Adult Literacy Fundamental Mathematics: Book 1 - 2nd Edition

Adult Literacy Fundamental Mathematics: Book 1 - 2nd Edition

Wendy Tagami and Liz Girard

Leslie Tenta; Marjorie E. Enns; Steve Ballantyne; Lynne Cannon; James Hooten; and Kate Nonesuch

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Contents

Accessibility Statement ix

Accessibility of This Textbook ix

Known Accessibility Issues and Areas for Improvement xi

Let Us Know if You are Having Problems Accessing This Book xi

For Students: How to Access and Use this Textbook xiii

Tips for Using This Textbook xiv

About BCcampus Open Education xv

To the Learner 1

How to Use This Book 1

Grades Record 2

How to Deal with Math Anxiety 5

Emotions and Learning 5

Do You Suffer from Math Anxiety? 5

How to Deal with Math Anxiety 6

Unit 1: Number Sense

Topic A: Counting 13

Topic A Self-Test 18

Topic B: Place Value 21

Reading and Writing Numerals 27

Topic B Self-Test 33

Topic C: Ordering Numerals 35

Greater Than, Less Than, Equals 38

Topic C Self-Test 39

Topic D: Rounding Numbers 41

Rounding to the Nearest Ten 41

Topic D Self-Test 46

Topic E: More Counting 47

Topic E Self-Test 52

Unit 1 Review: Number Sense 57
Answers to Unit 1 Review 62

Unit 2: Addition

Topic A: Addition 67
Adding Across 80
Word Problems 81
Topic A Self-Test 83
Topic B: Addition of Three or More Numbers 85
Perimeter 90
Topic B Self-Test 93
Topic C: Addition of Larger Numbers 95
Topic C Self-Test 100
Unit 2 Review: Addition 103
Answers to Unit 2 Review 106

Unit 3: Subtraction

Topic A: Subtraction 111
Subtracting Across 119
Word Problems 121
Topic A Self-Test 122
Topic B: Subtraction of Larger Numbers 125
Topic B Self-Test 130
Unit 3 Review: Subtraction 133
Answers to Unit 3 Review 134

Unit 4: Estimating, Time, and Shapes

Topic A: Estimating 139
Topic B: Time 145
Writing Time in Standard Format 145
A.M. and P.M. 146
Rounding Time 147

Topic C: Shapes 149
Circle 149
Triangle 149
Rectangle 150
Square 151
Unit 4 Review: Estimating, Time, and Shapes 155
Answers to Unit 4 Review 158

Book 1 Review 161
1-A 161
1-B 162
1-C 163
1-D 163
2-A 165
3-A 168
3-B 168
4-A 169
4-B 170
Answers to Book 1 Review 171
Acknowledgements - 1st Edition 175
Curriculum Writers 175
Advisory Committee Members 175
The Deans and Directors of Developmental Education 175
Also 175
Versioning History 177

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The web version of this resource has been designed to meet Web Content Accessibility Guidelines 2.0, level AA. In addition, it follows all guidelines in Appendix A: Checklist for Accessibility of the *Accessibility Toolkit – 2nd Edition*. It includes:

- **Easy navigation**. This text has a linked table of contents and uses headings in each chapter to make navigation easy.
- **Accessible math equations**. Many of the equations in this text have been written in LaTeX and rendered with MathJax, which makes them accessible to people using screen readers that are set up to read MathML. The rest of the equations are rendered as images with appropriate alternative text.
- **Accessible images**. All images in this text that convey information have alternative text. Images that are decorative have empty alternative text.
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Element	Requirements	Pass?
Headings	Content is organized under headings and subheadings that are used sequentially.	Yes
Images	Images that convey information include alternative text descriptions. These descriptions are provided in the alt text field, in the surrounding text, or linked to as a long description.	Yes
Images	Images and text do not rely on colour to convey information.	Yes
Images	Images that are purely decorative or are already described in the surrounding text contain empty alternative text descriptions. (Descriptive text is unnecessary if the image doesn't convey contextual content information.)	Yes
Tables	Tables include row and/or column headers that have the correct scope assigned.	Yes
Tables	Tables include a title or caption.	Yes
Tables	Tables do not have merged or split cells.	Yes
Tables	Tables have adequate cell padding.	Yes
Links	The link text describes the destination of the link.	Yes
Links	Links do not open new windows or tabs. If they do, a textual reference is included in the link text.	Yes
Links	Links to files include the file type in the link text.	Yes
Audio	All audio content includes a transcript that includes all speech content and relevant descriptions of non-speach audio and speaker names/headings where necessary.	N/A
Video	All videos include high-quality (i.e., not machine generated) captions of all speech content and relevant non-speech content.	N/A
Video	All videos with contextual visuals (graphs, charts, etc.) are described audibly in the video.	N/A
H5P	All H5P activities have been tested for accessibility by the H5P team and have passed their testing.	N/A
H5P	All H5P activities that include images, videos, and/or audio content meet the accessibility requirements for those media types.	N/A
Formulas	Formulas have been created using LaTeX and are rendered with MathJax.	Yes
Formulas	If LaTeX is not an option, formulas are images with alternative text descriptions.	Yes
Font	Font size is 12 point or higher for body text.	Yes
Font	Font size is 9 point for footnotes or endnotes.	Yes
Font	Font size can be zoomed to 200% in the webbook or eBook formats.	Yes

Known Accessibility Issues and Areas for Improvement

- This textbook uses a number of layout tables to structure information visually. These tables are designed so they still make sense when read left to right, top to bottom.

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This statement was last updated on September 22, 2021.

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How can I use the different formats?

Format	Internet required?	Device	Required apps	Accessibility Features	Screen reader compatible
Online webbook	Yes	Computer, tablet, phone	An Internet browser (Chrome, Firefox, Edge, or Safari)	WCAG 2.0 AA compliant, option to enlarge text, and compatible with browser text-to-speech tools, videos with captions	Yes
PDF	No	Computer, print copy	Adobe Reader (for reading on a computer) or a printer	Ability to highlight and annotate the text. If reading on the computer, you can zoom in.	Unsure
EPUB	No	Computer, tablet, phone	An eReader app	Option to enlarge text, change font style, size, and colour.	Unsure
HTML	No	Computer, tablet, phone	An Internet browser (Chrome, Firefox, Edge, or Safari)	WCAG 2.0 AA compliant and compatible with browser text-to-speech tools.	Yes

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    - The **[Cntr] + [f]** and **[Command] + [f]** keys will also allow you to search a PDF, HTML, and EPUB files if you are reading them on a computer.
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- **Annotate the textbook**.
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*Adult Literacy Fundamental Mathematics: Book 1 – 2nd Editio*n by Wendy Tagami and Liz Girard was funded by BCcampus Open Education.

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To the Learner

Welcome to *Adult Literacy Fundamental Mathematics: Book 1*.

You have the skills you need to be a strong student in this class.

Adult math learners have many skills. They have a lot of life experience. They also use math in their everyday lives. This means that adult math learners may already know some of what is being taught in this book. Use what you already know with confidence!

How to Use This Book

This textbook has:

- A **Table of Contents** listing the units, the major topics, and the subtopics.
- A **Grades Record** to keep track of your marks.
- Many **Exercises** to practice what you learned. Some are quite short, but others have a great number of questions. You do not have to do every single question!
    - Do as many questions as you feel are necessary for you to be confident in your skill. It is best to do all the word problems.
    - If you leave out some questions, try doing every second or every third question. Always do some questions from the end of each exercise because the questions usually get harder at the end. You might use the skipped questions for review before a test.
    - If you are working on a difficult skill or concept, do half the exercise one day and finish the exercise the next day. That is a much better way to learn.
- **Self-tests** at the end of most topics have an "Aim" at the top. If you do not meet the aim, talk to your instructor, find what is causing the trouble, and do some more review before you go on.

- A **Review and Extra Practice** section is at the end of each unit. If there is an area of the unit that you need extra practice in, you can use this. Or, if you want, you can use the section for more review.
- A **Practice Test** is available for each unit. You may:
    - Write the practice test after you have studied the unit as a practice for the end-of-chapter test, OR
    - You might want to write it before you start the unit to find what you already know and which areas you need to work on.

- **Unit Tests** are written after each unit. Again, you must reach the Aim before you begin the next unit. If you do not reach the aim, the instructor will assist you in finding and practising the difficult areas. When you are ready, you can write a B test to show that you have mastered the skills.
- A **Final Test** is to be written when you have finished the book. This final test will assess your skills from the whole book. You have mastered the skills in each unit and then kept using many of them throughout the course. The test reviews all those skills.

Grades Record

You have also been given a sheet to write down your grades. After each test, you can write in the mark. This way you can keep track of your grades as you go through the course. This is a good idea to use in all your courses.

Grade Record – Book 1

Unit	Practice Test	Date of Test A	Test A	Date of Test B	Test B
Example	✔	*September 4, 2020*	*25/33*	*September 7, 2020*	*25/33*
1					
2					
3					
4					
Final Test					

How to Deal with Math Anxiety

Emotions and Learning

Emotions, or what we feel about something, play a big part in how we learn. If we are calm, we learn well. If we are afraid or stressed, we do not learn as well.

Many people are afraid of math. They fear making a mistake. “Math anxiety” is the fear of math. People who suffer from math anxiety may get headaches, sick stomachs, cold hands, or they may just sweat a lot or just feel scared. Math anxiety can happen for a few different reasons:

- Feeling anxious when writing tests
- Negative experiences in a past math class
- Embarrassment in a past math class
- Social pressures and expectations to not like math or not do well in math
- The want to get everything right
- Negative self-message (“I don’t know how to do it,” or “I hate math”)

Math anxiety is a learned habit. If it is learned, it can be unlearned. Most math anxiety comes from bad memories while learning math. It may be from doing badly on a test or asking a question then being made fun of. These bad memories can make learning math hard.

Everyone can learn math. There is no special talent for math. There are some people who are better at math than others, but even these people had to learn to be good at math.

Do You Suffer from Math Anxiety?

Read the list below and put a check mark beside the ones you feel when thinking about or doing math.

- Are your palms moist?
- Is your stomach fluttering?
- Do you feel like you can’t think clearly?
- Do you feel like you would rather do anything else than learn math?
- Are you breathing faster than normal?
- Is your heart pounding?
- Do you feel cold?
- Do you feel sweaty?

If you answered yes to two or more of these items, you may have math anxiety.

If you have math anxiety, a first step to understanding it is to look at where it all started.

Make a list of your experiences with learning math. Think back to the first math experiences you had and write about them. Think about learning math in school from the younger grades to the higher grades and write about your experiences and feelings. Include this class and how you are feeling right now about learning math.

Beside each experience, write if it was a positive or negative experience.

Look at the examples below to give you an idea:

Positive or negative?	**Math experience**
Negative	My teacher in elementary school lined the whole class up in a row and made us play a multiplication game. I could see which question was mine, and I didn't know the answer so I had to figure it out on my fingers before my turn came up. I got the answer right, but I was so nervous that I would be teased because I didn't know the answer off the top of my head. I still don't know my times tables.
Positive	In high school, I could use a calculator to figure out the simple multiplication problems, and then I could figure out the tougher problems without worrying about knowing my times tables.
Negative	Now that I am upgrading my math, I feel nervous every time I even think about opening the book. I want to get all the answers right, and I know that I won't be able to. I really need everything to be right so that I know that I am getting it.

Once you have made a list of experiences, go over the stories with your instructor, or by yourself and try to find some common themes.

- Can you see when you felt anxiety?
- Can you see why you are now anxious about math?
- Is there any experience you could use now to help you feel calmer about math?

Hopefully by examining the beginnings of the anxiety, you can feel more in control of it.

How to Deal with Math Anxiety

Anyone can feel anxiety that will slow down learning. The key to learning is to be the "boss" of your anxiety. Here are an overview of some strategies that may help deal with your anxiety:

- Use breathing exercises
- Think positive math messages
- Know your textbook

- Understand test-taking anxiety

Remember, learning to deal with your math anxiety may take some time. It took you a long time to learn math anxiety, so it will take some time to overcome it.

Use Breathing Exercises

One way to be the “boss” is to relax. Try this breathing exercise.

Breathing Exercise

Start by breathing slowly to the count of four. It may help to close your eyes and count.

Now hold your breath for four counts and then let your breath out slowly to the count of four.

The counting is silent and should follow this pattern: “Breath in, two, three, four. Hold, two, three, four. Breath out, two, three, four. Wait, two, three, four.”

With practice, the number of counts can be increased. This is an easy and good way to relax.

Now, try this exercise quietly and repeat it five times slowly.

Each time you feel anxious about learning, use the breathing exercise to help calm yourself. Ask yourself if what you tried worked. Do you feel calmer?

Think Positive Math Messages

Another way to be the “boss” is to give yourself positive math messages.

Read and think about the positive math messages listed below. Do you say any of those things to yourself?

- If the answer is yes, then great, keep doing that.
- If your answer is no, try to add this little mental trick to your day. The result will probably be that you start to see math as something you can do and that you may even like!

I like math.

I am good at math.

I understand math.

I can relax when I am studying math.

I am capable of learning math.

Math is my friend.

My math improves every day.

I am relaxed, calm and confident when I study math.

I understand math when I give myself a chance.

Math is creative.

Pick three statements that you like and say them to yourself as much as you can in each day. You can also write the statements out on paper and post them around your house so that you read them throughout the day.

Know Your Textbook

Look at the Table of Contents in the front of your textbook. It tells you what you will be learning. You may see some things that you already know, some things that you may have forgotten, and some things that are new to you.

Flip the pages. You can see that the textbook is split into units. Each unit is something to learn.

Each unit has exercises to do. Notice the answers are at the end of the exercise. You can check your answers as soon as you are done. You can also check your answer before moving on if are not sure if you are doing the question right.

At the end of each unit is a self-test. It is a chance for you to see how well you have learned the skills in the unit. If you do well, you can move on. If you don't do well, you can go back and practice those skills.

Knowing your textbook gives you a good skill. If you get frustrated, you can use the Table of Contents to go back and find some help.

Understand Test-Taking Anxiety

There are four reasons people are anxious when writing tests. Any of the four reasons listed below might be the reason a person might feel anxious in a test-taking situation.

1. Not feeling prepared for the test
2. Not sure how to write the test in the best way
3. Feeling too much mental pressure
4. Poor health habits before writing a test

Here is an explanation of each reason and how to work your way out of the anxiety you may feel during tests.

1. Not feeling prepared for the test

Many students feel anxiety about taking math tests because they do not feel prepared for the test. To feel prepared, a student needs to have studied the work and know that they can do the problems they will be given. Get help from your classmates, friends, or your instructor to find out how you can improve your study habits.

Getting ready for a test starts on the first day of class. Everything you do in class and at home is part of that getting ready.

- **Always do as many exercises as you need to help you understand.** Once you understand, do ten more questions, then you will know for sure that you really understand.
- **Always correct your exercises.** It is good to know that you are understanding and getting the questions right. It is also good to know if you are not understanding and need some help.
- **Always do the self-tests.** The self-tests can show things that you are not sure of.
- **Always do the review.** Review is part of this book. It is a chance to go over all the things you have learned in a unit before moving on. It prepares you for what will be on the test.
- **Always do a practice test.** A practice test gives you a chance to see how many questions and what kind of questions are on the test.

2. Not sure how to write the test in the best way

Here are some strategies students should know about how to write a test to do the best as possible on it:

- Before the Test

    1. **Arrive early.** Get out all the supplies you need to do the test (pencils, ruler, calculator, watch, etc.).
    2. **Be comfortable, but alert.** Choose a good spot in the room, and make sure you have enough space to work. Maintain a comfortable posture in your seat, but don’t “slouch.”
    3. **Stay relaxed and confident.** Keep a good attitude. If you find yourself anxious, take several slow, deep breaths to relax. Don’t talk about the test to other students just before entering the room: their anxiety can be contagious.

- During the test.

    1. **Look over the test**. Take a look at the whole test before starting. This takes very little time. Use a highlighter to highlight the questions that you know you can do easily, note key terms, mark the test with comments that come to mind. As you work, put a star beside any questions that you would like to go over again when you finish the test.
    2. **Relax.** Before starting the test, imagine yourself somewhere where you are calm and confident. Go there in your mind. Focus on how good you feel and how in control you are. If you become anxious during the test, in your mind go to the

calming place. Focus on how calm you feel. Then go back to your test.

3. **Read the directions carefully.** This may be obvious, but it will help you avoid careless errors.
4. **Answer questions in a strategic order.**
    - Answer the easy questions first. This will help to build confidence and score points. It may also help you make connections with more difficult questions.
    - Then answer the difficult questions. Work on these harder questions with all the energy of the easier ones.
5. **Review your answers.** Resist the urge to leave as soon as you are done writing. Spend as much time as you can going over your test to see if you:
    - Answered all the questions.
    - Wrote the answers in right.
    - Did not make simple mistakes.

3. Feeling too much mental pressure

There are many reasons why a student may feel mental pressure when writing a test. Listed below are a few main reasons:

- Negative beliefs about one's math abilities
- Low self-esteem when it comes to math
- Too high expectations of success
- Fear that failure or low grades will affect the future
- Feelings of pressure of not wanting to let down family members

When students feel this kind of pressure, it is very hard to feel calm and relaxed about a test. The key to success in a math test is to keep the anxiety at a manageable level. You can do this in two ways:

1. **Change negative self-talk.** Any time a negative thought creeps into your head, it will make it harder to stay positive and relaxed about your test. If you have a negative thought like "I can't do it", try to replace it with a positive thought like "I can do this".
2. **Use relaxing and calming techniques.** Use the calming breathing mentioned earlier in this section. This will help you keep calm. Also, do not study in the last half hour before the test. You will be calmer by spending time relaxing and breathing deeply in that last half hour.

4. Poor health habits before writing a test

When your body and mind are healthy, you will have a better chance of doing well on a test. Eat well, drink plenty of water and get daily exercise. The better you feel, the better you can perform (and a test is a performance!).

Unit 1: Number Sense

Topic A: Counting

To learn to read, you first need to learn the letters of the alphabet. Once you know the alphabet, you put the letters together to make words, then sentences, then paragraphs and then stories.

Those letters become the “tools” used to write everything.

The same is true for math. In math we use digits. The digits are:

0 1 2 3 4 5 6 7 8 9

Digits are named after our fingers. Our fingers are also called digits. The mathematics term comes from the days of counting on our fingers. We have ten fingers and there are ten digits. We use the letters of the alphabet to make up words, and we use digits to make up numbers. There are two ways to write numbers. You can write them as numerals. You can write them using word names.

