

math

# MAMMOTH

## Grade 2-A Worktext International Version (Canada)

**S**ome revision, even and odd numbers, and doubling

**R**eading the clock

**A**ddition and subtraction facts within 0 - 18

**A**dding two-digit numbers

**G**eometry and fractions



L  
i  
g  
h  
t  
B  
l  
u  
e  
S  
e  
r  
i  
e  
s

Sample worksheet from  
<https://www.mathmammoth.com>

By Maria Miller

---

# Contents

Foreword .....	5
----------------	---

## Chapter 1: Some Old, Some New

Introduction .....	7
Some Revision .....	9
The 100-Chart and More Revision .....	11
Fact Families .....	14
Ordinal Numbers .....	16
Even and Odd Numbers .....	18
Doubling .....	20
One-Half .....	23
Adding With Whole Tens .....	25
Subtracting Whole Tens .....	28
Revision, Chapter 1 .....	30

## Chapter 2: Clock

Introduction .....	33
Revision—Whole and Half Hours .....	35
The Minutes .....	36
The Minutes, Part 2 .....	39
Past and To in Five-Minute Intervals .....	41
How Many Hours Pass? .....	44
The Calendar: Weekdays and Months .....	46
The Calendar: Dates .....	49
Revision, Chapter 2 .....	52

## Chapter 3: Addition and Subtraction Facts Within 0-18

Introduction .....	53
Revision: Completing the Next Whole Ten .....	55
Revision: Going Over Ten .....	57
Adding with 9 .....	59
Adding with 8 .....	61
Adding with 7 .....	63
Adding with 6 .....	65
Revision—Facts with 6, 7, and 8 .....	67

Subtract to Ten .....	69
Difference and How Many More .....	71
Number Rainbows—11 and 12 .....	74
Fact Families with 11 .....	76
Fact Families with 12 .....	77
Number Rainbows—13 and 14 .....	79
Fact Families with 13 and 14 .....	80
Fact Families with 15 .....	83
Fact Families with 16 .....	85
Fact Families with 17 and 18 .....	87
Mixed Revision, Chapter 3.....	89
Revision, Chapter 3 .....	91

## Chapter 4: Regrouping in Addition

Introduction .....	95
Going Over to the Next Ten .....	97
Add with Two-Digit Numbers Ending in 9 .....	100
Add a Two-Digit Number and a Single-Digit Number Mentally .....	102
Regrouping with Tens .....	104
Add in Columns Practice .....	107
Mental Addition of Two-Digit Numbers .....	110
Adding Three or Four Numbers Mentally .....	113
Adding Three or Four Numbers in Columns .....	115
Mixed Revision, Chapter 4 .....	119
Revision, Chapter 4 .....	121

## Chapter 5: Geometry and Fractions

Introduction .....	123
Shapes Revision .....	125
Surprises with Shapes .....	128
Rectangles and Squares .....	130
Making Shapes .....	133
Geometric Patterns .....	137
Solids .....	139
Printable Shapes .....	141
Some Fractions .....	149
Comparing Fractions .....	152
Mixed Revision, Chapter 5 .....	154
Revision, Chapter 5 .....	156

---

# Foreword

*Math Mammoth International Version Grade 2-A* and *Grade 2-B* worktexts comprise a complete maths curriculum for the second grade mathematics studies.

This curriculum is essentially the same as the version of Math Mammoth Grade 2 sold in the United States (US version), only customized for Canadian audience in a few ways. The US version is aligned to the Common Core Standards, so it may not be properly aligned to the second grade standards in your province. However, you can probably find material for any missing topics in neighbouring grades. For example, let's say that your province mandates the study of multiplication tables in grade 4. That material is not found in Math Mammoth Grade 4, but it does appear in Math Mammoth Grade 3-A. So, you can simply re-order the material to solve most incompatibilities between different standards.

The International version of Math Mammoth differs from the US version in these aspects:

- The currency used in the money chapters in grades 1-3 is the Canadian dollar. (Additionally, the download version of this curriculum includes the chapter on money for European, South African, US, British, Australian and New Zealand currencies, in grades 1-3.)
- The curriculum teaches the metric measurement units. Imperial units, such as inches and pounds, are not used.
- The spelling conforms to British international standards.
- Paper size is Letter.

The main areas of study for second grade are:

1. Understanding of the base-ten system within 1000. This includes place value with three-digit numbers, skip-counting in fives, tens, and multiples of hundreds, tens, and ones (within 1000) (chapters 6 and 8);
2. Develop fluency with addition and subtraction, including solving word problems, regrouping in addition, and regrouping in subtraction (chapters 1, 3, 4, and 8);
3. Using standard units of measure (chapter 7);
4. Describing and analyzing shapes (chapter 5).

Additional topics we study are time, money, introduction to multiplication, and bar graphs and picture graphs.

This book, 2-A, covers reading the clock (chapter 2), the basic addition and subtraction facts within 18 (chapter 3), regrouping in addition (chapter 4) and geometry (chapter 5). The rest of the topics are covered in the 2-B student worktext.

Some important points to keep in mind when using the curriculum:

- These two books (parts A and B) are like a “framework”, but you still have a lot of liberty in planning your child’s studies. While addition and subtraction topics are best studied in the order they are presented, feel free to go through the sections on shapes, measurement, clock and money in any order you like.

This is especially advisable if your child is either “stuck” or is perhaps getting bored with some topic. Sometimes the concept the child was stuck on can become clear after a break from the topic.

- Math Mammoth is mastery-based, which means it concentrates on a few major topics at a time, in order to study them in depth. However, you can still use it in a *spiral* manner, if you prefer. Simply have your child study in 2-3 chapters simultaneously. This type of flexible use of the curriculum enables you to truly individualize the instruction for your child.

**Sample worksheet from**  
<https://www.mathmammoth.com>

- Don't automatically assign all the exercises. Use your judgment, trying to assign just enough for your child's needs. You can use the skipped exercises later for revision. For most children, I recommend to start out by assigning about half of the available exercises. Adjust as necessary.
- For revision, the curriculum includes a worksheet maker (Internet access required), mixed revision lessons, additional cumulative revision lessons, and the word problems continually require usage of past concepts. Please see more information about revision (and other topics) in the FAQ at <https://www.mathmammoth.com/faq-lightblue.php>

I heartily recommend that you view the full user guide for your grade level, available at <https://www.mathmammoth.com/userguides/>

Lastly, you can find free videos matched to the curriculum at <https://www.mathmammoth.com/videos/>

*I wish you success in teaching maths!*

*Maria Miller, the author*

---

# Chapter 1: Some Old, Some New

## Introduction

The first chapter of the *Math Mammoth Grade 2-A* contains some revision and some new topics.

In the first two lessons, we revise adding and subtracting two-digit numbers from first grade. Then students get to revise skip-counting using the 100-chart.

Next, the lesson *Fact Families* revises the connection between addition and subtraction, and introduces a new strategy for missing subtrahend problems (of the type  $\_\_ - 5 = 4$ ). In these problems, the student can *add* to find the missing total. This is an early prelude to algebraic thinking.

Then we go on to the “new”, starting with ordinal numbers, which are probably familiar from everyday language. Then, in the lesson *Subtracting Whole Tens*, students subtract *mentally* any number of whole tens from a two-digit number, such as  $72 - 40$ .

Even and odd numbers are presented in the context of equal sharing: if you can share that many objects evenly (equally), then the number is even. Students may need to use manipulatives (objects you can handle) to grasp this idea.

Then we study doubling and halving. Please do not skip the simple word problems included in these lessons — they are very important. Children need to learn to apply the concepts they have just learned. Also, if the student cannot solve simple word problems that involve doubling or halving, there is a good chance the student did not actually learn those concepts.

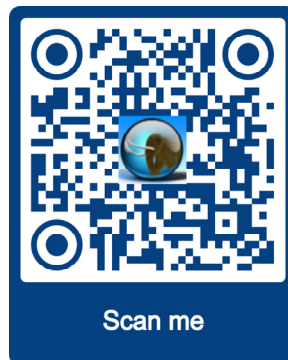
### The Lessons in Chapter 1

	page	span
Some Revision .....	9	2 pages
The 100-Chart and More Revision .....	11	3 pages
Fact Families.....	14	2 pages
Ordinal Numbers .....	16	2 pages
Even and Odd Numbers .....	18	2 pages
Doubling .....	20	3 pages
One-Half .....	23	2 pages
Adding With Whole Tens .....	25	3 pages
Subtracting Whole Tens .....	28	2 pages
Revision, Chapter 1 .....	30	2 pages

## Helpful Resources on the Internet

We heartily recommend you take a look at the list. Many of our customers love using these resources to supplement the bookwork. You can use the resources as you see fit for extra practice, to illustrate a concept better, and even just for some fun. Enjoy!

