\ \hline 74 \\ \text{the estimated sum: } 80 \end{array}$
$\begin{array}{r} 964 \text{ rounds to } 1,000 \\ + 638 \text{ rounds to } 600 \\ \hline 1,602 \\ \text{the estimated sum: } 1,600 \end{array}$	$\begin{array}{r} 58 \text{ rounds to } 60 \\ + 31 \text{ rounds to } 30 \\ \hline 89 \\ \text{the estimated sum: } 90 \end{array}$
$\begin{array}{r} 5,314 \text{ rounds to } 5,000 \\ + 6,382 \text{ rounds to } 6,000 \\ \hline 11,696 \\ \text{the estimated sum: } 11,000 \end{array}$	$\begin{array}{r} 368 \text{ rounds to } 400 \\ + 782 \text{ rounds to } 800 \\ \hline 1,150 \\ \text{the estimated sum: } 1,200 \end{array}$

Now go back and find the actual answer to each problem.

Math Level 4 – Lesson 2 25



# Solutions Manual: Lesson 12

Name \_\_\_\_\_ **Exercise 1** Day 56

**Math Facts Review!**

x	1	2	3	4	5	6	7	8	9	10	11	12
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

**Let's Practice!**  
As you remember, we have learned to multiply two digit by one digit numbers. We have also learned to carry like this:  
Let's review this concept.

12	22	29
x 3	x 5	x 3
36	110	87


+1 group of 10

1	2	
x	9	
1	0	8

Do you remember the parts of a multiplication problem? Solve the problem and trace the words.

3	2	factor	
x	6	factor	
1	9	2	product

**Review!**  
How much money?



\$25.67

Math Level 4 – Lesson 12 99

Name \_\_\_\_\_ **Exercise 1** Day 56

**Round:**

to the nearest 10      23 20

to the nearest 100      587 600

to the nearest 1,000      4,363 4,000

Put each digit in the proper place to show its value.

	Thousands	Hundreds	Tens	Ones
4,890	4	8	9	0
2,743	2	7	4	3
7,000	7	0	0	0
9,321	9	3	2	1

Write the missing numerals.

I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII

100 Math Level 4 – Lesson 12

Name \_\_\_\_\_ **Exercise 2** Day 57

**Math Facts Review!**

x	1	2	3	4	5
10	10	20	30	40	50
11	11	22	33	44	55
12	12	24	36	48	60

The answer to a multiplication problem is called the **product**.

**New Concept**  
When Mount Rushmore was being designed and built, the workers used many helpful math concepts. One of these was multiplication of large numbers. In our last exercise, we reviewed multiplication with carrying, and today we will add onto this concept. Study the example below.

Two 2-digit Factors

2	2	factor	
x	1	2	factor
4	4	partial product	
+ 2	2	0	partial product
2	6	4	product

1. First, multiply by the ones' digit of the bottom factor:  
 $2 \times 22 = 44$  (partial product)
2. Next, multiply the top factor by the tens' digit in the bottom factor:  
 $(10) \times 22 = 220$  (partial product)
3. Last, add the two partial products together to find the complete product.  
 $44 + 220 = 264$

There is a "Break it Down" card #3, which covers this concept, located in the back. Find it, cut it out, and laminate it before moving on with the exercise.

Math Level 4 – Lesson 12 101

Name \_\_\_\_\_ **Exercise 2** Day 57


**Let's Practice!**  
Now you try it!

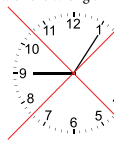
12	23	33	43
x 14	x 23	x 22	x 21
48	69	66	43
+120	+460	+660	+860
168	529	726	903


**Review!**


421	371	519	210
539	410	- 327	- 266
+ 210	+ 172	292	44
1,170	953		

Cross out the clocks with the wrong times.