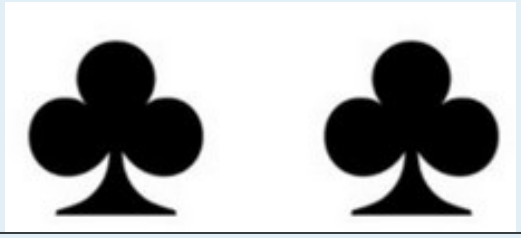
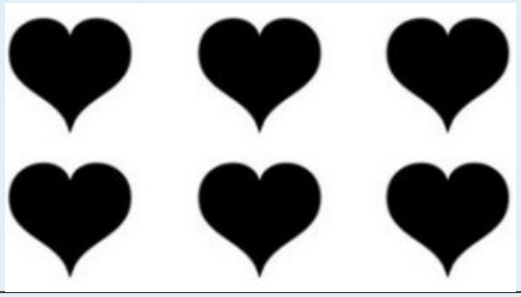
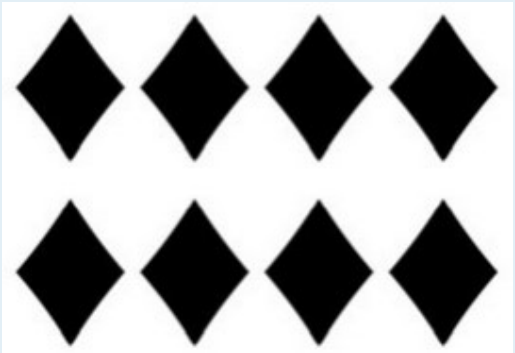
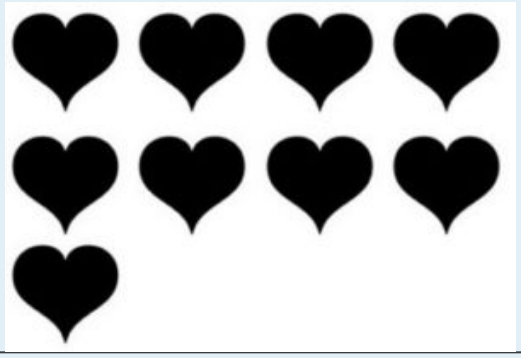
Two Ways to Write Numbers

Numeral	Word Name
0	zero
1	one
2	two
3	three
4	four
5	five
6	six
7	seven
8	eight
9	nine

Counting is matching the number name to the things being counted. You see a bowl of apples on the table. You want to know how many apples are in the bowl. You answer that question by saying, “There are one, two, three, four apples.” You are giving the number names “one”, “two”, “three,” and “four” to the apples. The last number you say is the total number of apples.

Exercise 1

Count the number of shapes in each picture. Then write the numeral and the word name. Check your work using the answer key at the end of the exercise.

Picture	Answer
	Numeral: 3 Word name: Three
a. 	Numeral: Word name:
b. 	Numeral: Word name:
c. 	Numeral: Word name:
d. 	Numeral: Word name:

e. 	Numeral: Word name:
f. 	Numeral: Word name:
g. 	Numeral: Word name:
h. 	Numeral: Word name:

Answers to Exercise 1

a. 2, two
b. 6, six
c. 8, eight
d. 9, nine
e. 1, one
f. 5, five
g. 7, seven
h. 4, four

Exercise 2

Here are the numerals from one to ten.

1	2	3	4	5	6	7	8	9	10

Practice writing them below.

Now practice writing the numerals from one to ten in the following. Try to do them without looking. Check your work using the answer key at the end of the exercise.

a.

1		3		5		7		9	

b.

	2		4		6		8		10

c.

1			4			7			

d.

		3			6			9	

Answers to Exercise 2

a.

	2		4		6		8		10

b.

1		3		5		7		9	

c.

	2	3		5	6		8	9	10

d.

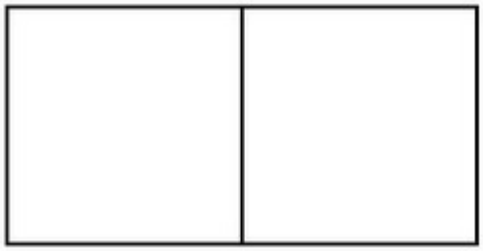
1	2		4	5		7	8		10

Topic A Self-Test

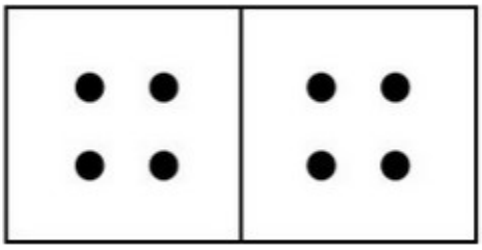
Mark /18 Aim 15/18

A. Count the number of things in each picture, then write the numeral and the word name.

a.



c.



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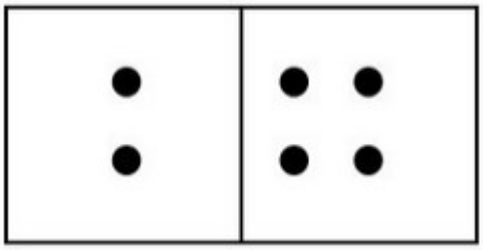

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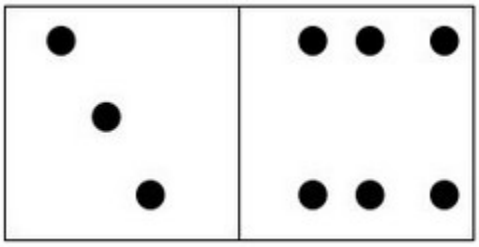


B. Write the numerals from one to ten.

Answers to Topic A Self-Test

A. a. 0, zero

b. 6, six
c. 8, eight
d. 9, nine

B.

1	2	3	4	5	6	7	8	9	10

Emotions Check

How are you feeling?

- Are your palms moist?
- How is your breathing?

Take control. Be the boss. If you are feeling anxious, practice your breathing exercise.

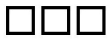
Remember: Breathe in slowly to the count of four. Hold it for the count of four.

Topic B: Place Value

As you know, we count much higher than ten in our world. Each place in a number has a value.

The ones place tells how many ones there are.

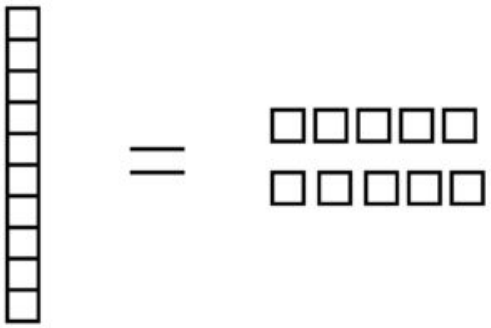
- 3 means 3 ones.
- 0 means 0 ones
- 9 means 9 ones



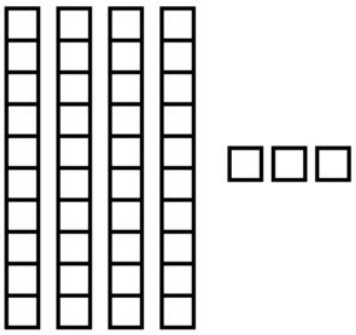
9 is the largest amount that we can express (write or say) with one digit.

The tens place shows how many tens there are. The ones place must have a digit in it before there can be a digit in the tens place.

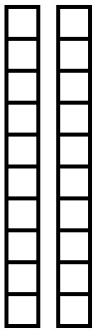
Every ten is ten ones.



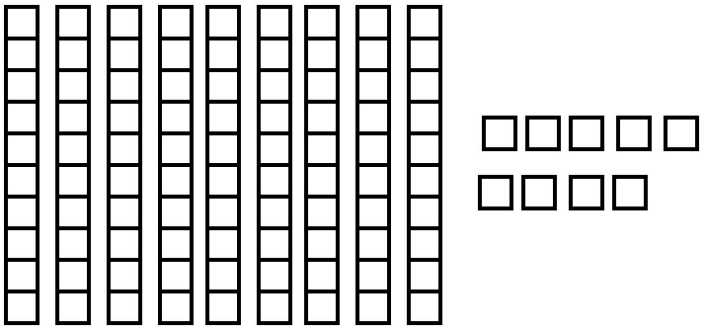
43 means 4 tens and 3 ones.



20 means 2 tens and 0 ones. The zero holds the ones place.



99 means 9 tens and 9 ones. 99 is the largest amount that we can express (write or say) using only two digits.

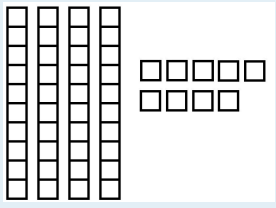


Exercise 1

Fill in the blanks to make each sentence true. Draw a picture for questions c, f, h, and j like the examples. Check your work using the answer key at the end of the exercise. Ask your instructor to check your sketches.

Example

49 means __**4**__ tens and __**9**__ ones.



a. 37 means _____ tens and _____ ones.

b. 65 means _____ tens and _____ ones.

c. 56 means _____ tens and _____ ones.

d. 87 means _____ tens and _____ ones

e. 33 means _____ tens and _____ ones.

f. 60 means _____ tens and _____ ones.

Answers to Exercise 1

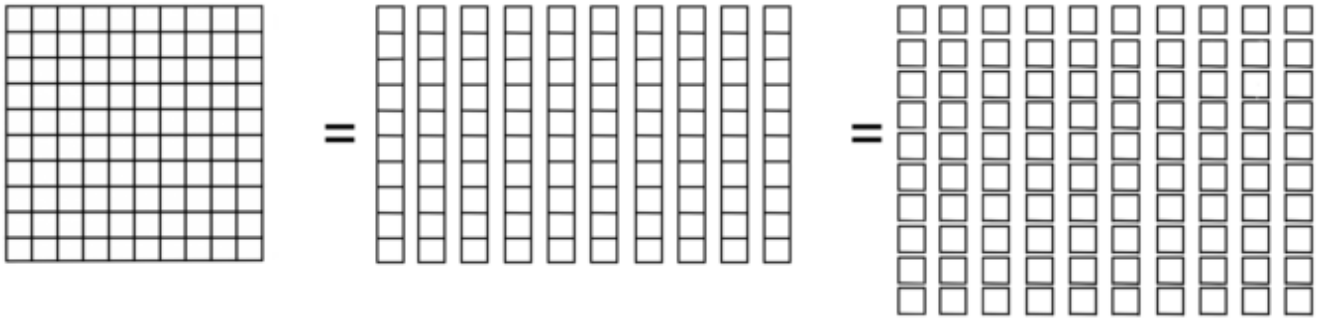
a. 3 tens, 7 ones
b. 6 tens, 5 ones
c. 5 tens, 6 ones
d. 8 tens, 7 ones
e. 3 tens, 3 ones
f. 6 tens, 0 ones

The place to the left of the tens place is the **hundreds place**. It shows how many hundreds there are. A number written using three whole digits has a hundreds place, a tens place, and a ones place.

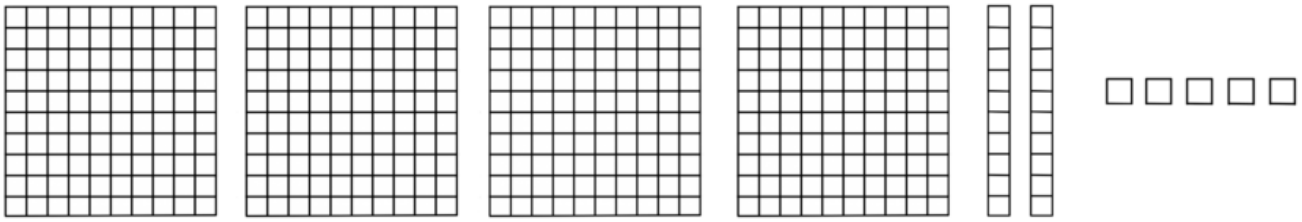
Every hundred is the same as ten tens, and every hundred is the same as one hundred ones.

Every hundred is ten tens – every hundred is the same as one hundred ones.

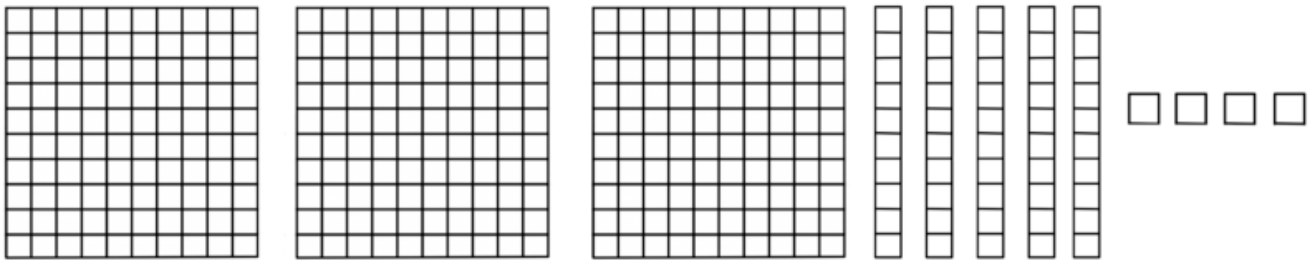
100 100 100



425 means 4 hundreds, 2 tens, and 5 ones



354 means 3 hundreds, 5 tens, and 4 ones



Exercise 2

Fill in the blanks to make each sentence true. Draw a picture for questions **b, c, d, and e,** like the examples. Check your work using the answer key at the end of the exercise. Ask your instructor to check your sketches.

a. 190 = __1__ hundreds, __9__ tens,__0__ ones.

b. 555 = _____ hundreds, _____ tens, _____ ones.

c. 309 = _____ hundreds, _____ tens, _____ ones.

d. 499 = _____ hundreds, _____ tens, _____ ones.

e. 480 = _____ hundreds, _____ tens, _____ ones.

Answers to Exercise 2

b. 5 hundreds, 5 tines, 5 ones

c. 3 hundreds, 0 tens, 9 ones

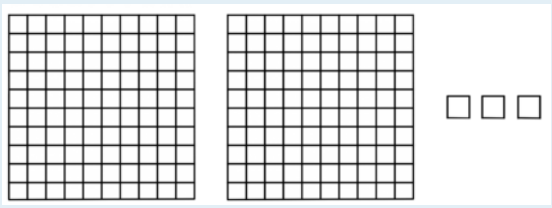
d. 4 hundreds, 9 tens, 9 ones

e. 4 hundreds, 8 tens, 0 ones

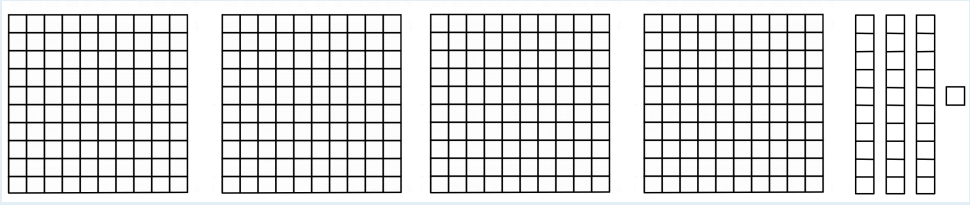
Exercise 3

Count the hundreds, tens, and ones shown in the drawings. The pictures will help you understand the quantity of a number. Then write the numeral. The first one is done for you. Check your work using the answer key at the end of the exercise.

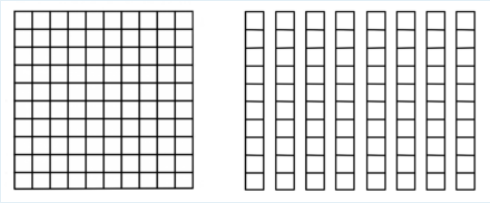
a. __2__ hundreds, __0__ tens, __3__ ones = __203__



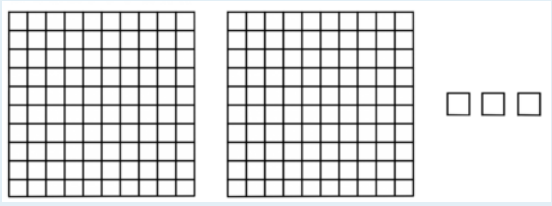
b. hundreds, tens, ones =



c. hundreds, tens, ones =



d. hundreds, tens, ones =



Answers to Exercise 3

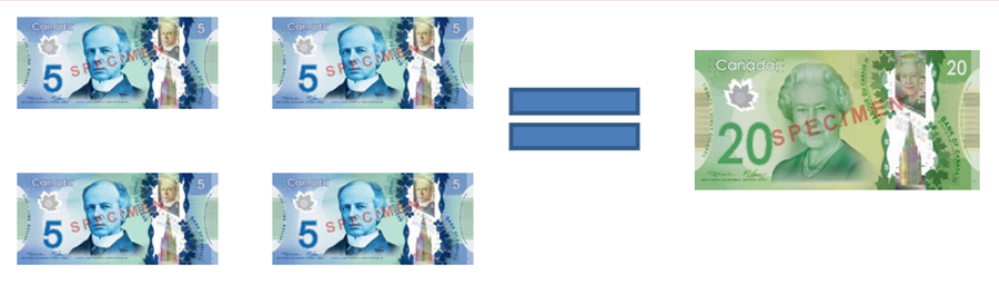
b. 4 hundreds, 3 tens, 1 ones

c. 1 hundreds, 8 tens, 0 ones

d. 2 hundreds, 0 tens, 3 ones

Need more practice?

Ask your instructor for some fake money. Using the one, ten, and hundred dollar bills, practice trading ten of one type of bill for one of the next value.



Exercise 4

Write the place value name (ones, tens, hundreds) for each underlined digit. Check your work using the answer key at the end of the exercise.

a. 6̲22 hundreds
b. 4̲68 tens
c. 92̲0 _____
d. 9̲20 _____
e. 6̲48 _____
f. 42̲6 _____
g. 5̲34 _____
h. 55̲5 _____
i. 4̲51 _____
j. 90̲1 _____
k. 2̲26 _____
l. 48̲6 _____

Answers to Exercise 4

c. ones
d. hundreds
e. tens
f. ones
g. hundreds
h. tens
i. tens
j. ones
k. hundreds
l. ones

Exercise 5

Underline the digit for the place value named. Check your work using the answer key at the end of the exercise.

a. hundreds, 416
b. tens, 368
c. tens, 364
d. hundreds, 456

e. ones, 206
f. ones, 634

Answers to Exercise 5

a. 4
b. 6
c. 6
d. 4
e. 6
f. 4

Emotions Check

How are you feeling?

1. Are your palms moist?
2. How is your breathing?

Take control. Be the boss. If you are feeling anxious, practice your breathing exercise.

Remember: Breathe in slowly to the count of four, hold it for the count of four.

Reading and Writing Numerals

You know that the **digits** are 0 1 2 3 4 5 6 7 8 9 and that digits are arranged in different places so we can count larger amounts than our ten fingers!

When we use **digits,** we call what we write the **numeral.**

- 328 is a numeral
- 46 is a numeral
- 3 is a numeral

We use numerals to represent **numbers**.

If we think about language instead of mathematics it will be clearer.

Letters are used to make **words.** We respond to the **meaning** of words.

- Digits are the “letters” of math.
- Numerals are the “words” of math.
- Numbers are the “meaning” of math.

Now you know the place value of digits up to three places. Next you will learn to read and write numerals and number words. Some of the words to read and spell may be new to you.