<https://links.mathmammoth.com/gr2ch1>

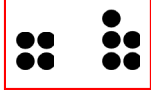
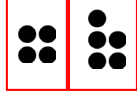


Sample worksheet from  
<https://www.mathmammoth.com>




(This page intentionally left blank.)



# Fact Families

<p>When two addition and two subtraction facts use the same numbers, it is called a “<i>fact family</i>.”</p>	 $4 + 5 = 9$ $5 + 4 = 9$ $9 - 5 = 4$ $9 - 4 = 5$	 $4 + 5 = 9$ $5 + 4 = 9$ $9 - 5 = 4$ $9 - 4 = 5$
<p>Remember that a subtraction starts with the <i>total</i>. This is how it looks if the <i>total</i> is missing in a subtraction:</p> $\square - 8 = 20$ <p>To find the total, just add the “parts” 20 and 8. We get <math>20 + 8 = 28</math>. So the subtraction was <math>28 - 8 = 20</math>.</p>	<p>Notice the <b>TOTAL</b>. The subtraction sentences <i>start</i> with the total.</p>	<p>Notice the <b>PARTS</b>. The two parts make up the total.</p>

1. Write two addition and two subtraction sentences—a fact family!

<p>a. </p> $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$	<p>b. <span style="border: 1px solid black; padding: 2px;">T</span> </p> $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$	<p>c. <span style="border: 1px solid black; padding: 2px;">T</span> <span style="border: 1px solid black; padding: 2px;">T</span>  <span style="border: 1px solid black; padding: 2px;">T</span> <span style="border: 1px solid black; padding: 2px;">T</span></p> $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$
--	---	---

2. Fill in the missing numbers. The four problems form a fact family.

<p>a. <math>2 + \square = 8</math></p> $\square + 2 = 8$ $8 - 2 = \square$ $8 - \square = 2$	<p>b. <math>\underline{\quad} + \underline{\quad} = 10</math></p> $\underline{\quad} + \underline{\quad} = 10$ $10 - 7 = \square$ $10 - \square = 7$	<p>c. <math>\underline{\quad} + \underline{\quad} = \underline{\quad}</math></p> $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $9 - \square = 6$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$
--	--	--

3. Write a matching addition for the subtraction. There are two possibilities.

a. $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $8 - 2 = 6$	b. $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $20 - 7 = 13$	c. $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $60 - 20 = 40$
---	---	--

When the first number is missing in a subtraction, it is the TOTAL that is missing.

You can find the TOTAL by adding the two numbers (those are the “parts”).

$$\square - 6 = 2$$

The total is missing. 6 and 2 are the “parts”. So we add them.

$2 + 6 = 8$ . The missing number is 8!

It is like “adding backwards”:

$$\begin{array}{r} \text{Add.} \\ \leftarrow + \\ \boxed{8} - 6 = 2 \end{array}$$

$$\begin{array}{r} \text{Add.} \\ \leftarrow + \\ \boxed{23} - 3 = 20 \end{array}$$

4. The total is missing from the subtraction sentence. Solve.

a. $\square - 5 = 4$	b. $\square - 7 = 2$	c. $\square - 7 = 10$
----------------------	----------------------	-----------------------

5. Find the missing numbers.

a. $\square - 2 = 4$ $\square - 50 = 50$ $\square - 8 = 20$	b. $\square - 7 = 80$ $60 + 4 = \square$ $16 + \square = 20$	c. $9 - \square = 5$ $77 + \square = 78$ $\square - 9 = 60$
---	--	---

### Puzzle Corner

Find the missing numbers. This time adding backwards will NOT work!

a.  $50 - \square = 10$

b.  $100 - \square = 91$

c.  $10 - \square - 2 = 1$

$33 - \square = 31$

$76 - \square = 72$

$9 - \square - 5 = 2$

(This page intentionally left blank.)

---

## Chapter 2: Clock

### Introduction

The second chapter of *Math Mammoth Grade 2-A* deals with reading the clock to the five-minute intervals, and finding simple time intervals.

It is helpful to have a non-digital practice clock, where the student can turn the hands of the clock.

First, we practise telling time in the *hours:minutes* form (such as 10:20), and then using the colloquial phrases “to” and “past.”

Also studied are simple time intervals, or how many whole hours pass. When practising these, tell the student to imagine moving the hour hand on a clock. He/she can initially use a practice clock for this.

The section also has one lesson about the calendar. Of course, the calendar and the months are best learned just in the context of everyday life, as the months pass. Hang a wall calendar on the wall and instruct your child to look at it every day, and to cross out days as they pass.

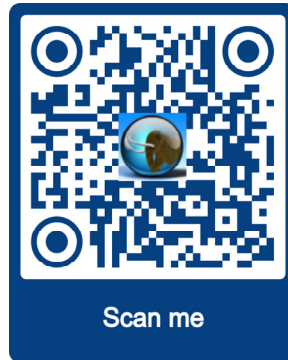
### The Lessons in Chapter 2

	page	span
Revision—Whole and Half Hours .....	35	<i>1 page</i>
The Minutes .....	36	<i>3 pages</i>
The Minutes, Part 2 .....	39	<i>2 pages</i>
Past and To in Five-Minute Intervals .....	41	<i>3 pages</i>
How Many Hours Pass? .....	44	<i>2 pages</i>
The Calendar: Weekdays and Months .....	46	<i>3 pages</i>
The Calendar: Dates .....	49	<i>3 pages</i>
Revision, Chapter 2 .....	52	<i>1 page</i>

## Helpful Resources on the Internet

We heartily recommend you take a look at the list. Many of our customers love using these resources to supplement the bookwork. You can use the resources as you see fit for extra practice, to illustrate a concept better, and even just for some fun. Enjoy!

<https://links.mathmammoth.com/gr2ch2>



Sample worksheet from  
<https://www.mathmammoth.com>

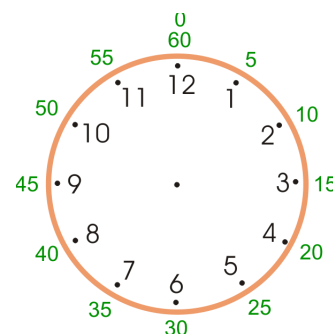
(This page intentionally left blank.)

# The Minutes

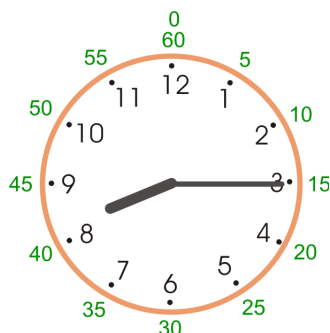
When the hour hand moves from one number to the next (from 1 to 2, or from 6 to 7, etc.), it takes one hour to do so.

In that same one hour of time, the *minute hand* travels **from 0 to 60 minutes**. So one hour is 60 minutes. A half-hour is 30 minutes.

When you read the minute hand, you use the green numbers (marked outside the clock face of the clock on the right). They go by fives, and are not normally marked on clocks. You need to know them. Just skip-count in fives!



1 hour = 60 minutes.  
1/2 hour = 30 minutes.



The hour hand is past 8.  
The minute hand is at 15.  
The time is 8:15.

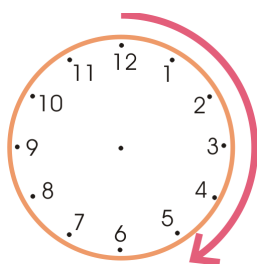


The hour hand is past 2.  
The minute hand is at 25.  
The time is 2:25.

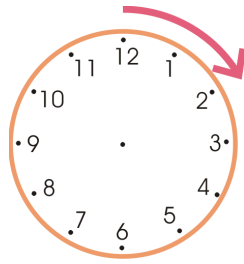


The hour hand is past 11.  
The minute hand is at 10.  
The time is 11:10.

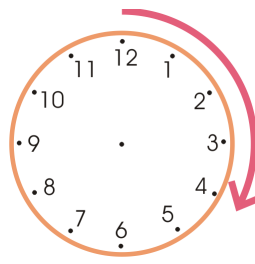
1. The arrow shows how much the minute hand travels. How many minutes pass?