  
1:10

  
1:45

  
6:30

  
9:08

102 Math Level 4 – Lesson 12

# Solutions Manual: Lesson 12

Name \_\_\_\_\_ **Exercise 3** Day 58

**Math Facts Review!**

x	5	6	7	8	9
4	20	24	28	32	36
6	30	36	42	48	54
8	40	48	56	64	72

**Let's Practice!** Work through each problem carefully and narrate what you are doing through each step. Use your Break it Down card if you need help.

$$\begin{array}{r} 23 \\ \times 20 \\ \hline 00 \\ + 460 \\ \hline 460 \end{array}$$

$$\begin{array}{r} 43 \\ \times 12 \\ \hline 86 \\ + 430 \\ \hline 516 \end{array}$$

$$\begin{array}{r} 10 \\ \times 93 \\ \hline 30 \\ + 900 \\ \hline 930 \end{array}$$

Watch for carrying!

$$\begin{array}{r} 23 \\ \times 6 \\ \hline 138 \end{array}$$

$$\begin{array}{r} 57 \\ \times 2 \\ \hline 114 \end{array}$$

$$\begin{array}{r} 231 \\ \times 3 \\ \hline 693 \end{array}$$

**Review!**

$$\begin{array}{r} 3 \\ 6 \overline{)18} \\ \underline{-18} \\ 0 \end{array}$$

$$\begin{array}{r} 3 \\ 8 \overline{)24} \\ \underline{-24} \\ 0 \end{array}$$

$$\begin{array}{r} 3 \\ 5 \overline{)15} \\ \underline{-15} \\ 0 \end{array}$$


Math Level 4 – Lesson 12 103


Name \_\_\_\_\_ **Exercise 3** Day 58


**Review.**  
Number these from least to greatest.


2	peck	4	year	2	pound
1	gallon	3	day	1	ounce
3	bushel	2	hour	3	ton
		1	minute		

**Draw each one.**

line 

segment 

ray 

angle 

104 Math Level 4 – Lesson 12

Name \_\_\_\_\_ **Exercise 4** Day 59

**Math Facts Review!**

x	5	6	7	8	9
4	20	24	28	32	36
6	30	36	42	48	54
8	40	48	56	64	72

**Let's Practice and Review!** Multiply each one.

$$\begin{array}{r} 13 \\ \times 21 \\ \hline 13 \\ + 260 \\ \hline 273 \end{array}$$

$$\begin{array}{r} 43 \\ \times 21 \\ \hline 43 \\ + 860 \\ \hline 903 \end{array}$$

$$\begin{array}{r} 90 \\ \times 6 \\ \hline 540 \end{array}$$

$$\begin{array}{r} 64 \\ \times 4 \\ \hline 256 \end{array}$$

**Word Problems:**

- If the boys stacked 15 rocks, that were 4 inches thick, on top of each other, how tall would their pile be? They would need Dad to help them!  
 $15 \times 4 = 60$  inches
- The family drove for 8 hours. If they drove 60 miles each hour, how many miles did they drive?  
 $8 \times 60 = 480$  miles

$$\begin{array}{r} 2 \\ 6 \overline{)12} \\ \underline{-12} \\ 0 \end{array}$$

$$\begin{array}{r} 8 \\ 2 \overline{)16} \\ \underline{-16} \\ 0 \end{array}$$

$$\begin{array}{r} 5 \\ 4 \overline{)20} \\ \underline{-20} \\ 0 \end{array}$$


Math Level 4 – Lesson 12 105

Name \_\_\_\_\_ **Exercise 5** Day 60

**Hands On!**  
Narrate the processes shown on Break It Down cards 1–3.

**Research and Answer!**

- How long did it take to complete Mount Rushmore? The carving started in 1927, and ended in 1941.  
 $1941 - 1927 = 14$  years
- Are the faces the same size? No
- How tall is Mount Rushmore? 5,725 feet
- Who was the designer? Gutzon Borglum and his son, Lincoln Borglum



106 Math Level 4 – Lesson 12

# Solutions Manual: Lesson 23 — Lesson 24

Name \_\_\_\_\_

**Exercise 4** Day 114

2. Natty purchased a journal that cost \$7.98 plus 49¢ tax. How much was the total cost of Natty's journal?  
 $\$7.98 + \$0.49 = \$8.47$