The numerals from 1 to 12 have special words. These are:

Numerals 1 to 12

Numeral	**Word Name**
0	zero
1	one
2	two
3	three
4	four
5	five
6	six
7	seven
8	eight
9	nine
10	ten
11	eleven
12	twelve

The number names for numerals from 13 to 19 are made up of two parts. The first part tells us **how many units**. The second part (“teen”) tells us there is also **1 ten**.

Numerals 13 to 19

Numeral	**Word Name**	**Meaning**
13	thirteen	three units and 1 ten
14	fourteen	four units and 1 ten
15	fifteen	five units and 1 ten
16	sixteen	six units and 1 ten
17	seventeen	seven units and 1 ten
18	eighteen	eight units and 1 ten
19	nineteen	nine units and 1 ten

Exercise 6

Write the word name for each number. Try not to look at the list. Check your work using the answer key at the end of the exercise.

a. 6
b. 17
c. 4
d. 14
e. 12
f. 13

Answers to Exercise 6

a. six
b. seventeen
c. four
d. fourteen
e. twelve
f. thirteen

The word names for the numbers 20 to 90 are also made up of two parts. The first part tells us **how many groups of tens**. The second part ("ty") tells us we are counting **groups of tens** and not something else. The "-ty" may have come from a shortening of the word "ten".

Numerals 20 to 90

Number	**Word Name**	**Meaning**
20	twenty	two tens
30	thirty	three tens
40	forty	four tens
50	fifty	five tens
60	sixty	six tens
70	seventy	seven tens
80	eighty	eight tens
90	ninety	nine tens

The names for the numbers **between** groups of tens also follow a pattern. The first number tells us how many tens. The second number tells us how many ones.

Numerals Between Tens

Tens Ones	Tens Ones	Tens Ones
20 twenty	30 thirty	40 forty
21 twenty-one	31 thirty-one	41 forty-one
22 twenty-two	32 thirty-two	42 forty-two
23 twenty-three	33 thirty-three	43 forty-three
24 twenty-four	34 thirty-four	44 forty-four
25 twenty-five	35 thirty-five	45 forty-five
26 twenty-six	36 thirty-six	46 forty-six
27 twenty-seven	37 thirty-seven	47 forty-seven
28 twenty-eight	38 thirty-eight	48 forty-eight
29 twenty-nine	39 thirty-nine	49 forty-nine

The written names for numbers that have tens and ones are written with a hyphen (-) between them. This pattern with the hyphen continues up to ninety-nine (99).

Exercise 7

Write the word names for these numbers. Check your work using the answer key at the end of the exercise.

a. 24 twenty-four
b. 35 thirty-five
c. 83 _____
d. 46 _____
e. 59 _____
f. 20 _____
g. 53 _____
h. 25 _____
i. 15 _____
j. 38 _____

Answers to Exercise 7

c. eighty-three
d. forty-six
e. fifty-nine
f. twenty
g. fifty-three
h. twenty-five
i. fifteen
j. thirty-eight

Exercise 8

Write the numerals for these word names. Check your work using the answer key at the end of the exercise.

a. ninety-nine 99
b. sixty-seven 67
c. eighty-one _____
d. eighteen _____
e. twenty-six _____
f. thirteen _____
g. thirty _____
h. forty-three _____

Answers to Exercise 8

c. 81
d. 18
e. 26
f. 13
g. 30
h. 43

When we write hundreds in words, we need two words. The first word tells us how many hundreds. The second word tells us we are counting hundreds.

200 two hundred

You now know how to write numbers in words up to 999.

Remember

- hyphen (-) between the tens and units
- no hyphen anywhere else
- no “s” on the hundred
- no “and” between the hundreds place and the tens place

367 is made of:	**3** hundreds	**6** tens	**7** ones
Each is written:	three hundred	sixty	seven

Put the parts together: **three hundred sixty-seven**

Here is another example. Watch out for the empty space!

504 is made of:	**5** hundreds	**0** tens	**4** ones
Each is written:	fice hundred		four

Put the parts together: **five hundred four**

Here is another example. Watch out for the empty space!

890 is made of: **8** hundreds **9** tens **0** ones
Each is written: eight hundred ninety
Put the parts together: **eight hundred ninety**

Here is another example. Watch out for the empty space!

100 is made of: **1** hundreds **0** tens **0** ones
Each is written: one hundred
Put the parts together: **one hundred**

Remember

Empty spaces are not written in words.

Exercise 9

Write the word names for these numerals. Check your work using the answer key at the end of the exercise.

a. **623** is made of:_____
Each is written:_____
Put the parts together:_____

b. **364** is made of:_____
Each is written:_____
Put the parts together:_____

c. **213** is made of:_____
Each is written:_____
Put the parts together:_____

d. **405** is made of:_____
Each is written:_____
Put the parts together:_____

Now, write the word name for each number. Check your work using the answer key at the end of the exercise.

e. 704

f. 470

g. 993

h. 100

i. 972

Answers to Exercise 9

a. **623** is made of: 6 hundreds, 2 tens, 3 ones
Each is written: six hundred, twenty, three
Put the parts together: six hundred twenty-three

b. **364** is made of:3 hundreds, 6 tens, 4 ones
Each is written: three hundred, sixty, four
Put the parts together: three hundred sixty-four

c. **213** is made of: 2 hundreds. 1 ten, 3 ones
Each is written: two hundred, thirteen
Put the parts together: two hundred thirteen

d. **405** is made of:4 hundreds, 0 tens, 5 ones
Each is written: four hundred, five
Put the parts together: four hundred five

e. seven hundred four

f. four hundred seventy

g. nine hundred ninety-three

h. one hundred

i. nine hundred seventy-two

Topic B Self-Test

Mark /17 Aim 14/17

A. Write the place value for the underlined digit. (6 marks)

a. 7<u>6</u>5
b. 9<u>0</u>3
c. <u>4</u>79
d. 18<u>5</u>
e. 73<u>2</u>
f. <u>3</u>97

B. Write the word names for these numerals. (6 marks)

a. 79
b. 492
c. 378
d. 820
e. 405
f. 583

C. Write the numerals for these word names. (5 marks)

a. five hundred forty-seven
b. three hundred eighty

c. two hundred seventy-five
d. four hundred sixteen
e. nine hundred twenty-three

Answers to Topic B Self-Test

A.
a. tens
b. tens
c. hundreds
d. ones
e. ones
f. hundreds

B.
a. seventy-nine
b. four hundred ninety-two
c. three hundred seventy-eight
d. eight hundred twenty
e. four hundred five
f. five hundred eighty-three

C.
a. 547
b. 380
c. 275
d. 416
e. 923

Topic C: Ordering Numerals

We arrange **numerals** in order from smallest to largest. Sorting numbered papers such as order forms, arranging items by the date and comparing prices are some of the ways you use this skill.

Look at two numerals and tell which one is larger. How do you do this?

Exercise 1

Draw a line under the larger numeral in each pair.

a. 43, 48
b. 27, 21
c. 64, 63
d. 24, 35
e. 92, 89
f. 72, 81

Answers to Exercise 1

b. 27
c. 64
d. 35
e. 92
f. 81

To compare numerals, look at the place with the largest value.

Example A: Compare 63 and 59

Look at the tens place.

- 63 has a 6 in the tens place
- 59 has a 5 in the tens place.
- 63 is larger than 59.

Example B: Compare 496 and 476

Look at the hundreds place.

- Both have 4's.

Look at the tens place.

- 496 has a 9 in the tens place
- 476 has a 7 in the tens place.

- 496 is larger than 476.

Note: Numerals with one digit are always less than numerals with two digits. Numerals with two digits are always less than numerals with three digits, and so on.

- 9 is less than 15
- 87 is less than 107
- 999 is less than 1 001

Exercise 2

Draw a line under the larger numeral in each pair. Check your work using the answer key at the end of the exercise.

a. 36, 46
b. 580, 59
c. 87, 67
d. 716, 116
e. 429, 449
f. 289, 283
g. 471, 422
h. 316, 322
i. 876, 318

Answers to Exercise 2

b. 580
c. 87
d. 716
e. 449
f. 289
g. 471
h. 322
i. 876

Exercise 3

Draw a line under the larger numeral in each pair. Check your work using the answer key at the end of the exercise.

a. 148, 151
b. 129, 132
c. 34, 37
d. 325, 236
e. 118, 13
f. 489 423
g. 471, 422
h. 316, 322
i. 876, 319

Answers to Exercise 3

b. 132
c. 37
d. 325
e. 118
f. 489
g. 471
h. 322
i. 876

Now use the same ideas to arrange more than two numerals in order. For example, to arrange **6, 616, 1, 66, 666, 61**, and **16** in order from **smallest** to **largest**, use the following method.

First, sort the numerals with the same number of digits into groups:

- 6, 1
- 66, 61, 16, and
- 616, 666

The group of one digit numerals contains 6 and 1. As 1 is smaller than 6, the list starts with 1, then 6.

The group of two-digit numerals contains 66, 61, and 16. Use your skills in ordering numerals to see that 16 is smallest, then 61, and 66 is the largest of this group. The list now reads, 1, 6, 16, 61, 66.

Finally, look at the three-digit numerals, 616 and 666. As 616 is smaller than 666, it will come first. The list now reads: 1, 6, 16, 61, 66, 616, 666.

Exercise 4

Arrange these numbers in order from smallest to largest. Check your work using the answer key at the end of the exercise.

a. 323, 32, 332, 33, 3, 322, 2
b. 44, 7, 474, 47, 744, 74, 77
c. 123, 135, 152, 125
d. 472, 427, 452, 475

Answers to Exercise 4

a. 2, 3, 32, 33, 322, 323, 332
b. 7, 44, 47, 74, 77, 474, 744
c. 123, 125, 135, 152
d. 427, 452, 472, 475

Greater Than, Less Than, Equals

The sign < means “is less than” (smaller than).

The sign > means “is greater than” (bigger than).

The **greater than** and **less than** signs always point to the smaller number. That is, the point or the tip of the sign is close to the small number.

- 5 < 12 means 5 is less than 12
- 6 > 3 means 6 is greater than 3

The sign = means “**equals**” and is used when two amounts are the same.

Remember

The hungry mouth goes to the biggest number.

Exercise 5

Write <, >, or = in each blank as needed. Check your work using the answer key at the end of the exercise.

a. 3 __<__ 5
b. 8 __>__ 7
c. 12 _____ 9
d. 28 _____ 28
e. 48 _____ 84
f. 376 _____ 376
g. 520 _____ 530
h. 582 _____ 521
i. 674 _____ 296
j. 214 _____ 251
k. 879 _____ 900
l. 784 _____ 784

Answers to Exercise 5

c. >
d. =
e. <
f. =
g. <
h. >
i. >
j. <
k. <
l. =

Topic C Self-Test

Mark /12 Aim 10/12

A. Box the larger number of each pair. (6 marks)

a. 978, 789
b. 566, 556
c. 120, 142
d. 701, 710
e. 430, 403
f. 879, 987

B. Arrange these numerals in order from smallest to largest. (2 marks)

a. 75, 754, 475, 47, 747, 574, 775
b. 18, 237, 429, 824, 37, 994, 112

C. Write >, <. or = in each blank to make a true statement. (4 marks)

a. 678 _____ 768
b. 102 _____ 100
c. 463 _____ 846
d. 101 _____ 101

Answers to Topic C Self Test

A.
a. 978
b. 566
c. 142
d. 710
e. 430
f. 987

B.
a. 47, 75, 475, 574, 747, 754, 775
b. 18, 37, 112, 237, 429, 824, 994

C.
a. <
b. >
c. <
d. =

Topic D: Rounding Numbers

We use numbers a lot in our everyday lives. List some of the ways you use numbers.

_____
_____
_____

You may have written money, shopping, time, and counting as part of your answer.

Think about time. Let's say it takes eight minutes to walk to the bus. If someone asks you how long it takes, you will probably say, "About ten minutes."

If you buy a sweater that cost $29, you may say, "Oh, it was around thirty dollars."

How far is it from Vancouver to Prince George? The map says 796 km, but we would probably say, "About 800 kilometres."

You have just read examples of **rounding numbers.**

We round numbers for many reasons:

- We may not know the exact number.
- The exact number may not be important for what we are doing.
- We may need a **quick way to figure** something out.

When you are rounding numbers, use zeros to hold the places at the end of the number. Work through the following examples and exercises carefully. **Rounding is an important skill.**

Rounding to the Nearest Ten

Here is a short method to round to the nearest ten. When rounding to the nearest ten, do this:

1. Underline the tens digit. 8̲3
2. Look at the digit following in the ones place. 8̲3
3. If the digit in the ones place is less than 5, write a 0 in the ones place. Leave the tens digit as it is.
    - 4̲2, rounds to 40 (42 is nearer to 40 than to 50)
    - 1̲4, rounds to 10
    - 8̲3, rounds to 80

4. If the digit in the ones place is 5 or more, write a 0 in the ones place. Add one more ten to the tens place.
    - 36, rounds to **40** (36 is nearer to 40 than to 30)
    - 25, rounds to **30**
    - 98, rounds to **100** (one more ten than nine tens is ten tens)

Note: If you are rounding to the nearest ten, single digits are rounded like this:

- 0, 1, 2, 3, 4 all round to **0**.
- 5, 6, 7, 8, 9 all round to **10**.

A number rounded to the nearest ten will have a zero in the ones place.

The number will end with

0, 10, 20, 30, 40, 50, 60, 70, 80, or 90.

When you round a number, use the sign that means “approximately equal” ≈.

Exercise 1

Round each number to the nearest 10. Check your work using the answer key at the end of the exercise.

a. **47** is between _____ tens and _____ tens.
47 is closest to _____ tens.
Rounded number is _____.

b. **81** is between _____ tens and _____ tens.
81 is closest to _____ tens.
Rounded number is _____.

c. **14** is between _____ tens and _____ tens.
14 is closest to _____ tens.
Rounded number is _____.

d. **26** is between _____ tens and _____ tens.
26 is closest to _____ tens.
Rounded number is _____.

e. **98** is between _____ tens and _____ tens.
98 is closest to _____ tens.
Rounded number is _____.

f. **57** is between _____ tens and _____ tens.
57 is closest to _____ tens.
Rounded number is _____.

g. **73** is between _____ tens and _____ tens.
73 is closest to _____ tens.
Rounded number is _____.

Answers to Exercise 1

a. 4 tens, 5 tens
5 tens
50

b. 8 tens, 9 tens
8 tens
80

c. 1 tens, 2 tens
1 ten
10

d. 2 tens, 3 tens
3 tens
30

e. 9 tens. 10 tens
10 tens
100

f. 5 tens, 6 tens
6 tens
60

g. 7 tens, 8 tens
7 tens
70

Exercise 2

Round each number to the nearest ten. Check your work using the answer key at the end of the exercise.

a. 22 ≈ 20
b. 86 ≈ 90
c. 31 ≈ _____
d. 96 ≈ _____
e. 84 ≈ _____
f. 55 ≈ _____
g. 8 ≈ _____
h. 2 ≈ _____
i. 63 ≈ _____
j. 49 ≈ _____
k. 25 ≈ _____
l. 71 ≈ _____
m. 38 ≈ _____
n. 51 ≈ _____
o. 88 ≈ _____

Answers to Exercise 2

c. 30
d. 100
e. 80
f. 60
g. 10
h. 0
i. 60
j. 50
k. 30
l. 70
m. 40
n. 50
o. 90

Numbers of any size can be rounded to the nearest ten using the method you have just learned.

$$\underset{\downarrow}{2\underline{3}8} \approx 240 \qquad \underset{\downarrow}{8\underline{8}3} \approx 880 \qquad \underset{\downarrow}{2\underline{9}8} \approx 300$$

Exercise 3

Round each number to the nearest ten. Check your work using the answer key at the end of the exercise.

a. 424 ≈ _____
b. 867 ≈ _____
c. 499 ≈ _____
d. 132 ≈ _____
e. 278 ≈ _____
f. 617 ≈ _____
g. 208 ≈ _____
h. 851 ≈ _____
i. 124 ≈ _____
j. 576 ≈ _____
k. 315 ≈ _____
l. 742 ≈ _____
m. 397 ≈ _____
n. 952 ≈ _____
o. 639 ≈ _____

Answers to Exercise 3

a. 420
b. 870
c. 500
d. 130
e. 280
f. 620
g. 210
h. 850
i. 120
j. 580
k. 320
l. 740
m. 400
n. 950
o. 640

Exercise 4

For each problem, round the numbers to the nearest ten. Check your work using the answer key at the end of the exercise.

Example:

Mei Ling has just moved into a new apartment. She bought the following items. Round each amount to the nearest ten.

Item	Cost	Rounded to nearest ten
Towels	$14	$10
Dishes	$32	$30
Saucepan	$43	$40
Microwave	$109	$110
Carving knife	$18	$20

a. Akkul walked 12 kilometres on Monday, 26 kilometres on Tuesday and 6 kilometres on Wednesday. Round each number to the nearest ten.

Day	Number	Rounded Number
Monday	12	
Tuesday	26	
Wednesday	6	

b. Werner is a keen bird watcher. On Monday, he saw 57 birds, on Tuesday he saw 124 birds, on Wednesday he saw 31 birds and on Thursday he saw 75 birds. Round each number to the nearest ten.

Day	Number	Rounded Number
Monday	57	
Tuesday	124	
Wednesday	31	
Thursday	75	

c. Jamir drove 678 kilometres, 493 kilometres, 387 kilometres and 914 kilometres in one week. Round each mileage to the nearest ten.

Day	Kilometres	Rounded Number
#1	678	
#2	493	
#3	387	
#4	914	

Answers to Exercise 4

a. 10, 30, 10
b. 60, 120, 30, 80
c. 680, 490, 390, 910

Topic D Self-Test

Mark /12 Aim 10/12

A. Round your answer to the nearest ten. (8 marks)

a. 47 ≈ _____
b. 123 ≈ _____
c. 4 ≈ _____
d. 945 ≈ _____
e. 329 ≈ _____
f. 481 ≈ _____
g. 865 ≈ _____
h. 916 ≈ _____

B. Round each number to the nearest ten. (4 marks)
Mary scored 78, 91, 79, 67 and 102 on her arithmetic test. Round her scores to the nearest ten.

Score	**Rounded Score**
78	
91	
79	
67	
102	

Answers to Topic D Self-Test

A.
a. 50
b. 120
c. 0
d. 950
e. 330
f. 480
g. 870
h. 920

B. 80, 90, 80, 70, 100

Topic E: More Counting

Practice your counting by filling in the counting chart. Have your instructor check your chart when you are done.

0	1	2	3	4	5	6	7	8	9
10									

If you had a pile of pennies or loonies, you would count by ones in order to find out how much money you have.

Use your counting chart and start at 1. Write down every second number.

0	1	3	5						

The numbers above are called **odd** numbers.

Use your counting chart and starting at 0. Write down every second number.