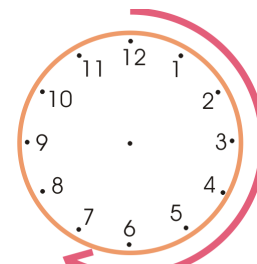
a. \_\_\_\_\_ minutes



b. \_\_\_\_\_ minutes


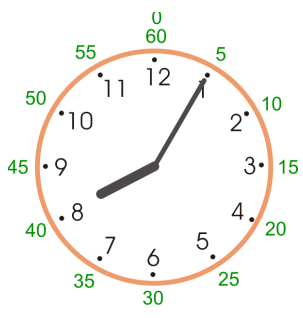


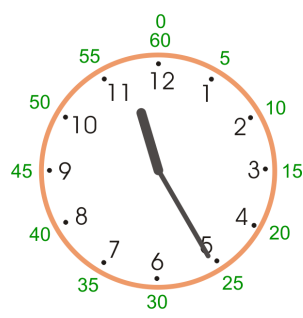
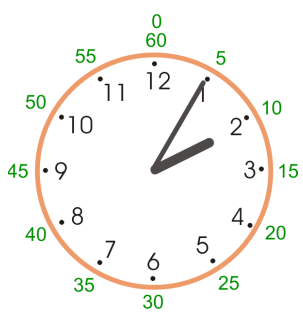

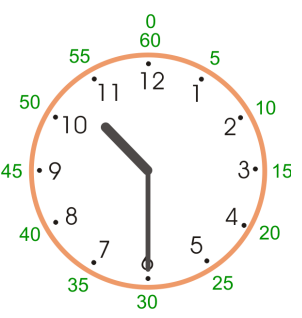


c. \_\_\_\_\_ minutes

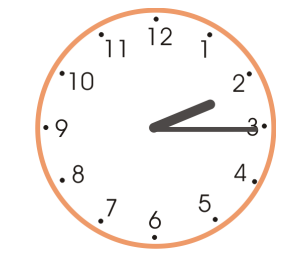

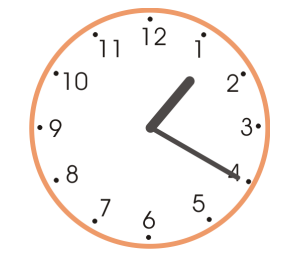


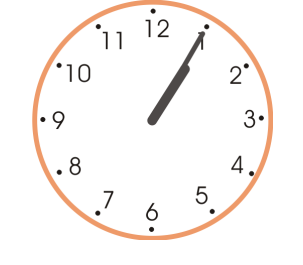
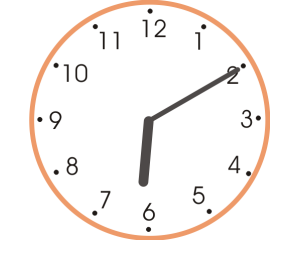
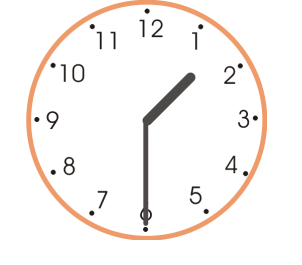


d. \_\_\_\_\_ minutes

2. Write the time using the special clock that shows the numbers for hours and for minutes.

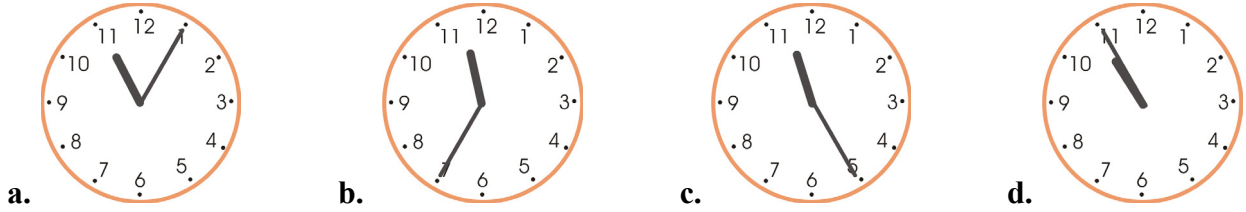
 <p>a. _____ : _____</p>	 <p>b. _____ : _____</p>	 <p>c. _____ : _____</p>	 <p>d. _____ : _____</p>
 <p>e. _____ : _____</p>	 <p>f. _____ : _____</p>	 <p>g. _____ : _____</p>	 <p>h. _____ : _____</p>

3. Write the time using the normal clock. Remember, the numbers for the minute hand are not shown, and they go by fives!



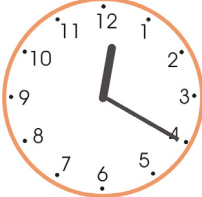

 <p>a. _____ : _____</p>	 <p>b. _____ : _____</p>	 <p>c. _____ : _____</p>	 <p>d. _____ : _____</p>
 <p>e. _____ : _____</p>	 <p>f. _____ : _____</p>	 <p>g. _____ : _____</p>	 <p>h. _____ : _____</p>




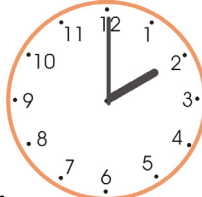
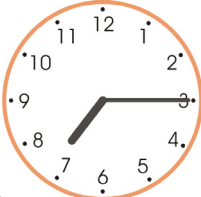


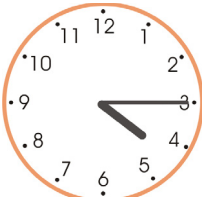
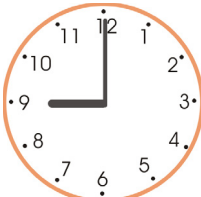

4. Find the clock that shows 11:25 and the clock that shows 11:05.



5. Write the time.

			
a. _____ : _____	b. _____ : _____	c. _____ : _____	d. _____ : _____

6. Write the time that the clock shows, and the time 5 minutes later. Imagine the minute hand moving one “step” further. You can use your practice clock.

				
	a. _____ : _____	b. _____ : _____	c. _____ : _____	d. _____ : _____
5 min. later →	_____ : _____	_____ : _____	_____ : _____	_____ : _____
				
	e. _____ : _____	f. _____ : _____	g. _____ : _____	h. _____ : _____
5 min. later →	_____ : _____	_____ : _____	_____ : _____	_____ : _____

(This page intentionally left blank.)

---

# Chapter 3: Addition and Subtraction Facts

## Within 0-18

### Introduction

The third chapter of *Math Mammoth Grade 2-A* provides lots of practice for learning and memorising the basic addition facts of single-digit numbers where the answer is between 10 and 18.

This chapter includes lots of repetition, drill, and practice. Therefore, you are welcome to mix the lessons from this chapter with some geometry, place value, clock, or measuring, in order to prevent boredom. The goal is to memorise these facts, or at least become so fluent with them that an outsider cannot tell if the student remembers the answer or uses some mental maths strategy to get the answer.

Some students will accomplish this quicker, needing less practice. Some will need more practice. You can also add in some internet-based games (a list of online games is provided on the next page).

Learning addition and subtraction facts is very important for later study. For example, we will soon study regrouping (carrying/borrowing) in addition and in subtraction, which requires that the student be able to recall all the sums of single-digit numbers and corresponding subtraction facts efficiently and fluently.

We will start the chapter by reviewing how to complete the next whole ten. This concept is very important. For example, what number do you add to 23 to get 30? As an equation, we write:  
 $23 + \underline{\quad} = 30$ .

In the next lesson, we study sums that go over ten, doing these sums in two parts. For example, in the sum  $9 + 7$ , the student first completes 10 by adding  $9 + 1$ . Then, the student adds the rest, or 6, to 10. Learning this prepares the student for addition facts where the sum is more than 10.

The next lessons, *Adding with 9*, *Adding with 8*, *Adding with 7*, and *Adding with 6*, provide lots of practice for learning and memorising the basic addition facts. There are 20 such facts:

$9 + 2$  to  $9 + 9$ : 8 facts  
 $8 + 3$  to  $8 + 8$ : 6 facts  
 $7 + 4$  to  $7 + 7$ : 4 facts  
 $6 + 5$  to  $6 + 6$ : 2 facts

After those lessons, we study subtraction. First, the student subtracts to ten. This means subtracting from 14, 15, 16, etc. so that the answer is 10, for example  $16 - \underline{\quad} = 10$ . In the next step, we study subtractions with an answer less than 10, such as  $16 - 7$ . The student practises these by subtracting in two parts: first subtracting to ten, then the rest. For example,  $16 - 7$  becomes  $16 - 6 - 1$ , or  $14 - 6$  becomes  $14 - 4 - 2$ .

The last part of this chapter includes various lessons titled *Number Rainbows* and *Fact Families with ...*, which give lots of practice and reinforcement for the basic addition and subtraction facts. These lessons also include many word problems. They emphasize the connection between addition and subtraction to solve basic subtraction facts such as  $13 - 8$  or  $15 - 6$ . Alongside them, you can also use games or flashcards to reinforce the learning of the facts.

Please see also my videos at [http://www.youtube.com/watch?v=XSVlrkBf\\_Ns](http://www.youtube.com/watch?v=XSVlrkBf_Ns) and

<http://www.youtube.com/watch?v=jdIzuGPRhRQ>. These two videos explain several strategies for adding and subtracting facts, many of which are studied in this chapter.