3. If Natty paid for her journal with a \$20 bill, how much change would she get back?  
 $\$20.00 - \$8.47 = \$11.53$

4. Charlotte purchased fabric for her sewing project. The material she chose was priced at \$2.00 a yard. She needed 2 yards of material for her project. How much did the fabric cost?  
 $\$2.00 + \$2.00 = \$4.00$

5. Charlotte brought \$8 to spend on fabric. Does she have enough to buy a piece of lace that cost \$4 along with her fabric?  
 $\$8.00 - \$4.00 = \$4.00$   
 Yes

208 Math Level 4 – Lesson 23

Name \_\_\_\_\_

**Exercise 5** Day 115

**Review Time!**

x	1	2	3	4	5	6	7	8	9	10	11	12
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

**Let's Practice and Review!**  
 Rewrite these problems vertically and solve. Make sure you line up the decimal points. The first one is done for you.

$4.79 - 1.16 =$        $32.37 - 16.49 =$        $88.08 + 77.41 =$   

$$\begin{array}{r} 4.79 \\ - 1.16 \\ \hline 3.63 \end{array}$$
      
$$\begin{array}{r} 2112 \\ 32.37 \\ \hline 15.88 \end{array}$$
      
$$\begin{array}{r} 88.08 \\ + 77.41 \\ \hline 165.49 \end{array}$$

$67.2 + 10.6 =$        $5.9 + 2.7 =$        $56.27 + 8.2 =$   


$$\begin{array}{r} 67.2 \\ + 10.6 \\ \hline 77.8 \end{array}$$
      
$$\begin{array}{r} 5.9 \\ + 2.7 \\ \hline 8.6 \end{array}$$
      
$$\begin{array}{r} 56.27 \\ + 8.2 \\ \hline 64.47 \end{array}$$

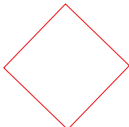
**Word Problem:**  
 If you had a square with a perimeter of 28 inches, what would the area of the square be?  
 (Hint: This is a two step problem!)  
 $28 \div 4 = 7$  inches per side  
 $7 \times 7 = 49$  square inches

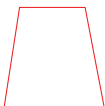
Math Level 4 – Lesson 23 209


Name \_\_\_\_\_

**Exercise 5** Day 115

Draw a right angle.  


Draw a rhombus.  


Draw a trapezoid.  


Draw a line, line segment, and a line ray.  
  
 line      line segment      line ray

210 Math Level 4 – Lesson 23

Name \_\_\_\_\_

**Exercise 1** Day 116

**Mental Math!**  
 $70 + 70 = 140$        $500 + 200 = 700$   
 $800 + 100 + 100 = 1,000$

**Let's Practice a New Concept!**  
 We have learned that decimals and fractions express parts of a whole. Today, we will discover percents. You can think of decimals, fractions, and percents as being three siblings, because they are all related to each other! Where decimals and fractions may express many different fractional parts, percents always express hundredths. For example, a quarter is expressed  $\frac{1}{4}$  (decimal),  $\frac{25}{100}$  (fraction), and 25% as a percent. (The symbol "%" means percent.)  
 Over the next two exercises, you will be using your special charts to help you understand the relationship between fractions, decimals, and percents. First, follow these directions. Remove your Fraction/Decimal Percent Chart #3 from the back. Laminate your chart and use a washable marker to do the following exercise. Show these fractions, decimals, and percents on your Fraction/Decimal Chart #3.

Fractional	Decimal	Percent	Fractional	Decimal	Percent
<input checked="" type="checkbox"/> $\frac{50}{100}$	0.50	50%	<input type="checkbox"/> $\frac{56}{100}$	0.56	56%
<input type="checkbox"/> $\frac{30}{100}$	0.30	30%	<input type="checkbox"/> $\frac{67}{100}$	0.67	67%
<input type="checkbox"/> $\frac{15}{100}$	0.15	15%	<input type="checkbox"/> $\frac{9}{100}$	0.09	9%
<input type="checkbox"/> $\frac{82}{100}$	0.82	82%	<input type="checkbox"/> $\frac{42}{100}$	0.42	42%