0	2	4	6						

The numbers above are called the **even** numbers. If you had a pile of toonies, you could count by twos to find out how much money you have.

Use your counting chart and start at 0. Count five and write down that number.

0	5	10							

If you had a pile of nickels or five dollar bills and wanted to know how much money you have, you would count by 5s.

Use your counting chart and starting at 0. Count ten and write down that number.

0	10	20							

If you had a pile of dimes or ten dollar bills and wanted to know how much money you have, you would count by 10s.

Exercise 1

Count how much money you have. Check your work using the answer key at the end of the exercise.

Example:

How many nickels? __3__

How much money do you have? __15 cents__

a. How many toonies do you have?
How much money do you have? _____ dollars.

b. How many dimes do you have?
How much money do you have? _____ cents.

c. How many nickels do you have?
How much money do you have? _____ cents.

d. How many dimes do you have?
How much money do you have? _____ cents.

e. How many nickels do you have?
How much money do you have? _____ cents.

f. How many toonies do you have?
How much money do you have? _____ dollars.

g. How many dimes do you have?
How much money do you have? _____ cents.

Answers to Exercise 1

a. 4 toonies, 8 dollars
b. 7 dimes, 70 cents
c. 9 nickels, 45 cents
d. 4 dimes, 40 cents
e. 10 nickels, 50 cents
f. 13 toonies, 26 dollars
g. 9 dimes, 90 cents

Topic E Self-Test

Mark /16 Aim 13/16

A. Write the first 10 odd numbers starting with 1. (5 marks)
B. Write the first 10 even numbers starting at 2. (5 marks)
C. How much money do you have? (6 marks, 2 marks each)
    a. How much money do you have? _____ cents.

b. How much money do you have? _____ dollars.

c. How much money do you have? _____ cents.

Answers to Topic E Self-Test

A. 1, 3, 5, 7, 9, 11, 13, 15 17, 19

B. 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

C.
a. 75 cents
b. 38 dollars
c. 80 cents

Emotions Check

How are you feeling?

- Are your palms moist?
- How is your breathing?

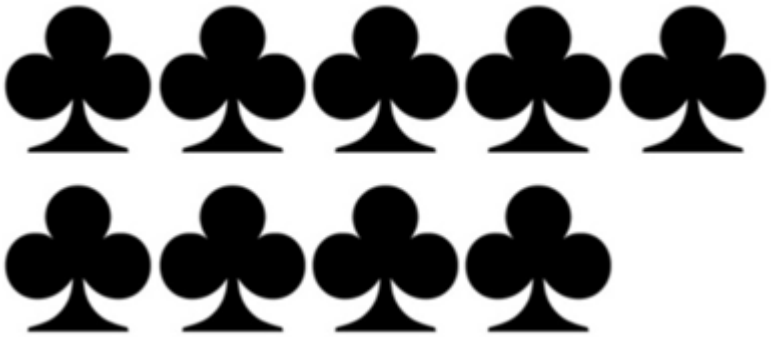
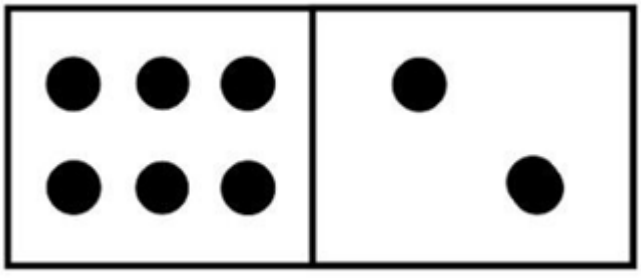
Take control. Be the boss. If you are feeling anxious, practice your breathing exercise.

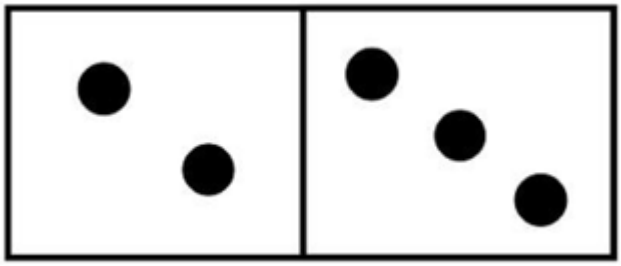
Remember: Breathe in slowly to the count of four, hold it for the count of four.

Unit 1 Review: Number Sense

You will now practice all the skills you learned in Unit 1. Check your work using the answer key at the end of the review.

A. Count the number of things in each picture. Write the number and word name.

Picture	Answer
a. 	Numeral: Word Name:
b. 	Numeral: Word Name:
c. 	Numeral: Word Name:
d. 	Numeral: Word Name:

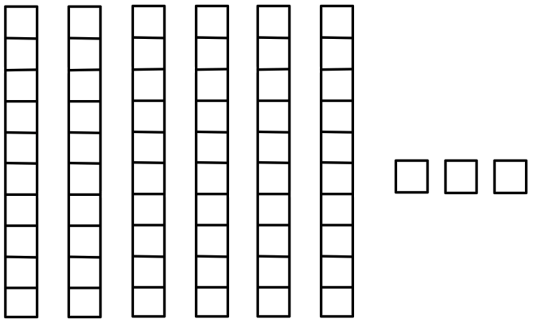
e. 	Numeral: Word Name:

B. Fill in the blanks to make each sentence true. Draw a picture for questions b and e.

a. 46 means _____ tens and _____ ones.

b. 25 means _____ tens and _____ ones. Draw your picture below.

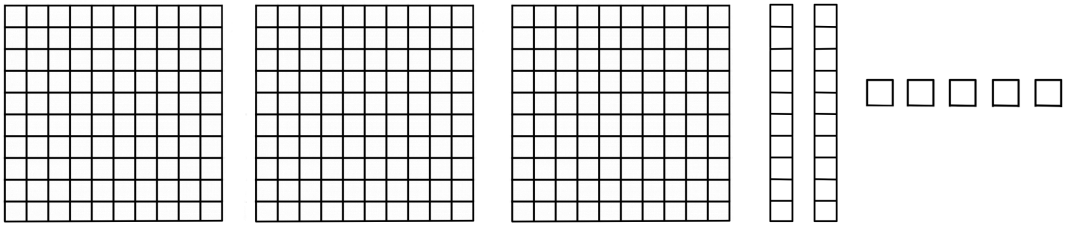
c. _____ means _____ tens and _____ ones.



d. 138 = _____ hundreds, _____ tens, _____ ones.

e. 231 = _____ hundreds, _____ tens, _____ ones. Draw your picture below.

f. _____ hundreds _____ tens _____ ones =



C. Write the place value names (ones, tens, hundreds) for each individual digit.

a. 8̲21
b. 29̲4
c. 63̲8
d. 4̲17
e. 34̲6
f. 573̲

D. Underline the digit for the place value named.

a. hundreds, 164
b. tens, 892
c. tens, 250
d. hundreds, 371
e. ones, 485
f. ones, 743

E. Write the word names for the numbers.

a. 73
b. 14
c. 5
d. 39
e. 52
f. 496
g. 803
h. 640

F. Write the numerals for these word names.

a. forty-seven
b. nineteen
c. sixty-five
d. thirty-eight
e. twenty-four
f. five hundred thirty-five
g. three hundred sixty
h. two hundred four

G. Arrange these numbers in order from smallest to largest.

a. 258, 32, 23, 282, 345, 534
b. 452, 208, 27, 335, 635, 155

H. Write <, > or = in each blank as needed.

a. 37 _____ 52
b. 4 _____ 0
c. 349 _____ 394
d. 67 _____ 67

I. Round each number to the nearest ten.

a. 37 ≈ _____
b. 344 ≈ _____
c. 68 ≈ _____
d. 25 ≈ _____
e. 51 ≈ _____
f. 876 ≈ _____

J. How much money do you have?

a. _____cents

b. _____dollars

c. _____cents

K. Word problems.

a. Hussein's fruit stand sold 114 watermelons, 287 honeydew melons and 345 cantaloupes. Round each number to the nearest ten.

Melon	**Number**	**Rounded Number**
Watermelons		
Honeydews		
Cantaloupes		

b. Yi-Min drove her delivery van 106 kilometres on Saturday, 187 kilometres on Sunday and 285 kilometres on Monday. Round each number to the nearest ten.

Kilometres	**Number**	**Rounded Number**
Saturday		
Sunday		
Monday		

Answers to Unit 1 Review

A.
a. 9, nine
b. 7, seven
c. 6, six
d. 8, eight
e. 5, five

B.
a. 4 tens, 6 ones
b. 2 tens, 5 ones
c. 63, 6 tens, 3 ones
d. 1 hundred, 3 tens, 8 ones
e. 2 hundreds, 3 tens, 1 one
f. 325, 3 hundreds, 2 tens, 5 ones

C.
a. hundreds
b. tens
c. ones

d. hundreds e. tens f. ones

D. a. 1̲64 c. 25̲0 e. 48̲5
b. 89̲2 d. 3̲71 f. 74̲3̲

E. a. seventy-three d. thirty-nine g. eight hundred three
b. fourteen e. fifty-two h. six hundred forty
c. five f. four hundred ninety-six

F. a. 47 e. 24
b. 19 f. 535
c. 65 g. 360
d. 38 h. 204

G. a. 23, 32, 258, 282, 345, 534 b. 27, 155, 208, 335, 452, 635

H. a. < c. <
b. > d. =

I. a. 40 c. 70
b. 340 d. 30

J. a. 70 cents b. 26 dollars c. 90 cents

K. a.

Melon	Number	Rounded Number
Watermelons	114	110
Honeydews	287	290
Cantaloupes	345	350

b.

Kilometres	Number	Rounded Number
Saturday	106	110
Sunday	187	190
Monday	285	290

CONGRATULATIONS!!

Now you have finished Unit 1.

TEST TIME!

Ask your instructor for the Practice Test for this unit.

Once you've done the Practice Test,

You need to do the Unit 1 Test.

Again, ask your instructor for this.

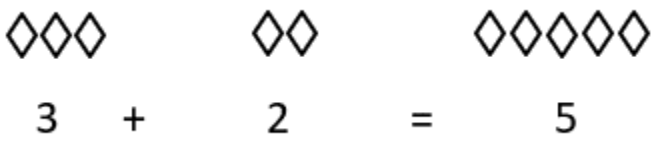
GOOD LUCK!

Unit 2: Addition

Topic A: Addition

Addition puts amounts together. The answer of addition is called the **sum** or the **total.**

The **plus sign +** means to add.



says “three plus two equals five” or “three and two is five”.

The **sum** is 5.

You can count on your fingers to get the answers to addition questions but counting takes too long.

Addition facts are a tool that you use to do adding questions.

Exercise 1

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 9. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know or which are slow, practice them.

a. $\begin{array}{r} 2 \\ +4 \\ \hline 6 \end{array}$

b. $\begin{array}{r} 3 \\ +1 \\ \hline 4 \end{array}$

c. $\begin{array}{r} 1 \\ +2 \\ \hline \end{array}$

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

e. $\begin{array}{r} 0 \\ +4 \\ \hline \end{array}$

f. $\begin{array}{r} 1 \\ +4 \\ \hline \end{array}$

g. $\begin{array}{r} 5 \\ +2 \\ \hline \end{array}$

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

i. $\begin{array}{r} 2 \\ +0 \\ \hline \end{array}$

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

m. $\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$

p. $\begin{array}{r} 8 \\ +1 \\ \hline \end{array}$

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

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

l. $\begin{array}{r} 3 \\ +0 \\ \hline \end{array}$

o. $\begin{array}{r} 0 \\ +5 \\ \hline \end{array}$

Answers to Exercise 1

a. 6
b. 4
c. 3
d. 7
e. 4
f. 5
g. 7
h. 6
i. 2
j. 9
k. 8
l. 3
m. 8
n. 7
o. 5
p. 9

Exercise 2

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 9. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

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

c. $\begin{array}{r} 8 \\ +0 \\ \hline \end{array}$

e. $\begin{array}{r} 0 \\ +0 \\ \hline \end{array}$

b. $\begin{array}{r} 1 \\ +8 \\ \hline 9 \end{array}$

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

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

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

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

i. $\begin{array}{r} 4 \\ +2 \\ \hline \end{array}$

j. $\begin{array}{r} 0 \\ +2 \\ \hline \end{array}$

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

l. $\begin{array}{r} 1 \\ +1 \\ \hline \end{array}$

m. $\begin{array}{r} 2 \\ +7 \\ \hline \end{array}$

n. $\begin{array}{r} 0 \\ +1 \\ \hline \end{array}$

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

p. $\begin{array}{r} 0 \\ +6 \\ \hline \end{array}$

Answers to Exercise 2

a. 9
b. 9
c. 8
d. 6
e. 0
f. 5
g. 8
h. 9
i. 6
j. 2
k. 7
l. 2
m. 9
n. 1
o. 8
p. 6

Exercise 3

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 9. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $\begin{array}{r} 3 \\ +6 \\ \hline 9 \end{array}$

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

c. $\begin{array}{r} 4 \\ +1 \\ \hline \end{array}$

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

g. $\begin{array}{r} 0 \\ +6 \\ \hline \end{array}$

j. $\begin{array}{r} 1 \\ +8 \\ \hline \end{array}$

e. $\begin{array}{r} 2 \\ +2 \\ \hline \end{array}$

h. $\begin{array}{r} 5 \\ +2 \\ \hline \end{array}$

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

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

i. $\begin{array}{r} 4 \\ +0 \\ \hline \end{array}$

l. $\begin{array}{r} 0 \\ +5 \\ \hline \end{array}$

Answers to Exercise 3

a. 9
b. 9
c. 5
d. 9
e. 4
f. 7
g. 6
h. 7
i. 4
j. 9
k. 5
l. 5

Exercise 4

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 12. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $\begin{array}{r} 6 \\ +5 \\ \hline 11 \end{array}$

c. $\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$

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

b. $\begin{array}{r} 8 \\ +2 \\ \hline 10 \end{array}$

d. $\begin{array}{r} 5 \\ +7 \\ \hline \end{array}$

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

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

h. $\begin{array}{r} 3 \\ +9 \\ \hline \end{array}$

i. $\begin{array}{r} 9 \\ +3 \\ \hline \end{array}$

j. $\begin{array}{r} 8 \\ +1 \\ \hline \end{array}$

k. $\begin{array}{r} 4 \\ +5 \\ \hline \end{array}$

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

m. $\begin{array}{r} 2 \\ +7 \\ \hline \end{array}$

n. $\begin{array}{r} 3 \\ +5 \\ \hline \end{array}$

o. $\begin{array}{r} 6 \\ +6 \\ \hline \end{array}$

p. $\begin{array}{r} 5 \\ +6 \\ \hline \end{array}$

Answers to Exercise 4

a. 11
b. 10
c. 8
d. 12
e. 7
f. 8
g. 10
h. 12
i. 12
j. 9
k. 9
l. 10
m. 9
n. 8
o. 12
p. 11

Exercise 5

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 12. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $\begin{array}{r} 9 \\ +2 \\ \hline \end{array}$

b. $\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$

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

d. $\begin{array}{r} 2 \\ +5 \\ \hline \end{array}$

e. $\begin{array}{r} 8 \\ +3 \\ \hline \end{array}$

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

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

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

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

j. $\begin{array}{r} 7 \\ +5 \\ \hline \end{array}$

k. $\begin{array}{r} 4 \\ +8 \\ \hline \end{array}$

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

m. $\begin{array}{r} 7 \\ +2 \\ \hline \end{array}$

n. $\begin{array}{r} 1 \\ +2 \\ \hline \end{array}$

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

p. $\begin{array}{r} 5 \\ +4 \\ \hline \end{array}$

Answers to Exercise 5

a. 11
b. 10
c. 11
d. 7
e. 11
f. 11
g. 9
h. 10
i. 10
j. 12
k. 12
l. 8
m. 9
n. 3
o. 9
p. 9

Exercise 6

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 12. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $\begin{array}{r} 3 \\ +9 \\ \hline \end{array}$

b. $\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$

c. $\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$

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

e. $\begin{array}{r} 6 \\ +5 \\ \hline \end{array}$

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

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

h. $\begin{array}{r} 7 \\ +5 \\ \hline \end{array}$

i. $\begin{array}{r} 3 \\ +8 \\ \hline \end{array}$

j. $\begin{array}{r} 5 \\ +2 \\ \hline \end{array}$

k. $\begin{array}{r} 6 \\ +6 \\ \hline \end{array}$

l. $\begin{array}{r} 2 \\ +9 \\ \hline \end{array}$

Answers to Exercise 6

a. 12
b. 8
c. 10
d. 7
e. 11
f. 10
g. 10
h. 12
i. 11
j. 7
k. 12
l. 11

Need more practice?

Practice your addition facts using a set of dice.

Roll the dice and add the amounts on the dice.

Exercise 7

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 20. Check your work using

the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $\begin{array}{r} 7 \\ +6 \\ \hline 13 \end{array}$

b. $\begin{array}{r} 5 \\ +9 \\ \hline 14 \end{array}$

c. $\begin{array}{r} 10 \\ +3 \\ \hline \end{array}$

d. $\begin{array}{r} 5 \\ +7 \\ \hline \end{array}$

e. $\begin{array}{r} 7 \\ +9 \\ \hline \end{array}$

f. $\begin{array}{r} 10 \\ +9 \\ \hline \end{array}$

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

h. $\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$

i. $\begin{array}{r} 5 \\ +10 \\ \hline \end{array}$

j. $\begin{array}{r} 8 \\ +9 \\ \hline \end{array}$

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

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

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

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

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

p. $\begin{array}{r} 5 \\ +4 \\ \hline \end{array}$

Answers to Exercise 7

a. 13
b. 14
c. 13
d. 12
e. 16
f. 19
g. 15
h. 10
i. 15
j. 17
k. 10
l. 16
m. 11
n. 8
o. 9
p. 9

Exercise 8

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 20. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $\begin{array}{r} 10 \\ +1 \\ \hline \end{array}$

b. $\begin{array}{r} 7 \\ +7 \\ \hline \end{array}$

c. $\begin{array}{r} 10 \\ +8 \\ \hline \end{array}$

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

e. $\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$

f. $\begin{array}{r} 1 \\ +10 \\ \hline \end{array}$

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

h. $\begin{array}{r} 3 \\ +10 \\ \hline \end{array}$

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

j. $\begin{array}{r} 3 \\ +9 \\ \hline \end{array}$

k. $\begin{array}{r} 10 \\ +7 \\ \hline \end{array}$

l. $\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$

Answers to Exercise 8

a. 11
b. 14
c. 18
d. 15
e. 10
f. 11
g. 11
h. 13
i. 7
j. 12
k. 17
l. 10

Exercise 9

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 20. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $4 + 9$

b. $7 + 2$

c. $5 + 5$

d. $3 + 6$

e. $6 + 10$

f. $8 + 5$

g. $6 + 9$

h. $6 + 6$

i. $3 + 7$

j. $9 + 3$

k. $2 + 8$

l. $5 + 10$

m. $5 + 5$

n. $10 + 3$

o. $8 + 8$

p. $2 + 10$

Answers to Exercise 9

a. 13
b. 9
c. 10
d. 9
e. 16
f. 13
g. 15
h. 12
i. 10
j. 12
k. 10
l. 15
m. 10
n. 13
o. 16
p. 12

Exercise 10

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers.