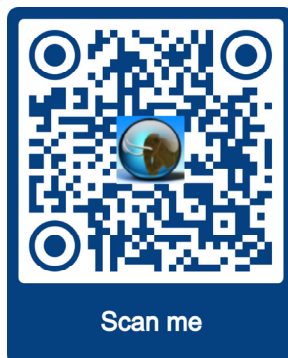
## The Lessons in Chapter 3

	page	span
Revision: Completing the Next Whole Ten .....	55	2 pages
Revision: Going Over Ten .....	57	2 pages
Adding with 9 .....	59	2 pages
Adding with 8 .....	61	2 pages
Adding with 7 .....	63	2 pages
Adding with 6 .....	65	2 pages
Revision—Facts with 6, 7, and 8 .....	67	2 pages
Subtract to Ten .....	69	2 pages
Difference and How Many More .....	71	3 pages
Number Rainbows—11 and 12 .....	74	2 pages
Fact Families with 11 .....	76	1 page
Fact Families with 12 .....	77	2 pages
Number Rainbows—13 and 14 .....	79	1 page
Fact Families with 13 and 14 .....	80	3 pages
Fact Families with 15 .....	83	2 pages
Fact Families with 16 .....	85	2 pages
Fact Families with 17 and 18 .....	87	3 pages
Mixed Revision, Chapter 3 .....	89	2 pages
Revision, Chapter 3 .....	91	3 pages

## Helpful Resources on the Internet

We heartily recommend you take a look at the list. Many of our customers love using these resources to supplement the bookwork. You can use the resources as you see fit for extra practice, to illustrate a concept better, and even just for some fun. Enjoy!

<https://links.mathmammoth.com/gr2ch3>



Sample worksheet from  
<https://www.mathmammoth.com>

(This page intentionally left blank.)

# Adding with 8

Imagine that 8 wants to be a 10! It takes two from the other number (from 3). So, 8 becomes 10, and only 1 is left over.

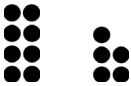
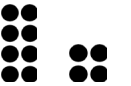
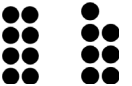
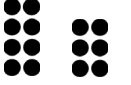
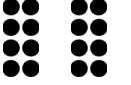
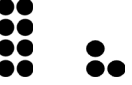
$$8 + 3 = 10 + 1 = 11$$

8 wants to be a 10! So, it takes two from the other number (from 5). So, 8 becomes 10, and 3 are left over.

$$8 + 5 = 10 + 3 = 13$$

Use the list on the right to practise. Do not write the answers there. Just point to the different problems and say the answer aloud.

1. Add. First, circle the ten.

 a. $8 + 5$ $10 + 3 = \underline{\quad}$	 b. $8 + 4$ $10 + \underline{\quad} = \underline{\quad}$	 c. $8 + \underline{\quad}$ $10 + \underline{\quad} = \underline{\quad}$
 d. $8 + \underline{\quad} =$ $10 + \underline{\quad} = \underline{\quad}$	 e. $8 + \underline{\quad} =$ $10 + \underline{\quad} = \underline{\quad}$	 f. $8 + \underline{\quad} =$ $10 + \underline{\quad} = \underline{\quad}$

$8 + 1 = \square$

$8 + 2 = \square$

$8 + 3 = \square$

$8 + 4 = \square$

$8 + 5 = \square$

$8 + 6 = \square$

$8 + 7 = \square$

$8 + 8 = \square$

$8 + 9 = \square$

2. It is good to memorise the doubles, also. Fill in.

a.  $2 + 2 = \underline{\quad}$

$3 + 3 = \underline{\quad}$

$4 + 4 = \underline{\quad}$

b.  $5 + 5 = \underline{\quad}$

$6 + 6 = \underline{\quad}$

$7 + 7 = \underline{\quad}$

c.  $8 + 8 = \underline{\quad}$

$9 + 9 = \underline{\quad}$

$10 + 10 = \underline{\quad}$

Addition facts with eight. Do not write the answers down, but just practise the sums.

$8 + 0 = \square$	$8 + 5 = \square$	$8 + 8 = \square$	$8 + 9 = \square$
$8 + 3 = \square$	$8 + 7 = \square$	$8 + 1 = \square$	$8 + 4 = \square$
$8 + 10 = \square$	$8 + 1 = \square$	$8 + 6 = \square$	$8 + 2 = \square$

3. Add and fill in what is missing.

a. $8 + 4 = \underline{\quad}$ $8 + 6 = \underline{\quad}$	b. $7 + 8 = \underline{\quad}$ $8 + 5 = \underline{\quad}$	c. $3 + 8 = \underline{\quad}$ $8 + 9 = \underline{\quad}$
d. $8 + \underline{\quad} = 13$ $8 + \underline{\quad} = 15$	e. $8 + \underline{\quad} = 12$ $8 + \underline{\quad} = 16$	f. $\underline{\quad} + 8 = 11$ $\underline{\quad} + 8 = 14$

4. a. Jane ate 8 strawberries, and John ate 5 more than what Jane did.  
How many strawberries did John eat?

b. Angie is 13 years old, and Mike is 5.  
How many years older is Angie than Mike?

5. Find the patterns and continue them.

<p>a.</p> $8 + 2 = \underline{\quad}$ $8 + 4 = \underline{\quad}$ $8 + 6 = \underline{\quad}$ $8 + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$	<p>b.</p> $18 + 2 = \underline{\quad}$ $18 + 4 = \underline{\quad}$ $18 + 6 = \underline{\quad}$ $18 + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$	<p>c.</p> $\frac{1}{2}$ of 0 is $\underline{\quad}$ . $\frac{1}{2}$ of 2 is $\underline{\quad}$ . $\frac{1}{2}$ of 4 is $\underline{\quad}$ . $\frac{1}{2}$ of $\underline{\quad}$ is $\underline{\quad}$ . $\frac{1}{2}$ of $\underline{\quad}$ is $\underline{\quad}$ . $\frac{1}{2}$ of $\underline{\quad}$ is $\underline{\quad}$ . $\frac{1}{2}$ of $\underline{\quad}$ is $\underline{\quad}$ .
--	---	---

(This page intentionally left blank.)



---

# Chapter 4: Regrouping in Addition

## Introduction

The fourth chapter of *Math Mammoth Grade 2-A* deals with addition within 0-100, both mentally and in columns, especially concentrating on regrouping in addition (carrying).

### Mental maths

Mental maths is important because it builds number sense. We study adding mentally a two-digit number and a single-digit number where the answer goes to the next ten (problems such as  $36 + 8$  or  $45 + 9$ ). These additions use the helping problem composed of the single-digit numbers ( $6 + 8$  or  $5 + 9$ ). The student knows that  $6 + 8$  fills the first ten and is four more than the ten. He/she will learn to use that fact when adding  $36 + 8$ . The sum  $36 + 8$  fills the *next* whole ten (40), and is four more than that, or 44.

### Regrouping in tens

We also study adding two-digit numbers in columns, and regrouping with tens, or “carrying,” which is illustrated and explained in detail with the help of visual models. These visual models take the place of base-ten blocks or other manipulatives. You are welcome to use actual manipulatives if you prefer. The main concept to understand is that 10 ones make a new ten, and this new ten is regrouped with the other tens, written using a little “1” in the tens column.

In order to prepare for adding three or four two-digit numbers in columns, we practise explicitly how to add 3 or 4 single-digit numbers, such as  $7 + 8 + 6 + 4$ , and the principle of adding in parts (such as  $13 + 16$  is the same as  $10 + 10$  and  $3 + 6$ ).

The lessons also include lots of word problems, and occasional revision problems about doubling and even and odd numbers.

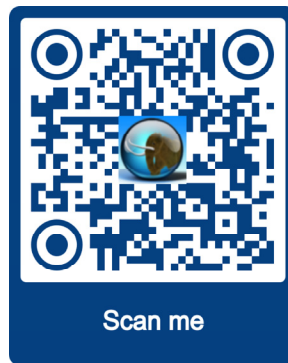
### The Lessons

	page	span
Going Over to the Next Ten .....	97	3 pages
Add with Two-Digit Numbers Ending in 9 .....	100	2 pages
Add a Two-Digit Number and a Single-Digit Number Mentally.....	102	2 pages
Regrouping with Tens .....	104	3 pages
Add in Columns Practice .....	107	3 pages
Mental Addition of Two-Digit Numbers .....	110	3 pages
Adding Three or Four Numbers Mentally .....	113	2 pages
Adding Three or Four Numbers in Columns.....	115	4 pages
Mixed Revision, Chapter 4 .....	119	2 pages
Revision, Chapter 4 .....	121	2 pages

## Helpful Resources on the Internet

We heartily recommend you take a look at the list. Many of our customers love using these resources to supplement the bookwork. You can use the resources as you see fit for extra practice, to illustrate a concept better, and even just for some fun. Enjoy!

<https://links.mathmammoth.com/gr2ch4>

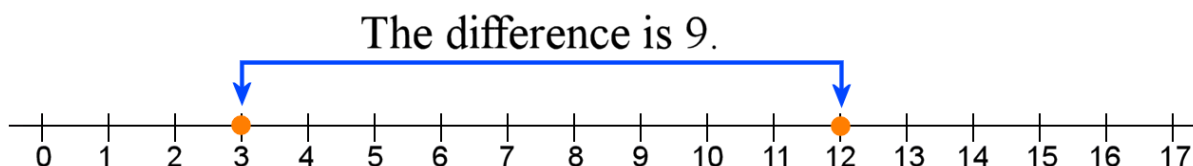


Sample worksheet from  
<https://www.mathmammoth.com>

(This page intentionally left blank.)