212 Math Level 4 – Lesson 24

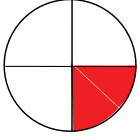
# Solutions Manual: Lesson 24

Name \_\_\_\_\_ **Exercise 1** Day 116

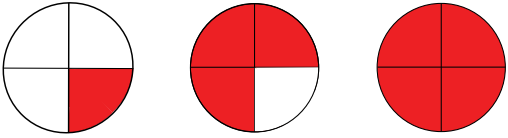
Fractions, decimals, and percents are three ways to name part of a whole. All three have numerators and denominators.

For instance, in the chart on the previous page,  $\frac{50}{100}$  shows 50 parts of 100. The decimal 0.50 is read 50 hundredths and shows 50 parts of 100. In the last column, percent means hundredths, so 50% also means 50 parts of 100.

**More Practice:**  
Draw a circle, divide it into four sections, and shade 25% of it. What decimal part of the circle did you shade? .25



Shade the fraction circles to show the problem.


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


Math Level 4 – Lesson 24 213




Name \_\_\_\_\_ **Exercise 2** Day 117

**Math Facts Review!**  
Multiply:

x	1	2	3	4	5	6	7	8	9	10	11	12
9	9	18	27	36	45	54	63	72	81	90	99	108
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144






**Let's Practice!**  
Write each amount as a decimal, fraction, and percent. The first one is done for you.

		
\$.50	\$.15	\$.02
$\frac{50}{100}$	$\frac{15}{100}$	$\frac{2}{100}$
50%	15%	2%

214 Math Level 4 – Lesson 24

Name \_\_\_\_\_ **Exercise 2** Day 117

		
\$.15	\$.35	\$.20
$\frac{15}{100}$	$\frac{35}{100}$	$\frac{20}{100}$
15%	35%	20%

After solving the above problems, show them on your Fraction/Decimal/Percent Chart 3. Narrate to your teacher what you are doing.

**Review!**

$\begin{array}{r} 1 \quad 1 \quad 1 \\ \$ 472.98 \\ + 51.62 \\ \hline \$ 524.60 \end{array}$	$\begin{array}{r} 7 \\ \$ 836.94 \\ - 81.50 \\ \hline \$ 755.44 \end{array}$	$\begin{array}{r} 4 \quad 1 \quad 9 \quad 15 \\ \$ 550.61 \\ - 177.82 \\ \hline \$ 372.79 \end{array}$
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Math Level 4 – Lesson 24 215

Name \_\_\_\_\_ **Exercise 4** Day 119

**Math Facts Review!**

x	4	10	8	3	11	6	12
6	24	60	48	18	66	36	72
7	28	70	56	21	77	42	84
8	32	80	64	24	88	48	96

**Let's Practice!** Use Decimal/Fraction Charts 1, 2, and 3 to show the following decimals, fractions, and percents. (Remember % means hundredths.)

<input type="checkbox"/> 0.80 $\frac{80}{100}$ 80%	<input type="checkbox"/> 0.10 $\frac{10}{100}$ 10%
<input type="checkbox"/> 0.63 $\frac{63}{100}$ 63%	<input type="checkbox"/> $\frac{50}{100}$ .50 50%
<input type="checkbox"/> 25% .25 $\frac{25}{100}$	<input type="checkbox"/> 85% .85 $\frac{85}{100}$
<input type="checkbox"/> 50% .50 $\frac{50}{100}$	<input type="checkbox"/> $\frac{30}{100}$ .30 30%
<input type="checkbox"/> $\frac{75}{100}$ .75 75%	

**Word Problems:**

- Grandpa Peter asked Charlie and Hairo to dig fence post holes on the farm. He needed twenty holes dug, and he told the boys that he would pay them \$5 per hole. How much did the boys make on this job?  $20 \times \$5 = \$100$
- When the boys came home from Grandpa's farm, they were excited to divide the money evenly between the two of them. How much did they each earn?  $\$100 \div 2 = \$50$

**Draw a line for each length.**

6 cm ✖ \_\_\_\_\_

$2\frac{1}{4}$  inches ✖ \_\_\_\_\_

$5\frac{5}{8}$  inches ✖ \_\_\_\_\_

$3\frac{1}{2}$  cm ✖ \_\_\_\_\_

Math Level 4 – Lesson 24 217

# Solutions Manual: Lesson 24 — Lesson 25




Name \_\_\_\_\_

**Exercise 5** Day 120

**Review Time!**  
Use Decimal/Fraction Charts 1, 2, and 3 to show the following decimals, fractions, and percents. Remember that “%” means percent.