The highest **total** or **sum** (what the numbers add up to) for these number facts is 20. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $\begin{array}{r} 7 \\ +10 \\ \hline \end{array}$

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

c. $\begin{array}{r} 8 \\ +8 \\ \hline \end{array}$

d. $\begin{array}{r} 2 \\ +9 \\ \hline \end{array}$

e. $\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$

f. $\begin{array}{r} 3 \\ +10 \\ \hline \end{array}$

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

h. $\begin{array}{r} 3 \\ +8 \\ \hline \end{array}$

i. $\begin{array}{r} 8 \\ +3 \\ \hline \end{array}$

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

k. $\begin{array}{r} 5 \\ +9 \\ \hline \end{array}$

l. $\begin{array}{r} 9 \\ +5 \\ \hline \end{array}$

Answers to Exercise 10

a. 17
b. 14
c. 16
d. 11
e. 10
f. 13
g. 11
h. 11
i. 11
j. 15
k. 14
l. 14

Exercise 11

Check out your **addition facts** by doing this exercise as quickly as possible without counting on your fingers. The highest **total** or **sum** (what the numbers add up to) for these number facts is 20. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $\begin{array}{r} 7 \\ +2 \\ \hline \end{array}$

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

c. $\begin{array}{r} 3 \\ +5 \\ \hline \end{array}$

d. $\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$

e. $\begin{array}{r} 8 \\ +1 \\ \hline \end{array}$

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

g. $\begin{array}{r} 1 \\ +3 \\ \hline \end{array}$

h. $\begin{array}{r} 0 \\ +2 \\ \hline \end{array}$

i. $\begin{array}{r} 4 \\ +9 \\ \hline \end{array}$

j. $\begin{array}{r} 9 \\ +2 \\ \hline \end{array}$

k. $\begin{array}{r} 4 \\ +1 \\ \hline \end{array}$

l. $\begin{array}{r} 8 \\ +8 \\ \hline \end{array}$

Answers to Exercise 11

a. 9
b. 8
c. 8
d. 10
e. 9
f. 15
g. 4
h. 2
i. 13
j. 11
k. 5
l. 16

Need some extra practice?

Find a partner and play the following card game. You will use a regular deck of cards

- Take out the jacks, queens and kings.
- Shuffle the cards and deal them out.
- Do not look at your cards. Leave them in a pile in from of you.
- Each player flips over a card.
- Take turns adding the numbers on the cards.
- If the person whose turn it is gets the right answer that person gets to keep the cards.
- If the person whose turn it is gets the wrong answer the other player gets the cards.
- The person who collects all the cards is the winner.
- You could also set a time limit and the person with the most cards when time is up is the winner.

Exercise 12

Here are some extra questions if you need more practice. The highest **total** or **sum** (what the numbers add up to) for these number facts is 20. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know, or which are slow, practice them.

a. $6 + 7 = 13$

b. $8 + 3 = 11$

c. $4 + 2$

d. $8 + 7$

e. $1 + 2$

f. $6 + 4$

g. $5 + 8$

h. $2 + 5$

i. $7 + 6$

j. $0 + 3$

k. $9 + 7$

l. $7 + 2$

m. $4 + 4$

n. $3 + 5$

o. $4 + 6$

p. $8 + 1$

Answers to Exercise 12

a. 13
b. 11
c. 6
d. 15
e. 3
f. 10
g. 13
h. 7
i. 13
j. 3
k. 16
l. 9
m. 8
n. 8
o. 10
p. 9

Adding Across

So far you have only been adding numbers when they are **up and down** or **vertical.**

Example:

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

Another way to add numbers is **across** or **horizontally.**

$$4 + 5 = 9$$

In math, sometimes you will need to work from left to right.

Exercise 13

Practice adding across or horizontally. The highest total or **sum** (what the numbers add up to) for these number facts is 20. Check your work using the answer key at the end of the exercise.

a. 10 + 0 =
b. 2 + 2 =
c. 5 + 3 =
d. 1 + 1 =
e. 8 + 4 =
f. 7 + 1 =
g. 0 + 4 =
h. 6 + 3 =
i. 3 + 2 =
j. 1 + 10 =
k. 9 + 3 =
l. 4 + 9 =
m. 3 + 7 =
n. 4 + 8 =

Answers to Exercise 13

a. 10
b. 4
c. 8
d. 2
e. 12
f. 8
g. 4
h. 9
i. 5
j. 11
k. 12
l. 13
m. 10
n. 12

Exercise 14

Practice adding across or horizontally. The highest **total** or **sum** (what the numbers add up to) for these number facts is 20. Check your work using the answer key at the end of the exercise.

a. 9 + 6 =
b. 8 + 9 =
c. 9 + 9 =
d. 2 + 3 =
e. 7 + 3 =
f. 10 + 8 =
g. 9 + 7 =
h. 8 + 8 =
i. 8 + 10 =
j. 3 + 9 =
k. 9 + 2 =
l. 4 + 4 =

Answers to Exercise 14

a. 15
b. 17
c. 18
d. 5
e. 10
f. 18
g. 16
h. 16
i. 18
j. 12
k. 11
l. 8

Word Problems

Learning addition facts is very important. Once you know them all, you can use them to solve word problems.

Word such as:

- more than
- plus
- added to
- sum
- total
- have altogether
- in all

tell you to add the numbers together.

Look for these words when reading word problems and underline them before trying to solve a problem. Circle the information that is given.

Example:

Before lunch Jane read 2 pages. After lunch she read 9 pages. How many pages did she read in all?

Before lunch Jane read 2 pages. After lunch she read 9 pages. How many pages did she read in all?

- You have circled 2 pages and 9 pages. This is the information you will use to find the answer.
- You have underlined “in all”. These words tell you to add.

$$\begin{array}{r} 2 \text{ pages} \\ +9 \text{ pages} \\ \hline 11 \text{ pages} \end{array}$$

Jane read 11 pages in all.

Exercise 15

Solve each of the following word problems. Be sure to underline the words that tell you to add. Circle the information that is given. Have your instructor check your underlining and circling.

a. Sven bought 7 cans of juice on Monday. He bought 9 cans of juice on Wednesday. How many cans of juice did he buy altogether?

b. During the hockey game, Ewan took 8 shots from the blue line and 4 shots from in front of the net. How many shots did he take in all?

c. Marlene noticed that there were 4 people in her math class. The next day 6 more people were in her math class. What is the total number of people in Marlene’s math class?

d. The Blue Jays played two baseball games in a row. They got 10 runs in the first game and 7 runs in the second game. How many runs did they score altogether?

e. Jaswinder had 9 apples in her grocery cart. She added 5 more different apples. How many apples did she have in total?

Answers to Exercise 15

a. 16 cans
b. 12 shots
c. 10 people
d. 17 runs
e. 14 apples

Topic A Self-Test

Mark /22 Aim 19/22

A. Find the sums. Be sure to check your answers. (12 marks)

a. $\begin{array}{r} 9 \\ +6 \\ \hline \end{array}$ e. $\begin{array}{r} 3 \\ +5 \\ \hline \end{array}$ i. $\begin{array}{r} 8 \\ +1 \\ \hline \end{array}$

b. $\begin{array}{r} 5 \\ +8 \\ \hline \end{array}$ f. $\begin{array}{r} 1 \\ +9 \\ \hline \end{array}$ j. $\begin{array}{r} 9 \\ +8 \\ \hline \end{array}$

c. $\begin{array}{r} 4 \\ +2 \\ \hline \end{array}$ g. $\begin{array}{r} 2 \\ +3 \\ \hline \end{array}$ k. $\begin{array}{r} 7 \\ +4 \\ \hline \end{array}$

d. $\begin{array}{r} 7 \\ +6 \\ \hline \end{array}$ h. $\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$ l. $\begin{array}{r} 5 \\ +6 \\ \hline \end{array}$

B. Find the sums. Be sure to check your answers. (4 marks)

a. 6 + 7 =
b. 3 + 8 =
c. 4 + 6 =
d. 8 + 5 =

C. Solve each of the following word problems. Be sure to include the unit of measure in your answer. Be sure to circle the information and underline what's being asked.(6 marks, 2 marks each)

a. Paco worked 5 hours on Monday and 9 hours on Tuesday. How many hours did Paco work in total?
b. In the park, Ming-Mai counted 6 robins in the morning. In the afternoon, she counted 8 more robins. How many robins in all did Ming-Mai count?
c. Omari bought 3 bananas on Monday. He bought 5 bananas on Tuesday. How many bananas did he buy altogether?

Answers to Topic A Self Test

a. 15
b. 13
c. 6
d. 13
e. 8
f. 10
g. 5
h. 10
i. 9

j. 17 k. 11 l. 11

a. 13 c. 10

b. 11 d. 13

a. 14 hours b. 14 robins c. 8 bananas

Topic B: Addition of Three or More Numbers

To add three or more numbers together, use the following steps.

1. Add the first two numbers together.
2. Add that sum to the next number.
3. Add that sum to the next number (if needed).

Example A:

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

1. Add the first two numbers together.

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

2. Add that sum to the next number.

$$\begin{array}{r} 7 \\ +3 \\ \hline 10 \end{array}$$

The sum of:

$$\begin{array}{r} 6 \\ 1 \\ +3 \\ \hline 10 \end{array}$$

Example B:

$$\begin{array}{r} 4 \\ 5 \\ +7 \\ \hline \end{array}$$

1. Add the first two numbers together.

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

2. Add that sum to the third number.

$$\begin{array}{r} 9 \\ +7 \\ \hline 16 \end{array}$$

The sum of:

$$\begin{array}{r} 4 \\ 5 \\ +7 \\ \hline 16 \end{array}$$

Exercise 1

Find the sums. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 1 \\ 2 \\ +5 \\ \hline \end{array}$

b. $\begin{array}{r} 6 \\ 3 \\ +2 \\ \hline \end{array}$

c. $\begin{array}{r} 7 \\ 1 \\ +6 \\ \hline \end{array}$

d. $\begin{array}{r} 3 \\ 6 \\ +5 \\ \hline \end{array}$

e. $\begin{array}{r} 8 \\ 1 \\ +4 \\ \hline \end{array}$

f. $\begin{array}{r} 5 \\ 4 \\ +8 \\ \hline \end{array}$

g. $\begin{array}{r} 1 \\ 5 \\ +7 \\ \hline \end{array}$

h. $\begin{array}{r} 7 \\ 2 \\ +5 \\ \hline \end{array}$

i. $\begin{array}{r} 1 \\ 8 \\ +3 \\ \hline \end{array}$

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

m. $\begin{array}{r} 7 \\ 2 \\ +5 \\ \hline \end{array}$

p. $\begin{array}{r} 4 \\ 4 \\ +5 \\ \hline \end{array}$

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

n. $\begin{array}{r} 3 \\ 2 \\ +5 \\ \hline \end{array}$

l. $\begin{array}{r} 6 \\ 3 \\ +5 \\ \hline \end{array}$

o. $\begin{array}{r} 6 \\ 2 \\ +5 \\ \hline \end{array}$

Answers to Exercise 1

a. 8
b. 11
c. 14
d. 14
e. 13
f. 17
g. 13
h. 14
i. 12
j. 18
k. 12
l. 14
m. 14
n. 10
o. 13
p. 13

Exercise 2

Find the sums. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 3 \\ 5 \\ +7 \\ \hline \end{array}$

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

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

d. $\begin{array}{r} 5 \\ 4 \\ +2 \\ \hline \end{array}$

g. $\begin{array}{r} 6 \\ 3 \\ +2 \\ \hline \end{array}$

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

e. $\begin{array}{r} 3 \\ 6 \\ +4 \\ \hline \end{array}$

h. $\begin{array}{r} 3 \\ 5 \\ +3 \\ \hline \end{array}$

k. $\begin{array}{r} 6 \\ 3 \\ +2 \\ \hline \end{array}$

f. $\begin{array}{r} 2 \\ 5 \\ +4 \\ \hline \end{array}$

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

l. $\begin{array}{r} 5 \\ 2 \\ +9 \\ \hline \end{array}$

Answers to Exercise 2

a. 15
b. 16
c. 14
d. 11
e. 13
f. 11
g. 11
h. 11
i. 14
j. 18
k. 11
l. 16

Exercise 3

Find the sums. Check your work using the answer key at the end of the exercise.

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

c. $\begin{array}{r} 4 \\ 3 \\ +1 \\ \hline \end{array}$

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

b. $\begin{array}{r} 2 \\ 1 \\ +4 \\ \hline \end{array}$

d. $\begin{array}{r} 1 \\ 2 \\ +8 \\ \hline \end{array}$

f. $\begin{array}{r} 5 \\ 1 \\ +2 \\ \hline \end{array}$

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

k.
$$\begin{array}{r} 2 \\ 7 \\ +6 \\ \hline \end{array}$$

o.
$$\begin{array}{r} 2 \\ 6 \\ +4 \\ \hline \end{array}$$

h.
$$\begin{array}{r} 4 \\ 2 \\ +6 \\ \hline \end{array}$$

l.
$$\begin{array}{r} 3 \\ 4 \\ +2 \\ \hline \end{array}$$

p.
$$\begin{array}{r} 3 \\ 1 \\ +2 \\ \hline \end{array}$$

i.
$$\begin{array}{r} 7 \\ 2 \\ +7 \\ \hline \end{array}$$

m.
$$\begin{array}{r} 3 \\ 4 \\ +1 \\ \hline \end{array}$$

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

n.
$$\begin{array}{r} 7 \\ 1 \\ +9 \\ \hline \end{array}$$

Answers to Exercise 3

a. 13
b. 7
c. 8
d. 11
e. 7
f. 8
g. 17
h. 12
i. 16
j. 8
k. 15
l. 9
m. 8
n. 17
o. 12
p. 6

Exercise 4

Find the sums. Check your work using the answer key at the end of the exercise.

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

b.
$$\begin{array}{r} 2 \\ 3 \\ 4 \\ +6 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 4 \\ 3 \\ 2 \\ +8 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 3 \\ 1 \\ 5 \\ +6 \\ \hline \end{array}$$

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

f.
$$\begin{array}{r} 3 \\ 3 \\ 1 \\ +2 \\ \hline \end{array}$$

g.
$$\begin{array}{r} 2 \\ 1 \\ 2 \\ +4 \\ \hline \end{array}$$

h.
$$\begin{array}{r} 1 \\ 2 \\ 4 \\ +6 \\ \hline \end{array}$$

i.
$$\begin{array}{r} 2 \\ 4 \\ 1 \\ +6 \\ \hline \end{array}$$

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

k.
$$\begin{array}{r} 2 \\ 1 \\ 4 \\ +0 \\ \hline \end{array}$$

l.
$$\begin{array}{r} 3 \\ 1 \\ 4 \\ +1 \\ \hline \end{array}$$

Answers to Exercise 4

a. 13
b. 15
c. 17
d. 15
e. 9
f. 9
g. 9
h. 13
i. 13
j. 11
k. 7
l. 9

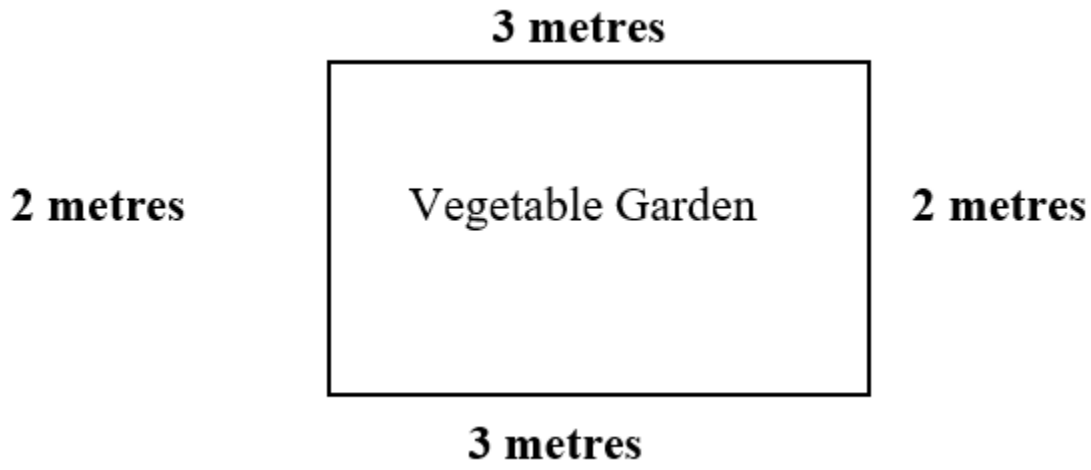
Perimeter

Did you spot the fact that each answer in the word problems before had a **unit of measure**? A **unit of measure** just tells you what you measured. **Units of measure** can be pages, fish, cans, kilometres, meters, centimetres, litres, millilitres, grams, or kilograms. When you answer a word problem, you must include the **unit of measure** in your answer.

Try the following questions. Be sure to include the unit of measure in your answer.

Perimeter means **distance around**. To find the **perimeter** of a shape, find the lengths of the sides and add them together.

Example: Rectangle



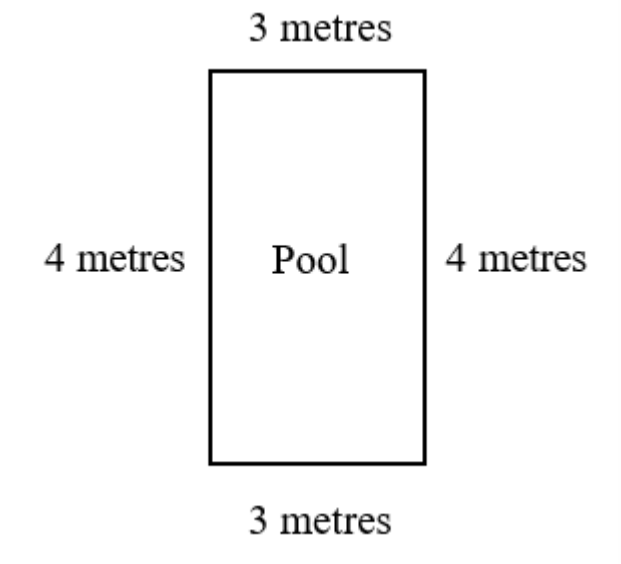
To find the perimeter, add the lengths of the sides of the rectangle.