## Difference and How Many More

**The difference** or distance between two numbers means how far apart they are from each other on the number line. The difference between 3 and 12 is 9, because they are NINE steps apart.



1. Find the differences between these numbers using the number line above.

- a. difference between 10 and 6: \_\_\_\_\_      b. difference between 12 and 8: \_\_\_\_\_
- c. difference between 14 and 2: \_\_\_\_\_      d. difference between 17 and 6: \_\_\_\_\_

We can solve the difference between two numbers by **subtracting**.

What is the difference between 10 and 4? Subtract  $10 - 4 = 6$ . The difference is 6.

2. Write a subtraction to find the difference between the numbers.

<p>a. The difference between 10 and 4</p> <p>_____ - _____ = _____</p>	<p>b. The difference between 2 and 9</p> <p>_____ - _____ = _____</p>	<p>c. The difference between 8 and 3</p> <p>_____ - _____ = _____</p>
<p>d. The difference between 20 and 50</p> <p>_____ - _____ = _____</p>	<p>e. The difference between 10 and 90</p> <p>_____ - _____ = _____</p>	<p>f. The difference between 19 and 8</p> <p>_____ - _____ = _____</p>

3. Solve the subtractions by thinking of the distance between the numbers—how far apart they are from each other.

<p>a.</p> $20 - 16 = \underline{\hspace{2cm}}$	<p>b.</p> $40 - 38 = \underline{\hspace{2cm}}$	<p>c.</p> $65 - 61 = \underline{\hspace{2cm}}$	<p>d.</p> $36 - 31 = \underline{\hspace{2cm}}$
<p>e.</p> $100 - 99 = \underline{\hspace{2cm}}$	<p>f.</p> $87 - 84 = \underline{\hspace{2cm}}$	<p>g.</p> $55 - 50 = \underline{\hspace{2cm}}$	<p>h.</p> $79 - 78 = \underline{\hspace{2cm}}$

You can also solve the difference between two numbers by thinking of addition: how many more do you need to add to the one number to get the other?

For example, to find the difference between 12 and 7, think:  $7 + \underline{\quad} = 12$ . (“7 and how many more makes 12?”) The answer is 5.

4. Write a “*how many more*” addition to find the difference between the numbers.

a. The difference between 10 and 6 $6 + \underline{\quad} = 10$	b. The difference between 6 and 12 $6 + \underline{\quad} = 12$
c. The difference between 15 and 8 $\underline{\quad} + \underline{\quad} = \underline{\quad}$	d. The difference between 4 and 11 $\underline{\quad} + \underline{\quad} = \underline{\quad}$

5. Subtract. Think how far apart the two numbers are from each other.

a. $15 - 12 = \underline{\quad}$ 12 and <i>how many more</i> makes 15?	b. $11 - 9 = \underline{\quad}$ 9 and <i>how many more</i> makes 11?	c. $16 - 11 = \underline{\quad}$ 11 and <i>how many more</i> makes 16?
---	---	---

There are two ways to find a difference between two numbers:

**(1) Subtraction**

Find the difference between 100 and 2.  
It is easier to subtract  $100 - 2 = 98$ .  
The difference is 98.

**(2) A “*how many more*” addition**

Find the difference between 100 and 95.  
It is easier to think:  $95 + \underline{\quad} = 100$ .  
The difference is 5.

6. Find the differences.

a. The difference between 60 and 56	b. The difference between 22 and 20
c. The difference between 35 and 1	d. The difference between 67 and 3
e. The difference between 50 and 30	f. The difference between 40 and 100

Whenever a word problem asks “*how many more*,” you can solve it in two ways. You can either subtract, or you can write a “*how many more*” addition. Either way, you are finding the difference between the two numbers.

7. Solve the word problems.

a. Jane is on page 20 and Toby is on page 17 of the same book.  
How many more pages has Jane read?

b. Mom has one dozen eggs plus five in another carton. A dozen means 12.  
How many eggs does Mom have?

c. Becky is reading a 50-page book. She is on page 42.  
How many more pages does she have left to read?

d. Heidi worked in the garden for 2 hours in the morning and 3 hours in the afternoon. Andrew worked for 8 hours in the shop.  
Who worked more hours?

How many more?

e. Tanya has a house full of flies! She killed 28 flies. Her husband killed 5 flies.  
How many more did she kill than him?

f. The next day, Tanya had a house full of flies again. She killed 5 flies in the living room, 12 in the kitchen, and 2 in her room.  
How many flies did she kill in total?

g. Mal had \$12 and Brett had \$6. Then both brothers worked helping Dad in the garden. Mal earned \$5 and Brett earned \$9.  
Now, who has more money?

How much more?

(This page intentionally left blank.)

---

# Chapter 4: Regrouping in Addition

## Introduction

The fourth chapter of *Math Mammoth Grade 2-A* deals with addition within 0-100, both mentally and in columns, especially concentrating on regrouping in addition (carrying).

### Mental maths

Mental maths is important because it builds number sense. We study adding mentally a two-digit number and a single-digit number where the answer goes to the next ten (problems such as  $36 + 8$  or  $45 + 9$ ). These additions use the helping problem composed of the single-digit numbers ( $6 + 8$  or  $5 + 9$ ). The student knows that  $6 + 8$  fills the first ten and is four more than the ten. He/she will learn to use that fact when adding  $36 + 8$ . The sum  $36 + 8$  fills the *next* whole ten (40), and is four more than that, or 44.

### Regrouping in tens

We also study adding two-digit numbers in columns, and regrouping with tens, or “carrying,” which is illustrated and explained in detail with the help of visual models. These visual models take the place of base-ten blocks or other manipulatives. You are welcome to use actual manipulatives if you prefer. The main concept to understand is that 10 ones make a new ten, and this new ten is regrouped with the other tens, written using a little “1” in the tens column.

In order to prepare for adding three or four two-digit numbers in columns, we practise explicitly how to add 3 or 4 single-digit numbers, such as  $7 + 8 + 6 + 4$ , and the principle of adding in parts (such as  $13 + 16$  is the same as  $10 + 10$  and  $3 + 6$ ).

The lessons also include lots of word problems, and occasional revision problems about doubling and even and odd numbers.

### The Lessons

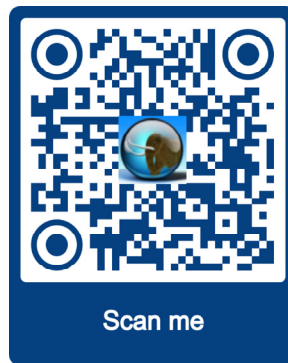
	page	span
Going Over to the Next Ten .....	97	3 pages
Add with Two-Digit Numbers Ending in 9 .....	100	2 pages
Add a Two-Digit Number and a Single-Digit Number Mentally.....	102	2 pages
Regrouping with Tens .....	104	3 pages
Add in Columns Practice .....	107	3 pages
Mental Addition of Two-Digit Numbers .....	110	3 pages
Adding Three or Four Numbers Mentally .....	113	2 pages
Adding Three or Four Numbers in Columns.....	115	4 pages
Mixed Revision, Chapter 4 .....	119	2 pages
Revision, Chapter 4 .....	121	2 pages



## Helpful Resources on the Internet

We heartily recommend you take a look at the list. Many of our customers love using these resources to supplement the bookwork. You can use the resources as you see fit for extra practice, to illustrate a concept better, and even just for some fun. Enjoy!

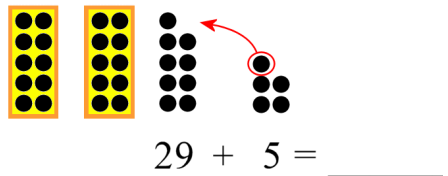
<https://links.mathmammoth.com/gr2ch4>



(This page intentionally left blank.)

## Add with Two-Digit Numbers Ending in 9

Imagine that 29 wants to be 30...  
 so it “grabs” one from 5.  
 Then, 29 becomes 30, and 5 becomes 4.  
 The addition problem is changed to  $30 + 4 = 34$ .