<input type="checkbox"/> 0.60	$\frac{60}{100}$	60%	<input type="checkbox"/> $\frac{25}{100}$	.25	25%
<input type="checkbox"/> 0.82	$\frac{82}{100}$	82%	<input type="checkbox"/> 35%	$\frac{35}{100}$	0.35
<input type="checkbox"/> 15%	$\frac{15}{100}$	0.15	<input type="checkbox"/> $\frac{2}{10}$	0.20	20%
<input type="checkbox"/> 30%	$\frac{30}{100}$	0.30	<input type="checkbox"/> $\frac{35}{100}$	0.35	35%
<input type="checkbox"/> .20	$\frac{20}{100}$	20%	<input type="checkbox"/> $\frac{62}{100}$	0.62	62%

Write each amount as a decimal, fraction, and percent. The first one is done for you.


		
\$ .75	\$ .26	\$ 1.00
$\frac{75}{100}$	$\frac{26}{100}$	$\frac{100}{100}$
75%	26%	100%

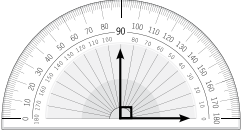

218 Math Level 4 – Lesson 24

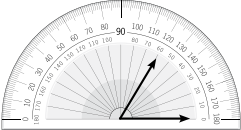
Name \_\_\_\_\_

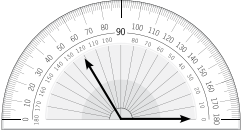
**Exercise 1** Day 121

**Mental Math!**  
 $120 + 90 = 210$        $40 + 70 = 110$   
 $110 + 520 + 440 = 1,070$

**Let's Practice a New Concept!**  
We have learned that a right angle looks like this: 

 A right angle measures 90 degrees and is shown by the .

 An acute angle is any angle which measures less than 90 degrees.

 An obtuse angle is any angle which measures more than 90 degrees.

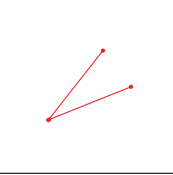
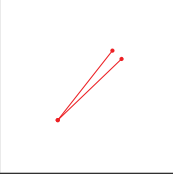
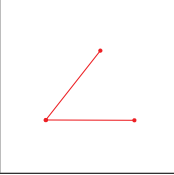
220 Math Level 4 – Lesson 25

Name \_\_\_\_\_

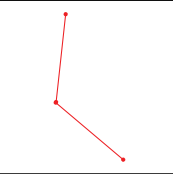
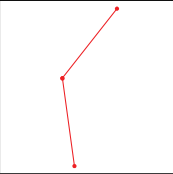
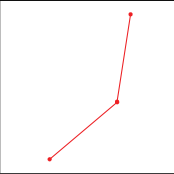
**Exercise 1** Day 121

Draw three acute angles and three obtuse angles.

**Acute Angles**

		
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**Obtuse Angles**

		
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**Word Problems:**  
1. What is the area of a square which has 25 foot long sides?  
 $25 \times 25 = 625$  square feet

Math Level 4 – Lesson 25 221

Name \_\_\_\_\_

**Exercise 1** Day 121

2. What kind of angle is less than 90°?  
acute

3. What is half of 20? What is half of half of 20? Write both answers.  
 $20 \times \frac{1}{2} = 10$   
 $10 \times \frac{1}{2} = 5$