- Perimeter = 3 + 2 + 3 + 2
- Perimeter = 10 meters

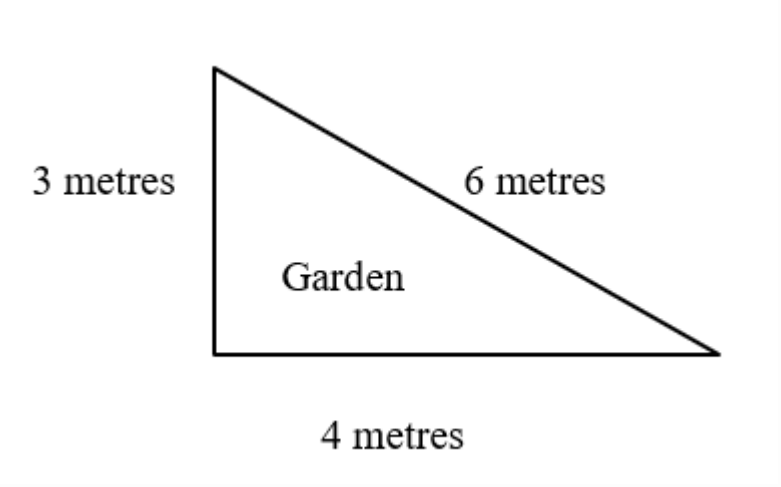
Exercise 5

Find the perimeter of each figure. Be sure to include the units of measure in your answer. Check your work using the answer key at the end of the exercise.

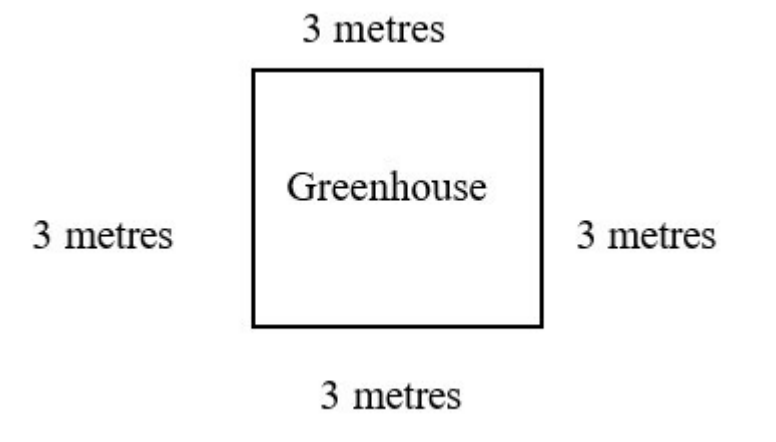
a. Find the perimeter of the swimming pool.



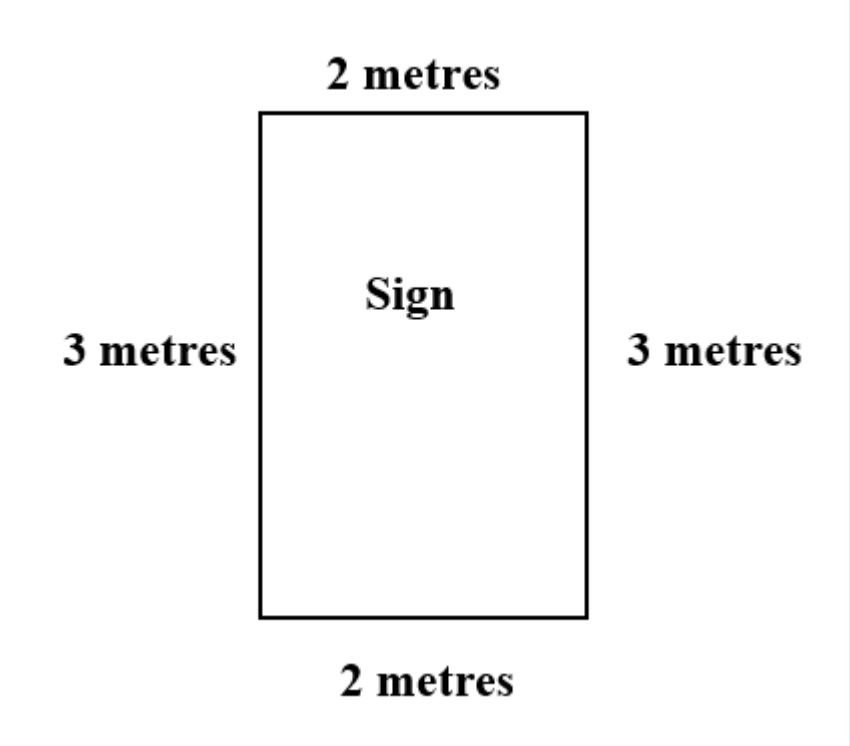
b. Find the perimeter of the garden.



c. Find the perimeter of the greenhouse.



d. Find the perimeter of the sign.



Answers to Exercise 5

a. 14 metres
b. 13 metres
c. 12 metres
d. 10 metres

Topic B Self-Test

Mark /18 Aim 15/18

A. Find the sums. Be sure to check your answers. (12 marks)

a. $\begin{array}{r} 4 \\ 6 \\ +2 \\ \hline \end{array}$

b. $\begin{array}{r} 3 \\ 6 \\ +9 \\ \hline \end{array}$

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

d. $\begin{array}{r} 2 \\ 1 \\ +4 \\ \hline \end{array}$

e. $\begin{array}{r} 3 \\ 5 \\ +8 \\ \hline \end{array}$

f. $\begin{array}{r} 4 \\ 6 \\ +7 \\ \hline \end{array}$

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

i.
$$\begin{array}{r} 5 \\ 3 \\ 1 \\ +8 \\ \hline \end{array}$$

k.
$$\begin{array}{r} 1 \\ 5 \\ 4 \\ +6 \\ \hline \end{array}$$

h.
$$\begin{array}{r} 4 \\ 2 \\ 3 \\ +7 \\ \hline \end{array}$$

j.
$$\begin{array}{r} 3 \\ 5 \\ 1 \\ +3 \\ \hline \end{array}$$

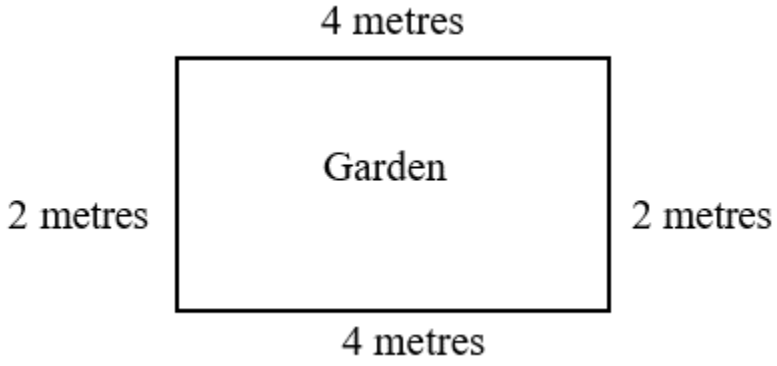
l.
$$\begin{array}{r} 2 \\ 1 \\ 6 \\ +5 \\ \hline \end{array}$$

B. Solve each of the following word problems. Be sure to include the unit of measure in your answer. Be sure to circle the information and underline what's being asked.(6 marks, 2 marks each)

a. It took the cleanup crew 4 hours on Monday, 3 hours on Tuesday and 9 hours on Wednesday to clean the factory after each day's work. How many hours in total did it take to clean the factory?

b. Nella wants to put a fence around her garden. The garden measures 5 metres, 3 metres and 1 metre. How much fence does she need?

c. Find the perimeter of the garden.



Answers to Topic B Self-Test

A.
a. 12
b. 18
c. 17
d. 7
e. 16
f. 17
g. 11
h. 16
i. 17
j. 12
k. 16
l. 14

B.
a. 16 hours
b. 9 metres
c. 12 metres

Topic C: Addition of Larger Numbers

Use these steps to complete each addition question.

1. Add the ones to the ones.
2. Add the tens to the tens.
3. Add the hundreds to the hundreds.

Example A:

$$\begin{array}{r} 23 \\ +56 \\ \hline \end{array}$$

1. Add the ones to the ones. 3 ones + 6 ones = 9 ones. Write the answer in line with the ones in the equation.

$$\begin{array}{r} 23 \\ +56 \\ \hline 9 \end{array}$$

2. Add the tens. 2 tens + 5 tens = 7 tens

$$\begin{array}{r} 23 \\ +56 \\ \hline 79 \end{array}$$

The sum of 23 + 56 = 79

Example B:

$$\begin{array}{r} 372 \\ +415 \\ \hline \end{array}$$

1. Add the ones. 2 ones + 5 ones = 7 ones

$$\begin{array}{r} 372 \\ +415 \\ \hline 7 \end{array}$$

2. Add the tens. 7 tens + 1 ten = 8 tens

$$\begin{array}{r} 372 \\ +415 \\ \hline 87 \end{array}$$

3. Add the hundreds. 3 hundreds + 4 hundreds = 7 hundreds

$$\begin{array}{r} 372 \\ +415 \\ \hline 787 \end{array}$$

The sum of 372 + 415 = 787

Exercise 1

Find the sums. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 23 \\ +56 \\ \hline \end{array}$

b. $\begin{array}{r} 20 \\ +69 \\ \hline \end{array}$

c. $\begin{array}{r} 58 \\ +21 \\ \hline \end{array}$

d. $\begin{array}{r} 62 \\ +13 \\ \hline \end{array}$

e. $\begin{array}{r} 73 \\ +14 \\ \hline \end{array}$

f. $\begin{array}{r} 44 \\ +54 \\ \hline \end{array}$

g. $\begin{array}{r} 10 \\ +75 \\ \hline \end{array}$

h. $\begin{array}{r} 36 \\ +22 \\ \hline \end{array}$

i. $\begin{array}{r} 10 \\ +36 \\ \hline \end{array}$

j. $\begin{array}{r} 16 \\ +23 \\ \hline \end{array}$

k. $\begin{array}{r} 40 \\ +50 \\ \hline \end{array}$

l. $\begin{array}{r} 37 \\ +32 \\ \hline \end{array}$

m. $\begin{array}{r} 14 \\ +50 \\ \hline \end{array}$

n. $\begin{array}{r} 23 \\ +16 \\ \hline \end{array}$

o. $\begin{array}{r} 41 \\ +38 \\ \hline \end{array}$

p. $\begin{array}{r} 40 \\ +11 \\ \hline \end{array}$

Answers to Exercise 1

a. 79
b. 89
c. 79
d. 75
e. 87
f. 98
g. 85
h. 58
i. 46
j. 39
k. 90
l. 69
m. 64
n. 39
o. 79
p. 51

Exercise 2

Find the sums. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 47 \\ +51 \\ \hline \end{array}$

e. $\begin{array}{r} 73 \\ +22 \\ \hline \end{array}$

i. $\begin{array}{r} 26 \\ +43 \\ \hline \end{array}$

b. $\begin{array}{r} 65 \\ +24 \\ \hline \end{array}$

f. $\begin{array}{r} 64 \\ +13 \\ \hline \end{array}$

j. $\begin{array}{r} 40 \\ +57 \\ \hline \end{array}$

c. $\begin{array}{r} 78 \\ +21 \\ \hline \end{array}$

g. $\begin{array}{r} 25 \\ +64 \\ \hline \end{array}$

k. $\begin{array}{r} 76 \\ +23 \\ \hline \end{array}$

d. $\begin{array}{r} 84 \\ +12 \\ \hline \end{array}$

h. $\begin{array}{r} 51 \\ +38 \\ \hline \end{array}$

l. $\begin{array}{r} 86 \\ +13 \\ \hline \end{array}$

Answers to Exercise 2

a. 98
b. 89
c. 99
d. 96
e. 95
f. 77
g. 89
h. 89
i. 69
j. 97
k. 99
l. 99

Exercise 3

Find the sums. Check your work using the answer key at the end of the exercise.

a. $32 + 64$

b. $23 + 54$

c. $62 + 22$

d. $83 + 11$

e. $32 + 45$

f. $63 + 33$

g. $75 + 24$

h. $46 + 12$

i. $44 + 35$

j. $25 + 42$

k. $41 + 38$

l. $54 + 45$

m. $25 + 32$

n. $35 + 42$

o. $32 + 44$

p. $22 + 14$

Answers to Exercise 3

a. 96
b. 77
c. 84
d. 94
e. 77
f. 96
g. 99
h. 58
i. 79
j. 67
k. 79
l. 99
m. 57
n. 77
o. 76
p. 36

Exercise 4

Find the sums. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 286 \\ +513 \\ \hline \end{array}$

b. $\begin{array}{r} 649 \\ +250 \\ \hline \end{array}$

c. $\begin{array}{r} 156 \\ +542 \\ \hline \end{array}$

d. $\begin{array}{r} 503 \\ +361 \\ \hline \end{array}$

e. $\begin{array}{r} 273 \\ +620 \\ \hline \end{array}$

f. $\begin{array}{r} 27 \\ +961 \\ \hline \end{array}$

g. $\begin{array}{r} 852 \\ +36 \\ \hline \end{array}$

h. $\begin{array}{r} 300 \\ +50 \\ \hline \end{array}$

i. $\begin{array}{r} 364 \\ +523 \\ \hline \end{array}$

Answers to Exercise 4

a. 799
b. 899
c. 698
d. 864
e. 893
f. 988
g. 888
h. 350
i. 887

Exercise 5

Find the sums. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 171 \\ +401 \\ \hline \end{array}$

b. $\begin{array}{r} 314 \\ +553 \\ \hline \end{array}$

c. $\begin{array}{r} 431 \\ +317 \\ \hline \end{array}$

d. $\begin{array}{r} 213 \\ +384 \\ \hline \end{array}$

e. $\begin{array}{r} 163 \\ +224 \\ \hline \end{array}$

f. $\begin{array}{r} 412 \\ +513 \\ \hline \end{array}$

g. $\begin{array}{r} 731 \\ +142 \\ \hline \end{array}$	h. $\begin{array}{r} 314 \\ +524 \\ \hline \end{array}$	i. $\begin{array}{r} 253 \\ +401 \\ \hline \end{array}$

Answers to Exercise 5

a. 572	d. 597	g. 873
b. 867	e. 387	h. 838
c. 748	f. 925	i. 654

Topic C Self-Test

A. Find the sums. Be sure to check your answers. (12 marks)

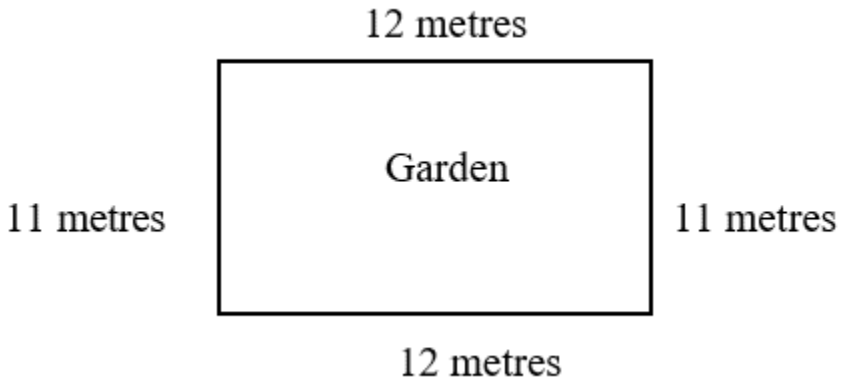
a. $\begin{array}{r} 46 \\ +23 \\ \hline \end{array}$	e. $\begin{array}{r} 65 \\ +34 \\ \hline \end{array}$	i. $\begin{array}{r} 753 \\ +145 \\ \hline \end{array}$
b. $\begin{array}{r} 32 \\ +13 \\ \hline \end{array}$	f. $\begin{array}{r} 25 \\ +51 \\ \hline \end{array}$	j. $\begin{array}{r} 618 \\ +120 \\ \hline \end{array}$
c. $\begin{array}{r} 72 \\ +25 \\ \hline \end{array}$	g. $\begin{array}{r} 324 \\ +263 \\ \hline \end{array}$	k. $\begin{array}{r} 224 \\ +465 \\ \hline \end{array}$
d. $\begin{array}{r} 56 \\ +12 \\ \hline \end{array}$	h. $\begin{array}{r} 183 \\ +514 \\ \hline \end{array}$	l. $\begin{array}{r} 563 \\ +216 \\ \hline \end{array}$

B. Solve each of the following word problems. Be sure to include the unit of measure in your answer. Be sure to circle the information and underline what's being asked.(6 marks, 2 marks each)

a. Mahala's dad worked 45 hours one week and 52 hours the next week. How many hours did he work during those two weeks?

b. A trucker drove 526 kilometers on the first trip and 341 kilometers on the next. How many kilometers did the trucker drive altogether?

c. Find the perimeter of the garden.



Answers to Topic C Self-Test

A.	a. 69	e. 99	i. 898
	b. 45	f. 76	j. 738
	c. 97	g. 587	k. 689
	d. 68	h. 697	l. 779
B.	a. 97 hours	b. 867 kilometres	c. 46 metres

Emotions Check

How are you feeling?

- Are your palms moist?
- How is your breathing?

Take control. Be the boss. If you are feeling anxious, practice your breathing exercise.

Remember: Breathe in slowly to the count of four, hold it for the count of four.

Unit 2 Review: Addition

You will now practice all the skills you learned in Unit 2. Check your work using the answer key at the end of the review.