1. Circle the nine dots and one more dot to form a complete ten. Add.

 a. $19 + 5 = \underline{\quad}$	 b. $29 + 7 = \underline{\quad}$	 c. $49 + 5 = \underline{\quad}$
 d. $29 + 8 = \underline{\quad}$	 e. $39 + 6 = \underline{\quad}$	 f. $49 + 9 = \underline{\quad}$

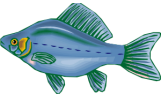



2. Add. For each problem, write a helping problem using the “ones” from the first problem.

a. $19 + 7 = \underline{\quad}$ $\underline{9} + \underline{7} = \underline{\quad}$	b. $49 + 3 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$	c. $39 + 4 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
--	--	--

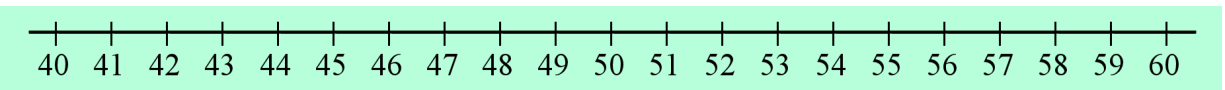
3. Add. Compare the problems.

a. $9 + 3 = \underline{\quad}$ $19 + 3 = \underline{\quad}$	b. $9 + 6 = \underline{\quad}$ $39 + 6 = \underline{\quad}$	c. $9 + 4 = \underline{\quad}$ $49 + 4 = \underline{\quad}$
d. $9 + 7 = \underline{\quad}$ $39 + 7 = \underline{\quad}$	e. $9 + 9 = \underline{\quad}$ $69 + 9 = \underline{\quad}$ $79 + 9 = \underline{\quad}$	f. $9 + 5 = \underline{\quad}$ $19 + 5 = \underline{\quad}$ $59 + 5 = \underline{\quad}$

4. Revise the basic facts with 9 and 8. By this time you should already remember these addition facts. Try to remember what number will fit without counting.

 <b>a.</b>	 <b>b.</b>	 <b>c.</b>	 <b>d.</b>
$9 + \underline{\quad} = 14$	$4 + 9 = \underline{\quad}$	$8 + \underline{\quad} = 15$	$7 + 8 = \underline{\quad}$
$9 + \underline{\quad} = 15$	$8 + 9 = \underline{\quad}$	$8 + \underline{\quad} = 17$	$8 + 8 = \underline{\quad}$
$9 + \underline{\quad} = 13$	$2 + 9 = \underline{\quad}$	$8 + \underline{\quad} = 12$	$5 + 8 = \underline{\quad}$
$9 + \underline{\quad} = 18$	$5 + 9 = \underline{\quad}$	$8 + \underline{\quad} = 14$	$6 + 8 = \underline{\quad}$
$9 + \underline{\quad} = 12$	$6 + 9 = \underline{\quad}$	$8 + \underline{\quad} = 13$	$3 + 8 = \underline{\quad}$
$9 + \underline{\quad} = 17$	$9 + 9 = \underline{\quad}$	$8 + \underline{\quad} = 18$	$9 + 8 = \underline{\quad}$
$9 + \underline{\quad} = 16$	$7 + 9 = \underline{\quad}$	$8 + \underline{\quad} = 16$	$4 + 8 = \underline{\quad}$

5. Find the difference between numbers. The number line can help.



<p>a. Difference between 41 and 53: <u>          </u></p> <p>b. Difference between 60 and 46: <u>          </u></p>	<p>c. Difference between 59 and 48: <u>          </u></p>
---	---

6. Find the patterns and continue them!

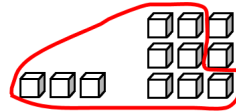
<p><b>a.</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>0</span> <span>1</span> <span>3</span> <span>6</span> <span>10</span> <span><u>          </u></span> <span><u>          </u></span> <span><u>          </u></span> <span><u>          </u></span> </div>	<p><b>b.</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> <div style="text-align: center;">+ <span style="border: 1px solid black; padding: 2px 10px;"> </span></div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span><u>          </u></span> <span><u>          </u></span> <span><u>          </u></span> <span><u>          </u></span> <span>44</span> <span>48</span> <span>52</span> <span>56</span> </div>
---	---

(This page intentionally left blank.)

# Regrouping with Tens

When adding  $3 + 9$ , we can circle ten little ones to form a ten. We write "1" in the tens column.

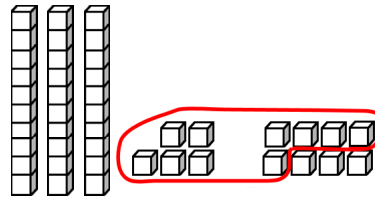
There are two little ones left over, so we write "2" in the ones column.



tens	ones
	3
+	9
<hr/>	
1	2

With  $35 + 8$ , we circle ten little ones to make a ten. There already are three tens, so in total we now have four tens. So, we write "4" in the tens column.

There are three little cubes left over, so we write "3" in the ones column.

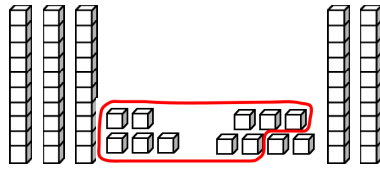


tens	ones
3	5
+	8
<hr/>	
4	3

1. **Circle** ten cubes to make **a new ten**. Count the tens, including the new one. Count the ones. Write the tens and ones in their own columns. You can also use manipulatives.

<p>a.</p> <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>3</td> </tr> <tr> <td>+</td> <td>9</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	tens	ones	3	3	+	9	<hr/>				<p>b.</p> <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>5</td> </tr> <tr> <td>+</td> <td>8</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	tens	ones	2	5	+	8	<hr/>			
tens	ones																				
3	3																				
+	9																				
<hr/>																					
tens	ones																				
2	5																				
+	8																				
<hr/>																					
<p>c.</p> <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>8</td> </tr> <tr> <td>+</td> <td>9</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	tens	ones	3	8	+	9	<hr/>				<p>d.</p> <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>7</td> </tr> <tr> <td>+</td> <td>7</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	tens	ones	2	7	+	7	<hr/>			
tens	ones																				
3	8																				
+	9																				
<hr/>																					
tens	ones																				
2	7																				
+	7																				
<hr/>																					
<p>e.</p> <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>6</td> </tr> <tr> <td>+</td> <td>18</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	tens	ones	3	6	+	18	<hr/>				<p>f.</p> <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>5</td> </tr> <tr> <td>+</td> <td>27</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	tens	ones	2	5	+	27	<hr/>			
tens	ones																				
3	6																				
+	18																				
<hr/>																					
tens	ones																				
2	5																				
+	27																				
<hr/>																					

Making a new ten from the ones is called **regrouping**. The ten ones get grouped as a ten, and are counted with the other tens.



	tens	ones
	1	
	3	5
+	2	7
	6	2

This is also called **carrying to tens**. Imagine someone “gathering” ten little cubes in his lap and “carrying” them over into the tens column as 1 ten.

To show this new ten, write a little “1” in the tens column above the other numbers. Then add in the tens-column as usual, adding the little “1” also.

2. Circle ten ones to make a new ten. Add the tens and ones in columns.

<p>a.  <math>\begin{array}{r} \text{tens} \quad \text{ones} \\ \quad \mathbf{1} \\ \hline 1 \quad 3 \\ + 2 \quad 9 \\ \hline \phantom{1} \quad 2 \end{array}</math></p>	<p>b.  <math>\begin{array}{r} \text{tens} \quad \text{ones} \\ \quad \mathbf{1} \\ \hline 2 \quad 4 \\ + 3 \quad 8 \\ \hline \phantom{1} \quad \phantom{2} \end{array}</math></p>
<p>c.  <math>\begin{array}{r} \text{tens} \quad \text{ones} \\ \quad \mathbf{1} \\ \hline 3 \quad 5 \\ + 1 \quad 9 \\ \hline \phantom{1} \quad \phantom{2} \end{array}</math></p>	<p>d.  <math>\begin{array}{r} \text{tens} \quad \text{ones} \\ \quad \mathbf{1} \\ \hline 2 \quad 4 \\ + 4 \quad 7 \\ \hline \phantom{1} \quad \phantom{2} \end{array}</math></p>
<p>e.  <math>\begin{array}{r} \phantom{1} \quad \phantom{2} \\ \hline \phantom{1} \quad \phantom{2} \\ + \phantom{1} \quad \phantom{2} \\ \hline \phantom{1} \quad \phantom{2} \end{array}</math></p>	<p>f.  <math>\begin{array}{r} \phantom{1} \quad \phantom{2} \\ \hline \phantom{1} \quad \phantom{2} \\ + \phantom{1} \quad \phantom{2} \\ \hline \phantom{1} \quad \phantom{2} \end{array}</math></p>
<p>g.  <math>\begin{array}{r} \phantom{1} \quad \phantom{2} \\ \hline \phantom{1} \quad \phantom{2} \\ + \phantom{1} \quad \phantom{2} \\ \hline \phantom{1} \quad \phantom{2} \end{array}</math></p>	<p>h.  <math>\begin{array}{r} \phantom{1} \quad \phantom{2} \\ \hline \phantom{1} \quad \phantom{2} \\ + \phantom{1} \quad \phantom{2} \\ \hline \phantom{1} \quad \phantom{2} \end{array}</math></p>

(This page intentionally left blank.)



## Adding Three or Four Numbers in Columns

Sometimes we get *two or three new tens* from the ones. We need to regroup.