4. How many \$5 bills are in \$100?  
 $\$100 \div \$5 = 20$

5. What is the sum of \$56.89, \$39.12, \$99.89, and \$233.29?  
 $\$56.89 + \$39.12 + \$99.89 + \$233.29 = \$429.19$

6. Write the 5 even, one-digit numbers.  
0, 2, 4, 6, 8

222 Math Level 4 – Lesson 25

# Solutions Manual: Lesson 35 — Lesson 36

Name \_\_\_\_\_

**Exercise 5** Day 175

**Review Time!**  
Draw and solve.

- Mom was making Ella some play-dough. She wanted to make a double batch. The recipe called for  $\frac{1}{4}$  cup of oil. How much oil would she need for her double batch?  
 $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$  cups
- How much salt would she need for a double batch if the recipe called for  $\frac{1}{3}$  cup?  
 $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$  cup of salt
- The recipe called for  $1\frac{1}{4}$  cup of water. How much will Mom need?  
 $1\frac{1}{4} + 1\frac{1}{4} = 2\frac{2}{4}$  cups of water
- Mom needed to double the flour as well. The recipe called for  $2\frac{1}{2}$  cups of flour. How much flour will she need?  
 $2\frac{1}{2} + 2\frac{1}{2} = 4\frac{2}{2} = 5$  cups of flour

302 Math Level 4 – Lesson 35

Name \_\_\_\_\_

**Exercise 2** Day 177

**Review Time! Solve:**  
 $4.2 + 0.4 = 4.6$      $3.7 - 0.9 = 2.8$      $22.5 + 0.6 = 23.1$

$\begin{array}{r} 21017 \\ \$31.81 \\ - 19.82 \\ \hline \$11.99 \end{array}$	$\begin{array}{r} 1 \\ \$170.65 \\ + 817.91 \\ \hline \$988.56 \end{array}$	$\begin{array}{r} 899 \\ \$890.00 \\ - 38.88 \\ \hline \$851.12 \end{array}$
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Write these as decimals and fractions.







- eight tenths     $\frac{8}{10}$     0.8
- three hundredths     $\frac{3}{100}$     0.03
- one tenth     $\frac{1}{10}$     0.1
- six hundredths     $\frac{6}{100}$     0.06
- fifty-three hundredths     $\frac{53}{100}$     0.53
- six tenths     $\frac{6}{10}$     0.6

306 Math Level 4 – Lesson 36

Name \_\_\_\_\_

**Exercise 4** Day 179

**Review Time!** Write each amount as a decimal, fraction, and percent.

 \$.40 $\frac{40}{100}$ 40%	 \$.31 $\frac{31}{100}$ 31%	 \$.45 $\frac{45}{100}$ 45%
 \$.04 $\frac{4}{100}$ 4%	 \$.16 $\frac{16}{100}$ 16%	 \$.22 $\frac{22}{100}$ 22%

308 Math Level 4 – Lesson 36


Name \_\_\_\_\_

**Exercise 5** Day 180


**Review Time!** Dad took the family out to the ice cream shoppe. Charlie asked for a 3 scoop cone of neapolitan. Hairo ordered a triple scoop of rocky road. Charlotte and Natty each wanted a double scoop cone of peaches & cream. Mom and Ella shared a 2 scoop cone of chocolate fudge. Dad ordered a "Monster" of rocky road, vanilla bean, and strawberry swirl.

**ICE CREAM!!!!**  
All kinds of YUMMY Flavor!

1 scoop.....\$1.35  
2 scoops.....\$2.00  
3 scoops.....\$2.50  
\*Monster\* (6 scoops) ... \$4.50 (choose 3 flavors)



rocky road  
chocolate fudge  
vanilla bean  
peaches & cream  
neapolitan  
strawberry swirl



- What was the total the family spent?  
 $\$15.50$
- How many scoops did they eat all together?  
18 scoops
- What was the difference in cost between Dad's treat and Hairo's and Charlie's together?  
The boy's ice cream cost 50 cents more.
- How much more did Dad's and the boys' ice cream cost than Mom's and the girls' ice cream?  
 $\$3.50$  more

That's all for now!

310 Math Level 4 – Lesson 36