A. Check out your addition facts.

a. $\begin{array}{r} 5 \\ +6 \\ \hline \end{array}$

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

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

d. $\begin{array}{r} 9 \\ +7 \\ \hline \end{array}$

e. $\begin{array}{r} 7 \\ +10 \\ \hline \end{array}$

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

g. $\begin{array}{r} 9 \\ +4 \\ \hline \end{array}$

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

i. $\begin{array}{r} 8 \\ +4 \\ \hline \end{array}$

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

k. $\begin{array}{r} 9 \\ +9 \\ \hline \end{array}$

l. $\begin{array}{r} 5 \\ +4 \\ \hline \end{array}$

m. $\begin{array}{r} 1 \\ +2 \\ \hline \end{array}$

n. $\begin{array}{r} 3 \\ +1 \\ \hline \end{array}$

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

p. $\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$

B. Add across or horizontally.

a. 8 + 7 =

b. 0 + 3 =

c. 8 + 10 =

d. 5 + 2 =

e. 2 + 2 =

f. 7 + 5 =

g. 9 + 8 =

h. 3 + 6 =

i. 9 + 5 =

j. 1 + 5 =

C. Find the sums.

a. $\begin{array}{r} 6 \\ 2 \\ +4 \\ \hline \end{array}$

b. $\begin{array}{r} 5 \\ 2 \\ +1 \\ \hline \end{array}$

c. $\begin{array}{r} 4 \\ 4 \\ +8 \\ \hline \end{array}$

d. $\begin{array}{r} 3 \\ 4 \\ +5 \\ \hline \end{array}$

e. $\begin{array}{r} 2 \\ 3 \\ +4 \\ \hline \end{array}$

f. $\begin{array}{r} 6 \\ 4 \\ +7 \\ \hline \end{array}$

g. $\begin{array}{r} 3 \\ 4 \\ +6 \\ \hline \end{array}$

h. $\begin{array}{r} 7 \\ 2 \\ +4 \\ \hline \end{array}$

i. $\begin{array}{r} 3 \\ 6 \\ +8 \\ \hline \end{array}$

D. Find the sums.

a. $\begin{array}{r} 26 \\ +30 \\ \hline \end{array}$

b. $\begin{array}{r} 42 \\ +57 \\ \hline \end{array}$

c. $\begin{array}{r} 44 \\ +32 \\ \hline \end{array}$

d. $\begin{array}{r} 32 \\ +81 \\ \hline \end{array}$

e. $\begin{array}{r} 83 \\ +13 \\ \hline \end{array}$

f. $\begin{array}{r} 76 \\ +12 \\ \hline \end{array}$

g. $\begin{array}{r} 34 \\ +51 \\ \hline \end{array}$

h. $\begin{array}{r} 54 \\ +22 \\ \hline \end{array}$

i. $\begin{array}{r} 52 \\ +43 \\ \hline \end{array}$

j. $\begin{array}{r} 25 \\ +42 \\ \hline \end{array}$

k. $\begin{array}{r} 72 \\ +35 \\ \hline \end{array}$

l. $\begin{array}{r} 66 \\ +12 \\ \hline \end{array}$

E. Find the sums.

a. $\begin{array}{r} 342 \\ +523 \\ \hline \end{array}$

b. $\begin{array}{r} 725 \\ +142 \\ \hline \end{array}$

c. $\begin{array}{r} 362 \\ +417 \\ \hline \end{array}$

d. $\begin{array}{r} 425 \\ +172 \\ \hline \end{array}$

g. $\begin{array}{r} 363 \\ +415 \\ \hline \end{array}$

j. $\begin{array}{r} 654 \\ +215 \\ \hline \end{array}$

e. $\begin{array}{r} 284 \\ +314 \\ \hline \end{array}$

h. $\begin{array}{r} 741 \\ +225 \\ \hline \end{array}$

k. $\begin{array}{r} 234 \\ +352 \\ \hline \end{array}$

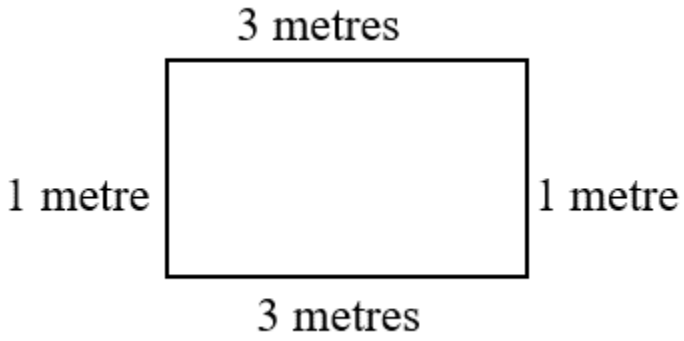
f. $\begin{array}{r} 315 \\ +132 \\ \hline \end{array}$

i. $\begin{array}{r} 404 \\ +445 \\ \hline \end{array}$

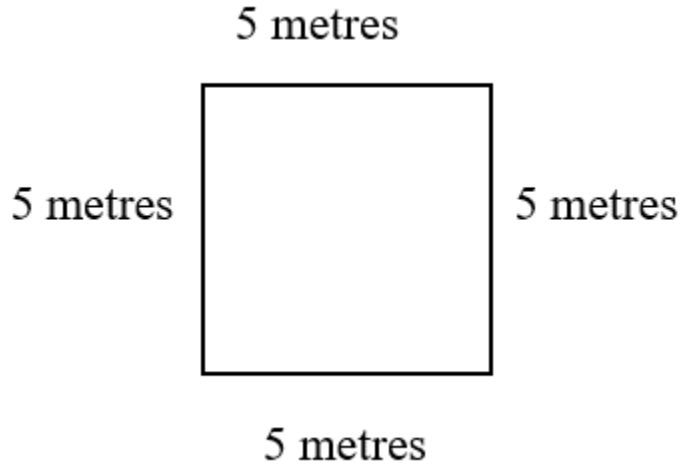
l. $\begin{array}{r} 525 \\ +431 \\ \hline \end{array}$

F. Word problems. Find the perimeter of the shape. Be sure to put the unit of measure in your answer. Write the name of the shape below the picture.

a.



b.



c. The CN Tower in Toronto is 554 metres high. On top of the tower is a TV mast that is 122 metres high. What is the total height of the tower and TV mast?

d. Seung weighs 36 kilograms. His father weighs 62 kilograms. How much do they weigh altogether?

Answers to Unit 2 Review

A.

a. 11
b. 10
c. 7
d. 16
e. 17
f. 14
g. 13
h. 5
i. 12
j. 6
k. 18
l. 9
m. 3
n. 4
o. 15
p. 8

B.

a. 15
b. 3
c. 18
d. 7
e. 4
f. 12
g. 17
h. 9
i. 14
j. 6

C.

a. 12
b. 8
c. 16
d. 12
e. 9
f. 17
g. 13
h. 13
i. 17

D.

a. 56
b. 99
c. 76
d. 113
e. 96
f. 88
g. 85
h. 76
i. 95
j. 67
k. 107
l. 78

E.

a. 865
b. 867
c. 779
d. 597
e. 598
f. 447
g. 778
h. 966
i. 849
j. 869
k. 586
l. 956

F.

a. 8 metres, rectangle
b. 20 metres, square
c. 676 metres
d. 98 kilograms

CONGRATULATIONS!!

Now you have finished Unit 2.

TEST TIME!

Ask your instructor for the Practice Test for this unit.

Once you've done the Practice Test,

You need to do the Unit 2 Test.

Again, ask your instructor for this.

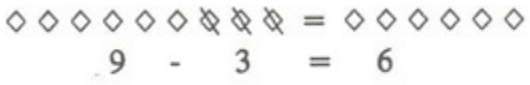
GOOD LUCK!

Unit 3: Subtraction

Topic A: Subtraction

Subtraction takes an amount **away** from another amount. The result of subtraction is called the **difference.**

The **minus sign** − means to subtract.



says nine minus three equals six **or** nine take away three is six.

The **difference** between 9 and 3 is 6.

Subtraction is the opposite of addition.

Look at the examples:

$$5+4=9 \quad 9-4=5$$
$$4+5=9 \quad 9-5=4$$

$$\begin{array}{r} 8 \\ +3 \\ \hline 11 \end{array} \qquad \begin{array}{r} 11 \\ -3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 3 \\ +8 \\ \hline 11 \end{array} \qquad \begin{array}{r} 11 \\ -8 \\ \hline 3 \end{array}$$

Subtraction facts are a tool that you will use to do subtraction questions.

Exercise 1

Check out your **subtraction facts** by doing the following exercises as quickly as you can. Use your addition facts to help find the subtraction facts. Check your work using the answer key at the end of the exercises. Then, make a list of any subtraction facts you do not know or which are slow for you and practice them.

a. $\begin{array}{r} 5 \\ -4 \\ \hline \end{array}$

b. $\begin{array}{r} 3 \\ -2 \\ \hline \end{array}$

c. $\begin{array}{r} 7 \\ -7 \\ \hline \end{array}$

d. $\begin{array}{r} 1 \\ -0 \\ \hline \end{array}$

e. $\begin{array}{r} 8 \\ -2 \\ \hline \end{array}$

f. $\begin{array}{r} 9 \\ -7 \\ \hline \end{array}$

g. $\begin{array}{r} 4 \\ -3 \\ \hline \end{array}$

h. $\begin{array}{r} 6 \\ -1 \\ \hline \end{array}$

i. $\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$

j. $\begin{array}{r} 2 \\ -2 \\ \hline \end{array}$

k. $\begin{array}{r} 7 \\ -6 \\ \hline \end{array}$

l. $\begin{array}{r} 8 \\ -7 \\ \hline \end{array}$

Answers to Exercise 1

a. 1
b. 1
c. 0
d. 1
e. 6
f. 2
g. 1
h. 5
i. 5
j. 0
k. 1
l. 1

Exercise 2

a. $\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$

b. $\begin{array}{r} 9 \\ -1 \\ \hline \end{array}$

c. $\begin{array}{r} 7 \\ -5 \\ \hline \end{array}$

d. $\begin{array}{r} 6 \\ -4 \\ \hline \end{array}$

e. $\begin{array}{r} 9 \\ -4 \\ \hline \end{array}$

f. $\begin{array}{r} 5 \\ -2 \\ \hline \end{array}$

g. $\begin{array}{r} 2 \\ -0 \\ \hline \end{array}$

i. $\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$

k. $\begin{array}{r} 4 \\ -4 \\ \hline \end{array}$

h. $\begin{array}{r} 6 \\ -3 \\ \hline \end{array}$

j. $\begin{array}{r} 6 \\ -5 \\ \hline \end{array}$

l. $\begin{array}{r} 9 \\ -0 \\ \hline \end{array}$

Answers to Exercise 2

a. 4
b. 8
c. 2
d. 2
e. 5
f. 3
g. 2
h. 3
i. 5
j. 1
k. 0
l. 9

Exercise 3

a. $\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$

e. $\begin{array}{r} 3 \\ -3 \\ \hline \end{array}$

i. $\begin{array}{r} 9 \\ -0 \\ \hline \end{array}$

b. $\begin{array}{r} 5 \\ -5 \\ \hline \end{array}$

f. $\begin{array}{r} 6 \\ -3 \\ \hline \end{array}$

j. $\begin{array}{r} 5 \\ -4 \\ \hline \end{array}$

c. $\begin{array}{r} 2 \\ -1 \\ \hline \end{array}$

g. $\begin{array}{r} 7 \\ -6 \\ \hline \end{array}$

k. $\begin{array}{r} 8 \\ -8 \\ \hline \end{array}$

d. $\begin{array}{r} 4 \\ -3 \\ \hline \end{array}$

h. $\begin{array}{r} 9 \\ -2 \\ \hline \end{array}$

l. $\begin{array}{r} 4 \\ -2 \\ \hline \end{array}$

m. $\begin{array}{r} 7 \\ -7 \\ \hline \end{array}$

o. $\begin{array}{r} 6 \\ -1 \\ \hline \end{array}$

n. $\begin{array}{r} 2 \\ -0 \\ \hline \end{array}$

p. $\begin{array}{r} 9 \\ -8 \\ \hline \end{array}$

Answers to Exercise 3

a. 4
b. 0
c. 1
d. 1
e. 0
f. 3
g. 1
h. 7
i. 9
j. 1
k. 0
l. 2
m. 0
n. 2
o. 5
p. 1

Exercise 4

a. $\begin{array}{r} 11 \\ -7 \\ \hline \end{array}$

d. $\begin{array}{r} 8 \\ -6 \\ \hline \end{array}$

g. $\begin{array}{r} 9 \\ -3 \\ \hline \end{array}$

b. $\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$

e. $\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$

h. $\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$

c. $\begin{array}{r} 12 \\ -7 \\ \hline \end{array}$

f. $\begin{array}{r} 7 \\ -4 \\ \hline \end{array}$

Answers to Exercise 4

a. 4
b. 6
c. 5
d. 2
e. 2
f. 3
g. 6
h. 4

Exercise 5

a. $\begin{array}{r} 12 \\ -3 \\ \hline \end{array}$

b. $\begin{array}{r} 9 \\ -6 \\ \hline \end{array}$

c. $\begin{array}{r} 11 \\ -9 \\ \hline \end{array}$

d. $\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$

e. $\begin{array}{r} 8 \\ -8 \\ \hline \end{array}$

f. $\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$

g. $\begin{array}{r} 12 \\ -4 \\ \hline \end{array}$

h. $\begin{array}{r} 7 \\ -6 \\ \hline \end{array}$

Answers to Exercise 5

a. 9
b. 3
c. 2
d. 5
e. 0
f. 6
g. 8
h. 1

Exercise 6

a. $\begin{array}{r} 11 \\ -7 \\ \hline \end{array}$

b. $\begin{array}{r} 12 \\ -6 \\ \hline \end{array}$

c. $\begin{array}{r} 10 \\ -9 \\ \hline \end{array}$

d. $\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$

e. $\begin{array}{r} 12 \\ -5 \\ \hline \end{array}$

f. $\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$

g. $\begin{array}{r} 9 \\ -7 \\ \hline \end{array}$

h. $\begin{array}{r} 7 \\ -3 \\ \hline \end{array}$

i. $\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$

j. $\begin{array}{r} 11 \\ -9 \\ \hline \end{array}$

k. $\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$

l. $\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$

Answers to Exercise 6

a. 4
b. 6
c. 1
d. 5
e. 7
f. 6
g. 2
h. 4
i. 4
j. 2
k. 1
l. 5

Exercise 6

a. $\begin{array}{r} 11 \\ -7 \\ \hline \end{array}$

e. $\begin{array}{r} 12 \\ -5 \\ \hline \end{array}$

i. $\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$

b. $\begin{array}{r} 12 \\ -6 \\ \hline \end{array}$

f. $\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$

j. $\begin{array}{r} 11 \\ -9 \\ \hline \end{array}$

c. $\begin{array}{r} 10 \\ -9 \\ \hline \end{array}$

g. $\begin{array}{r} 9 \\ -7 \\ \hline \end{array}$

k. $\begin{array}{r} 6 \\ -5 \\ \hline \end{array}$

d. $\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$

h. $\begin{array}{r} 7 \\ -3 \\ \hline \end{array}$

l. $\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$

Answers to Exercise 6

a. 4
b. 6
c. 1
d. 5
e. 7
f. 6
g. 2
h. 4
i. 4
j. 2
k. 4
l. 5

Exercise 7

a. $\begin{array}{r} 13 \\ -5 \\ \hline \end{array}$

b. $\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$

c. $\begin{array}{r} 9 \\ -4 \\ \hline \end{array}$

d. $\begin{array}{r} 5 \\ -4 \\ \hline \end{array}$

e. $\begin{array}{r} 9 \\ -9 \\ \hline \end{array}$

f. $\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$

g. $\begin{array}{r} 11 \\ -7 \\ \hline \end{array}$

h. $\begin{array}{r} 6 \\ -3 \\ \hline \end{array}$

i. $\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$

j. $\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$

k. $\begin{array}{r} 13 \\ -7 \\ \hline \end{array}$

l. $\begin{array}{r} 8 \\ -6 \\ \hline \end{array}$

Answers to Exercise 7

a. 8
b. 9
c. 5
d. 1
e. 0
f. 8
g. 4
h. 3
i. 9
j. 5
k. 6
l. 2

Practice your subtraction facts using dominoes. Place all the dominoes face down.

Exercise 8

a. $\begin{array}{r} 12 \\ -3 \\ \hline \end{array}$

b. $\begin{array}{r} 6 \\ -2 \\ \hline \end{array}$

c. $\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$

d. $\begin{array}{r} 11 \\ -9 \\ \hline \end{array}$

e. $\begin{array}{r} 1 \\ -0 \\ \hline \end{array}$

f. $\begin{array}{r} 8 \\ -1 \\ \hline \end{array}$

g. $\begin{array}{r} 12 \\ -5 \\ \hline \end{array}$

h. $\begin{array}{r} 11 \\ -2 \\ \hline \end{array}$

i. $\begin{array}{r} 3 \\ -2 \\ \hline \end{array}$

j. $\begin{array}{r} 11 \\ -8 \\ \hline \end{array}$

k. $\begin{array}{r} 14 \\ -7 \\ \hline \end{array}$

l. $\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$

m. $\begin{array}{r} 15 \\ -9 \\ \hline \end{array}$

n. $\begin{array}{r} 9 \\ -7 \\ \hline \end{array}$

o. $\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$

p. $\begin{array}{r} 11 \\ -5 \\ \hline \end{array}$

Answers to Exercise 8

a. 9
b. 4
c. 6
d. 2
e. 1
f. 7
g. 7
h. 9
i. 1
j. 3
k. 7
l. 5
m. 6
n. 2
o. 6
p. 6

Need some extra practice?

- Find a partner and play this card game.
- Using a regular deck of cards, a jack will be eleven, a queen will be twelve and a king will be thirteen.
- Shuffle the cards and deal them out. Keep your cards in a pile in front of you.

- Each player flips over a card.
- Take turns subtracting the numbers on the cards. If the person gets the right answer that person gets to keep the cards. If the person get the wrong answer the other player gets the cards.
- The person who collects all the cards is the winner.
- You could also set a time limit and the person with the most cards when time is up is the winner.

Subtracting Across

So far you have only been subtracting numbers when they are **up and down** or **vertical.**

Example:

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

Another way to subtract numbers is **across** or **horizontally.**

$$9 - 5 = 4$$

When you subtract numbers across, you work from left to right.

Exercise 9

Practice subtracting across or horizontally. Check your work using the answer key at the end of the exercise.

a. $6 - 3 =$
b. $12 - 8 =$
c. $4 - 1 =$
d. $8 - 6 =$
e. $18 - 9 =$
f. $11 - 4 =$
g. $7 - 2 =$
h. $16 - 7 =$
i. $10 - 5 =$
j. $2 - 0 =$
k. $9 - 5 =$
l. $17 - 8 =$

Answers to Exercise 9

a. 3
b. 4
c. 3
d. 2

e. 9
f. 7
g. 5
h. 9
i. 5
j. 2
k. 4
l. 9

Exercise 10

Practice subtracting across or horizontally. Check your work using the answer key at the end of the exercise.

a. 9 − 6 =
b. 14 − 5 =
c. 8 − 4 =
d. 7 − 1 =
e. 11 − 7 =
f. 5 − 0 =
g. 4 − 3 =
h. 15 − 8 =
i. 11 − 9 =
j. 10 − 2 =
k. 9 − 2 =
l. 8 − 3 =

Answers to Exercise 10

a. 3
b. 9
c. 4
d. 6
e. 4
f. 5
g. 1
h. 7
i. 2
j. 8
k. 7
l. 5

Exercise 11

Practice subtracting across or horizontally. Check your work using the answer key at the end of the exercise.

a. 3 − 2 =
b. 17 − 9 =
c. 14 − 7 =
d. 9 − 3 =
e. 12 − 5 =
f. 8 − 8 =
g. 6 − 1 =
h. 13 − 4 =

i. $11 - 6 =$
j. $4 - 0 =$
k. $8 - 1 =$
l. $16 - 9 =$
m. $7 - 0 =$
n. $13 - 8 =$
o. $12 - 3 =$
p. $9 - 4 =$
q. $15 - 7 =$
r. $10 - 6 =$
s. $11 - 5 =$
t. $5 - 2 =$

Answers to Exercise 11

a. 1
b. 8
c. 7
d. 6
e. 7
f. 0
g. 5
h. 9
i. 5
j. 4
k. 7
l. 7
m. 7
n. 5
o. 9
p. 5
q. 8
r. 4
s. 6
t. 3

Word Problems

Learning subtraction facts is very important because once you know them all they become a tool to use when solving problems.