In the ones, we add  
 $8 + 7 + 8 = 23$ .

We write the two new  
 tens in the tens column.  
 Complete the problem.

$$\begin{array}{r} 2 \\ 4 \text{ } 8 \\ 2 \text{ } 7 \\ + 1 \text{ } 8 \\ \hline 3 \end{array}$$

In the ones we add  $9 + 9 + 7 + 6$   
 $= 18 + 13 = 31$ . We write *three*  
 new tens in the tens column.

In the tens, we add  
 $3 + 3 + 1 + 2 + 2 = 11$ . The  
 answer is *more than 100*.

$$\begin{array}{r} 3 \\ 3 \text{ } 9 \\ 1 \text{ } 9 \\ 2 \text{ } 7 \\ + 2 \text{ } 6 \\ \hline 1 \text{ } 1 \text{ } 1 \end{array}$$

1. Add mentally. Remember: first try to find if any of the numbers **make 10**.

<b>a.</b>	<b>b.</b>	<b>c.</b>
$8 + 4 + 5 = \underline{\hspace{2cm}}$	$3 + 8 + 7 = \underline{\hspace{2cm}}$	$8 + 5 + 6 + 4 = \underline{\hspace{2cm}}$

2. Add. The answers are “hidden” in the list of numbers below the problems.

**a.**

$$\begin{array}{r} 5 \ 2 \\ 3 \ 0 \\ + 1 \ 1 \\ \hline \end{array}$$

**b.**

$$\begin{array}{r} 1 \ 3 \\ 2 \ 5 \\ + 5 \ 4 \\ \hline \end{array}$$

**c.**

$$\begin{array}{r} 3 \ 3 \\ 3 \ 8 \\ + 2 \ 7 \\ \hline \end{array}$$

**d.**

$$\begin{array}{r} 3 \ 6 \\ 2 \ 7 \\ + 1 \ 9 \\ \hline \end{array}$$

**e.**

$$\begin{array}{r} 3 \ 6 \\ 2 \ 7 \\ 1 \ 8 \\ + 1 \ 6 \\ \hline \end{array}$$

**f.**

$$\begin{array}{r} 4 \ 0 \\ 1 \ 8 \\ 1 \ 6 \\ + 2 \ 2 \\ \hline \end{array}$$

**g.**

$$\begin{array}{r} 1 \ 5 \\ 1 \ 7 \\ 1 \ 8 \\ + 3 \ 9 \\ \hline \end{array}$$

**h.**

$$\begin{array}{r} 1 \ 2 \\ 2 \ 9 \\ 2 \ 5 \\ + 1 \ 4 \\ \hline \end{array}$$

**i.**

$$\begin{array}{r} 1 \ 9 \\ 6 \ 9 \\ + 1 \ 9 \\ \hline \end{array}$$

**j.**

$$\begin{array}{r} 5 \ 6 \\ 3 \ 2 \\ + 2 \ 9 \\ \hline \end{array}$$

**k.**

$$\begin{array}{r} 4 \ 5 \\ 5 \ 5 \\ + 1 \ 9 \\ \hline \end{array}$$

**l.**

$$\begin{array}{r} 5 \ 9 \\ 1 \ 9 \\ + 4 \ 2 \\ \hline \end{array}$$

3. Find the total cost.


a. Two dolls for \$17 each; roller-skates for \$49.


b. Three action figures for \$17 each.


c. Two lamps for \$24 each; two pillows for \$19 each.


d. A purse for \$89, a diary for \$12, and chocolate for \$7.


e. Two pairs of shoes for \$36 each, two sweaters for \$23 each.


f. A toy car for \$19 and three watches for \$29 each.

4. Find the errors in these additions, and correct them.

a.

$$\begin{array}{r} 33 \\ + 48 \\ \hline 711 \end{array}$$

b.

$$\begin{array}{r} 55 \\ + 39 \\ \hline 814 \end{array}$$

5. Solve the problems. You need to add or subtract.

- a. One bus has 35 people on it, and another has 22.  
How many more people does the first one have than the second?

<hr/>	

- b. A bus had some people on it. Then, 13 more people got on. Now there are 19 people on the bus.  
How many were on the bus originally?

<hr/>	

- c. One bus can seat 40 people. There were already 33 people.  
Is there room for nine more people?

Yes/No, because

- d. One bus can seat 40 people.  
How many buses do you need for 76 people?

How many buses do you need for 99 people?

- e. A bus was full with 40 people, but then six people got off.  
How many people are on the bus now?

- f. A bus was full with 40 people. First it dropped off 3 people.  
Then it dropped off seven more people. How many people were left on the bus?

6. Add.

a.	3 9
	1 5
	1 8
	+ 2 8
	<hr/>

b.	3 3
	4 8
	1 6
	+ 1 3
	<hr/>

c.	1 7
	3 7
	2 5
	+ 3 4
	<hr/>

d.	5 5
	1 8
	1 5
	+ 2 7
	<hr/>

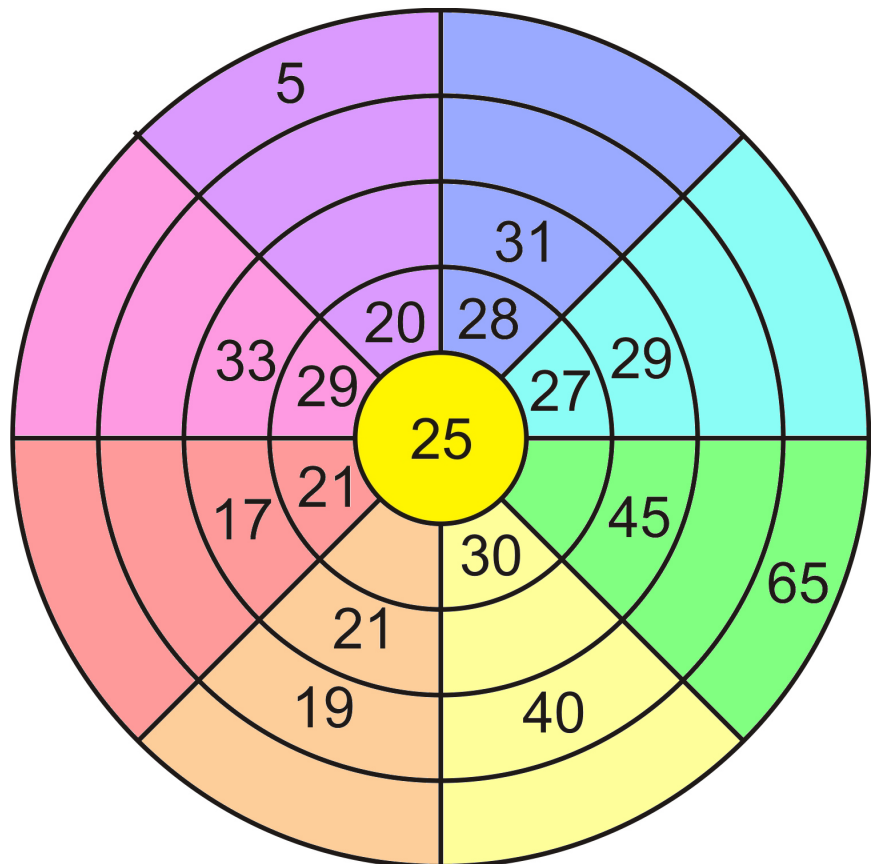
7. Are these numbers even or odd? Mark an “X”. If the number is even, write it as a double of some number.

Number	Even?	Odd?	As a double:
8	X		4 + 4
16			
100			
19			

Number	Even?	Odd?	As a double:
18			
24			
15			
21			

### Puzzle Corner

Skip-count from 25 (in the middle) to the outer edge. Each sector has a different skip-counting pattern—either by 2s, by 3s, by 4s, by 5s, or by 10s.



(This page intentionally left blank.)

---

# Chapter 5: Geometry and Fractions

## Introduction

The fifth chapter of *Math Mammoth Grade 2-A* covers geometry topics and an introduction to fractions.

In geometry, the emphasis is on exploring shapes. Students are supposed to recognize and draw basic shapes, and identify triangles, rectangles, squares, quadrilaterals, pentagons, hexagons, and cubes. Drawing is done by first drawing dots on paper, then connecting those with a ruler.

We also study some geometric patterns, have surprises with pentagons and hexagons, and make shapes in a tangram-like game. These topics are to provide some fun while also letting students explore geometry and helping them to memorise the terminology for basic shapes.

In the section on fractions, the student divides some basic shapes into halves, thirds, and fourths (quarters). They also learn the common notation for fractions (such as  $\frac{1}{3}$ ) and colour parts to show a given fraction. We also study comparing fractions using visual models.

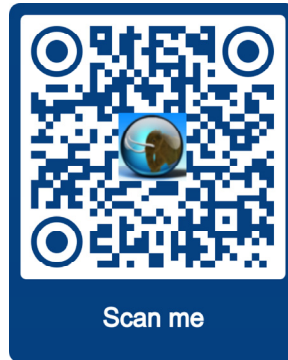
### The Lessons

	page	span
Shapes Revision .....	125	3 pages
Surprises with Shapes .....	128	2 pages
Rectangles and Squares .....	130	3 pages
Making Shapes .....	133	1 page
Geometric Patterns .....	137	2 pages
Solids .....	139	2 pages
Printable Shapes .....	141	4 pages
Some Fractions.....	149	3 pages
Comparing Fractions .....	152	2 pages
Mixed Revision, Chapter 5 .....	154	2 pages
Revision, Chapter 5 .....	156	2 pages

## Helpful Resources on the Internet

We heartily recommend you take a look at the list. Many of our customers love using these resources to supplement the bookwork. You can use the resources as you see fit for extra practice, to illustrate a concept better, and even just for some fun. Enjoy!

<https://links.mathmammoth.com/gr2ch5>



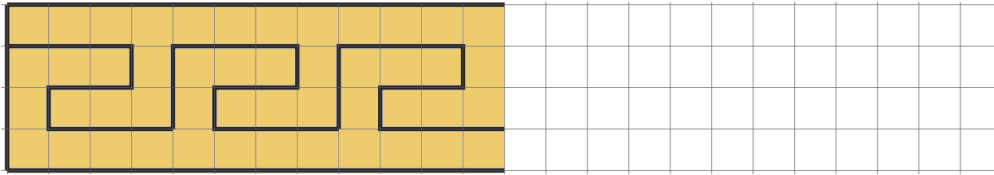
Sample worksheet from  
<https://www.mathmammoth.com>

(This page intentionally left blank.)

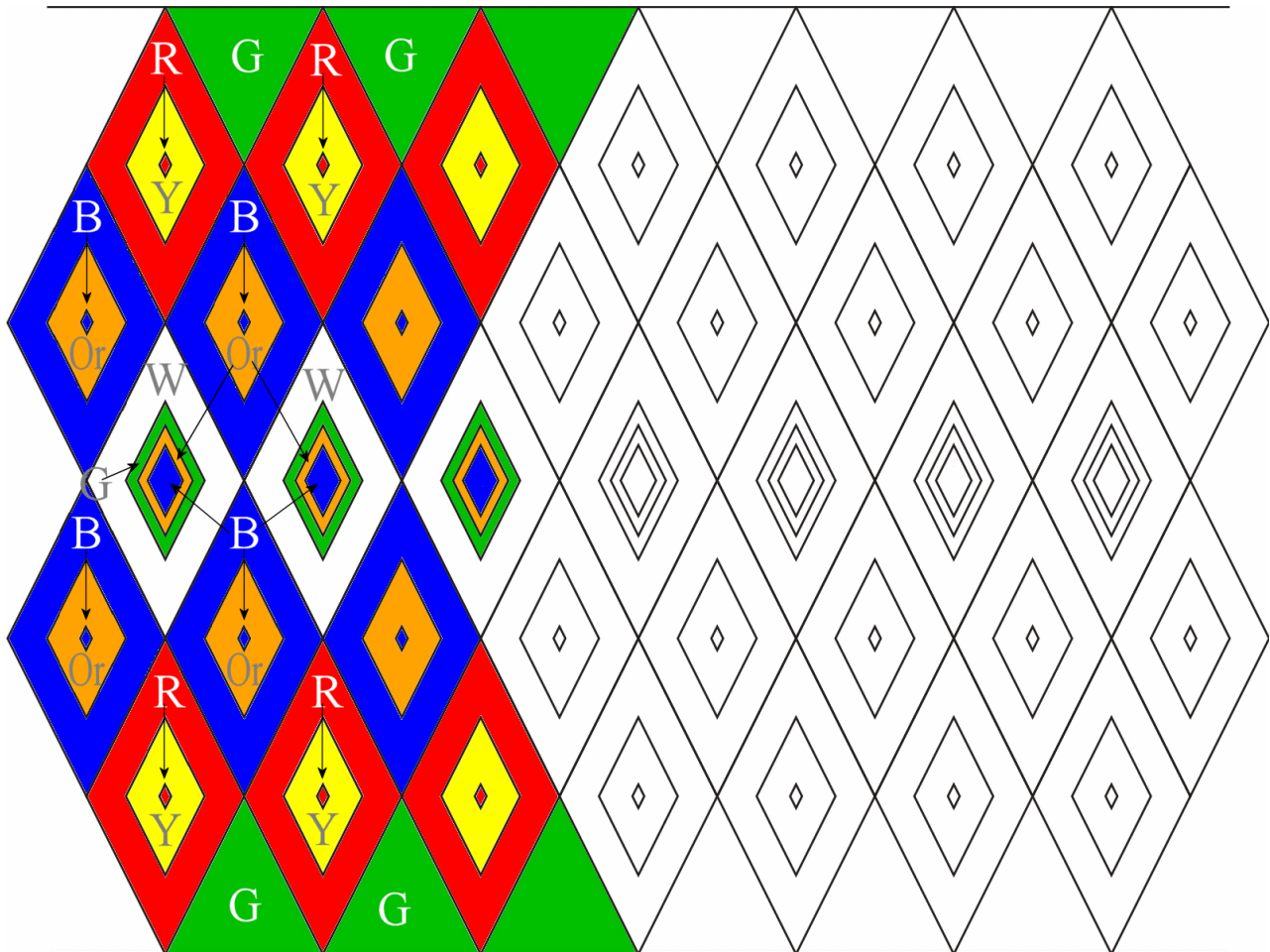


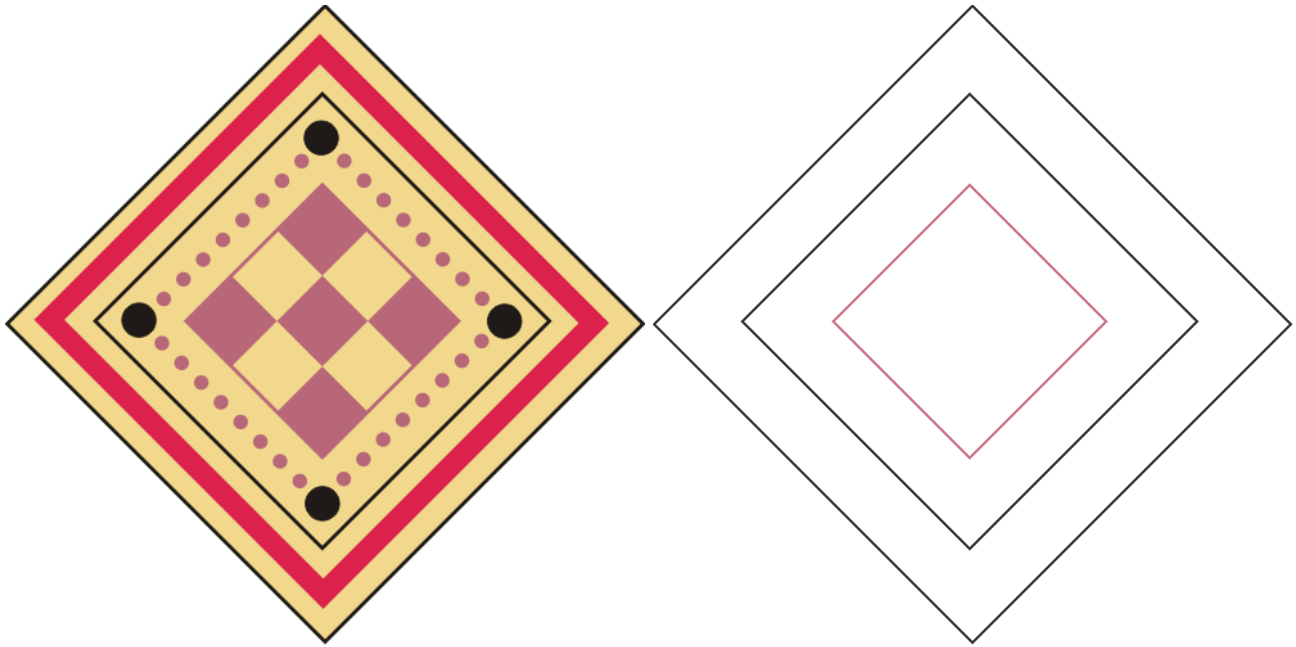
# Geometric Patterns

1. The design below is often seen on Greek vases. Continue it.



2. This is a pattern from an apron used by Kirdi people in Cameroon, Africa. Notice it uses PARALLELOGRAMS that are inside each other. Continue the colouring in the pattern. (G = green, R = red, B = blue, W = white, Or = orange, Y = yellow)





3. This is a geometric design found on a Greek vase.

a. What two shapes are used in this design?

\_\_\_\_\_ and \_\_\_\_\_

b. Copy the design at least once in the empty shapes.