Words such as:

- less than
- minus
- subtracted from
- how many more
- how much more, and
- difference

tell you to subtract the numbers.

Look for these words when reading word problems and underline them before trying to solve a problem. Circle the information that is given.

Example:

There were 14 nails in a box. Lu used 7 of them. How many nails were still in the box?

There were (14 nails) in a box. Lu (used 7) of them. How many nails were still in the box?

You have circled 14 nails and 7. This is the information you will use to find the answer.

You have underlined "how many". These words tell you to subtract.

$$\begin{array}{r} 14 \text{ nails} \\ -7 \text{ nails} \\ \hline 7 \text{ nails} \end{array}$$

Exercise 12

a. Wolfgang walked 11 blocks. Ingrid walked 6 blocks. Wolfgang walked how much farther than Ingrid?

b. Mika and her father went fishing. Mika caught 18 fish and her father caught 9 fish. How many more fish did Mika catch?

c. Kuan-Lin was making moon cakes for the class party. She needed 15 cakes for the party. On Monday she had made 7 moon cakes. How many moon cakes did she still need to make?

d. Malik counted 12 cars in the parking lot where he worked. One hour later, he counted only 4 cars. How many cars left?

Answers to Exercise 12

a. 5 blocks

b. 9 fish

c. 8 moon cakes

d. 8 cars

Topic A Self-Test

Mark /21 Aim 18/27

A. Find the difference. Be sure to check your answers. (9 marks)

a. $\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$ b. $\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$ c. $\begin{array}{r} 14 \\ -8 \\ \hline \end{array}$

d. $\begin{array}{r} 11 \\ -4 \\ \hline \end{array}$

f. $\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$

h. $\begin{array}{r} 7 \\ -5 \\ \hline \end{array}$

e. $\begin{array}{r} 9 \\ -3 \\ \hline \end{array}$

g. $\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$

i. $\begin{array}{r} 15 \\ -6 \\ \hline \end{array}$

B. Find the difference. Be sure to check your answers. (6 marks)

a. 3 − 2 =

b. 17 − 9 =

c. 14 − 7 =

d. 9 − 3 =

e. 12 − 5 =

f. 8 − 8 =

C. Solve each of the following word problems. Be sure to include the unit of measure in your answer. Be sure to circle the information and underline what's being asked.(6 marks, 2 marks each)

a. Shada caught 17 fish. She gave 8 fish to her grandmother. How many fish did she have left?

b. Yuan went to the store with $15 to buy some rice. The rice cost $6. How much did he have left?

c. Carlo had 13 metres of fencing. He used 8 metres around his flower garden. How many metres did he have left?

Answers to Topic A Self-Test

A. a. 8 d. 7 g. 4
b. 9 e. 6 h. 2
c. 6 f. 8 i. 9

B. a. 1 c. 7 e. 7
b. 8 d. 6 f. 0

C. a. 9 fish b. $9 c. 5 metres

Topic B: Subtraction of Larger Numbers

You can find the difference between two large numbers using the basic subtraction facts you have been practicing. Always **take away** or subtract the **number after the minus sign.**

Use these steps to complete each subtraction question.

1. Subtract the ones from the ones.
2. Subtract the tens from the tens.
3. Subtract the hundreds from the hundreds.

Example A:

$$\begin{array}{r} 57 \\ -26 \\ \hline \end{array}$$

1. Subtract the ones from the ones. 7 ones − 6 ones = 1 one. Write the answer in line with the ones in the question.

$$\begin{array}{r} 57 \\ -26 \\ \hline 1 \end{array}$$

2. Subtract the tens from the tens. 5 tens – 2 tens = 3 tens

$$\begin{array}{r} 57 \\ -26 \\ \hline 31 \end{array}$$

The **difference** between 57 and 26 is **31**.

Example B:

$$\begin{array}{r} 628 \\ -524 \\ \hline \end{array}$$

1. Subtract the ones from the ones. 8 ones – 4 ones = 4 ones. Write the answer in line with the ones in the question.

$$\begin{array}{r} 628 \\ -524 \\ \hline 4 \end{array}$$

2. Subtract the tens. 2 tens – 2 tens = 0 tens.

$$\begin{array}{r} 628 \\ -524 \\ \hline 04 \end{array}$$

3. Subtract the hundreds. 6 hundreds – 5 hundreds = 1 hundred.

$$\begin{array}{r} 628 \\ -524 \\ \hline 104 \end{array}$$

Write the answer in line with the hundreds in the question. The **difference** between 628 and 524 is **104**.

Exercise 1

Find the differences. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 87 \\ -36 \\ \hline \end{array}$

b. $\begin{array}{r} 29 \\ -21 \\ \hline \end{array}$

c. $\begin{array}{r} 48 \\ -40 \\ \hline \end{array}$

d. $\begin{array}{r} 99 \\ -63 \\ \hline \end{array}$

e. $\begin{array}{r} 75 \\ -45 \\ \hline \end{array}$

f. $\begin{array}{r} 73 \\ -20 \\ \hline \end{array}$

g. $\begin{array}{r} 92 \\ -21 \\ \hline \end{array}$

h. $\begin{array}{r} 58 \\ -27 \\ \hline \end{array}$

i. $\begin{array}{r} 84 \\ -23 \\ \hline \end{array}$

j. $\begin{array}{r} 69 \\ -38 \\ \hline \end{array}$

k. $\begin{array}{r} 45 \\ -23 \\ \hline \end{array}$

l. $\begin{array}{r} 49 \\ -19 \\ \hline \end{array}$

m. $\begin{array}{r} 59 \\ -14 \\ \hline \end{array}$

o. $\begin{array}{r} 88 \\ -15 \\ \hline \end{array}$

n. $\begin{array}{r} 87 \\ -63 \\ \hline \end{array}$

p. $\begin{array}{r} 56 \\ -44 \\ \hline \end{array}$

Answers to Exercise 1

a. 51
b. 8
c. 8
d. 36
e. 30
f. 53
g. 71
h. 31
i. 61
j. 31
k. 22
l. 30
m. 45
n. 24
o. 73
p. 12

Exercise 2

Find the differences. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 46 \\ -23 \\ \hline \end{array}$

d. $\begin{array}{r} 53 \\ -20 \\ \hline \end{array}$

g. $\begin{array}{r} 56 \\ -13 \\ \hline \end{array}$

b. $\begin{array}{r} 65 \\ -42 \\ \hline \end{array}$

e. $\begin{array}{r} 34 \\ -21 \\ \hline \end{array}$

h. $\begin{array}{r} 26 \\ -15 \\ \hline \end{array}$

c. $\begin{array}{r} 45 \\ -13 \\ \hline \end{array}$

f. $\begin{array}{r} 48 \\ -32 \\ \hline \end{array}$

i. $\begin{array}{r} 49 \\ -22 \\ \hline \end{array}$

j. $\begin{array}{r} 58 \\ -27 \\ \hline \end{array}$

m. $\begin{array}{r} 69 \\ -19 \\ \hline \end{array}$

p. $\begin{array}{r} 89 \\ -55 \\ \hline \end{array}$

k. $\begin{array}{r} 95 \\ -71 \\ \hline \end{array}$

n. $\begin{array}{r} 86 \\ -71 \\ \hline \end{array}$

l. $\begin{array}{r} 89 \\ -14 \\ \hline \end{array}$

o. $\begin{array}{r} 99 \\ -50 \\ \hline \end{array}$

Answers to Exercise 2

a. 23
b. 23
c. 32
d. 33
e. 13
f. 16
g. 43
h. 11
i. 27
j. 31
k. 24
l. 75
m. 50
n. 15
o. 49
p. 34

Exercise 3

Find the differences. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 23 \\ -11 \\ \hline \end{array}$

c. $\begin{array}{r} 32 \\ -20 \\ \hline \end{array}$

e. $\begin{array}{r} 32 \\ -21 \\ \hline \end{array}$

b. $\begin{array}{r} 53 \\ -21 \\ \hline \end{array}$

d. $\begin{array}{r} 77 \\ -32 \\ \hline \end{array}$

f. $\begin{array}{r} 38 \\ -15 \\ \hline \end{array}$

g. $\begin{array}{r} 33 \\ -13 \\ \hline \end{array}$

h. $\begin{array}{r} 92 \\ -30 \\ \hline \end{array}$

i. $\begin{array}{r} 94 \\ -23 \\ \hline \end{array}$

j. $\begin{array}{r} 54 \\ -42 \\ \hline \end{array}$

k. $\begin{array}{r} 74 \\ -33 \\ \hline \end{array}$

l. $\begin{array}{r} 88 \\ -72 \\ \hline \end{array}$

m. $\begin{array}{r} 46 \\ -36 \\ \hline \end{array}$

n. $\begin{array}{r} 75 \\ -41 \\ \hline \end{array}$

o. $\begin{array}{r} 85 \\ -12 \\ \hline \end{array}$

p. $\begin{array}{r} 56 \\ -45 \\ \hline \end{array}$

Answers to Exercise 3

a. 12
b. 32
c. 12
d. 45
e. 11
f. 23
g. 20
h. 62
i. 71
j. 12
k. 41
l. 16
m. 10
n. 34
o. 73
p. 11

Exercise 4

Find the differences. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 476 \\ -413 \\ \hline \end{array}$

b. $\begin{array}{r} 873 \\ -560 \\ \hline \end{array}$

c. $\begin{array}{r} 589 \\ -384 \\ \hline \end{array}$

d. $\begin{array}{r} 793 \\ -170 \\ \hline \end{array}$

h. $\begin{array}{r} 769 \\ -405 \\ \hline \end{array}$

l. $\begin{array}{r} 696 \\ -251 \\ \hline \end{array}$

e. $\begin{array}{r} 228 \\ -123 \\ \hline \end{array}$

i. $\begin{array}{r} 788 \\ -435 \\ \hline \end{array}$

m. $\begin{array}{r} 657 \\ -435 \\ \hline \end{array}$

f. $\begin{array}{r} 995 \\ -452 \\ \hline \end{array}$

j. $\begin{array}{r} 579 \\ -234 \\ \hline \end{array}$

n. $\begin{array}{r} 745 \\ -412 \\ \hline \end{array}$

g. $\begin{array}{r} 869 \\ -423 \\ \hline \end{array}$

k. $\begin{array}{r} 958 \\ -403 \\ \hline \end{array}$

o. $\begin{array}{r} 967 \\ -143 \\ \hline \end{array}$

Answers to Exercise 4

a. 63
b. 313
c. 205
d. 623
e. 105
f. 543
g. 446
h. 364
i. 353
j. 345
k. 555
l. 445
m. 222
n. 333
o. 824

Topic B Self-Test

Mark /27 Aim 23/27

A. Find the difference. Be sure to check your answers. (6 marks)

a. $\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$

c. $\begin{array}{r} 14 \\ -8 \\ \hline \end{array}$

e. $\begin{array}{r} 9 \\ -3 \\ \hline \end{array}$

b. $\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$

d. $\begin{array}{r} 11 \\ -4 \\ \hline \end{array}$

f. $\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$

B. Find the difference. Be sure to check your answers. (6 marks)

a. $\begin{array}{r} 896 \\ -422 \\ \hline \end{array}$

c. $\begin{array}{r} 549 \\ -318 \\ \hline \end{array}$

e. $\begin{array}{r} 936 \\ -725 \\ \hline \end{array}$

b. $\begin{array}{r} 788 \\ -531 \\ \hline \end{array}$

d. $\begin{array}{r} 936 \\ -702 \\ \hline \end{array}$

f. $\begin{array}{r} 654 \\ -242 \\ \hline \end{array}$

C. Solve each of the following word problems. Be sure to include the unit of measure in your answer. Be sure to circle the information and underline what's being asked.(6 marks, 2 marks each)

a. At noon the temperature was 34 degrees Celsius. At nine o'clock in the evening, it was 12 degrees Celsius. How many degrees did the temperature drop?

b. Misha's family is on a 179 kilometer trip. They have already gone 123 kilometers. How much farther to they have to go?

c. The Burj Khalifa in Dubai is one of the tallest buildings in the world at 828 metres. The Eiffel Tower in Paris is 324 metres tall. How much taller is the Burj Khalifa than the Eiffel Tower?

Answers to Topic B Self Test

1.	a. 8	c. 6	e. 6
	b. 9	d. 7	f. 8
2.	a. 474	c. 231	e. 211
	b. 257	d. 234	f. 412
3.	a. 22 degrees Celsius	b. 56 kilometres	c. 504 metres

Unit 3 Review: Subtraction

You will now practice all the skills you learned in Unit 3. Check your work using the answer key at the end of the review.

A. Check out your subtraction facts.

a. $\begin{array}{r} 5 \\ -2 \\ \hline \end{array}$

b. $\begin{array}{r} 8 \\ -7 \\ \hline \end{array}$

c. $\begin{array}{r} 3 \\ -1 \\ \hline \end{array}$

d. $\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$

e. $\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$

f. $\begin{array}{r} 11 \\ -4 \\ \hline \end{array}$

g. $\begin{array}{r} 13 \\ -5 \\ \hline \end{array}$

h. $\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$

i. $\begin{array}{r} 6 \\ -6 \\ \hline \end{array}$

j. $\begin{array}{r} 14 \\ -8 \\ \hline \end{array}$

k. $\begin{array}{r} 16 \\ -7 \\ \hline \end{array}$

l. $\begin{array}{r} 12 \\ -9 \\ \hline \end{array}$

m. $\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$

n. $\begin{array}{r} 9 \\ -3 \\ \hline \end{array}$

o. $\begin{array}{r} 13 \\ -6 \\ \hline \end{array}$

p. $\begin{array}{r} 15 \\ -8 \\ \hline \end{array}$

B. Subtract across or horizontally.

a. 8 − 6 =

b. 12 − 5 =

c. 10 − 10 =

d. 9 − 8 =

e. 11 − 6 =

f. 8 − 4 =

g. 7 − 3 =

h. 14 − 9 =

C. Find the differences.

a. $\begin{array}{r} 45 \\ -23 \\ \hline \end{array}$

b. $\begin{array}{r} 78 \\ -15 \\ \hline \end{array}$

c. $\begin{array}{r} 84 \\ -52 \\ \hline \end{array}$

d. $\begin{array}{r} 57 \\ -10 \\ \hline \end{array}$

e. $\begin{array}{r} 78 \\ -21 \\ \hline \end{array}$

f. $\begin{array}{r} 69 \\ -43 \\ \hline \end{array}$

g. $\begin{array}{r} 96 \\ -45 \\ \hline \end{array}$

h. $\begin{array}{r} 88 \\ -35 \\ \hline \end{array}$

i. $\begin{array}{r} 95 \\ -33 \\ \hline \end{array}$

D. Find the differences.

a. $\begin{array}{r} 583 \\ -163 \\ \hline \end{array}$

b. $\begin{array}{r} 799 \\ -265 \\ \hline \end{array}$

c. $\begin{array}{r} 629 \\ -305 \\ \hline \end{array}$

d. $\begin{array}{r} 847 \\ -406 \\ \hline \end{array}$

e. $\begin{array}{r} 978 \\ -252 \\ \hline \end{array}$

f. $\begin{array}{r} 797 \\ -652 \\ \hline \end{array}$

g. $\begin{array}{r} 765 \\ -243 \\ \hline \end{array}$

h. $\begin{array}{r} 854 \\ -344 \\ \hline \end{array}$

i. $\begin{array}{r} 536 \\ -314 \\ \hline \end{array}$

j. $\begin{array}{r} 897 \\ -246 \\ \hline \end{array}$

k. $\begin{array}{r} 669 \\ -238 \\ \hline \end{array}$

l. $\begin{array}{r} 769 \\ -564 \\ \hline \end{array}$

E. Word problems.

a. One week, Tiago changed 258 light bulbs in the building. The next week, Tiago changed 141 light bulbs. How many more bulbs did Tiago change the first week?

b. Anoki drove 769 kilometres while his friend Dasan drove 534 kilometres on their trip. How many more kilometres did Anoki drive?

Answers to Unit 3 Review

A.

a. 3
b. 1
c. 2
d. 4
e. 9
f. 7

g. 8
h. 5
i. 0
j. 6
k. 9
l. 3
m. 8
n. 6
o. 7
p. 7

B.
a. 2
b. 7
c. 0
d. 1
e. 5
f. 4
g. 4
h. 5

C.
a. 22
b. 63
c. 32
d. 47
e. 57
f. 26
g. 51
h. 53
i. 62

D.
a. 420
b. 534
c. 324
d. 441
e. 726
f. 145
g. 522
h. 510
i. 222
j. 651
k. 431
l. 205

E.
a. 117 light bulbs
b. 235 kilometres

CONGRATULATIONS!!

Now you have finished Unit 3.

TEST TIME!

Ask your instructor for the Practice Test for this unit.

Once you've done the Practice Test,

You need to do the Unit 3 Test.

Again, ask your instructor for this.

GOOD LUCK!

Unit 4: Estimating, Time, and Shapes

Topic A: Estimating

You use numbers in your everyday life. You often use **estimating** in your everyday life.

You go shopping and you only have twenty dollars, you may need to **estimate** how much your groceries are going to cost before you go to pay for them.

You commute by bus each day to work and it takes thirty-three minutes going to work and thirty-three minutes coming home at the end of the day. You would say that it takes you about one hour on the bus.

These are examples of **estimating.**

You have already learned about **rounding** numbers. You need to be able to round numbers in order to be able to **estimate**.

When you solve math problems, it is a good idea to **estimate** what the answer may be. **Estimating** the answer means finding an answer that is close to the real answer. **Estimating** helps you to see if the real answer is sensible. To **estimate** an answer, you need to round the numbers then add or subtract the rounded numbers. Remember to round to the nearest ten.

Example	**Estimate**
$\begin{array}{r} 23 \\ +45 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ +50 \\ \hline 70 \end{array}$
$\begin{array}{r} 67 \\ -31 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ -30 \\ \hline 40 \end{array}$
$\begin{array}{r} 372 \\ +416 \\ \hline \end{array}$	$\begin{array}{r} 370 \\ +420 \\ \hline 790 \end{array}$
$\begin{array}{r} 564 \\ -243 \\ \hline \end{array}$	$\begin{array}{r} 560 \\ -240 \\ \hline 320 \end{array}$

Exercise 1

Estimate the following answers. Be sure to round to the nearest 10 before adding. Check your work using the answer key at the end of the exercise.

a. $27 + 31$

b. $42 + 51$

c. $26 + 32$

d. $14 + 52$

e. $44 + 24$

f. $31 + 27$

g. $65 + 22$

h. $46 + 23$

i. $23 + 72$

j. $42 + 36$

k. $64 + 14$

l. $32 + 20$

m. $423 + 324$

n. $526 + 345$

o. $123 + 541$

p. $752 + 243$

Answers to Exercise 1

a. 60
b. 90
c. 60
d. 60
e. 60
f. 60
g. 90
h. 70
i. 90
j. 80
k. 70
l. 50
m. 740
n. 880
o. 660
p. 990

Exercise 2

Estimate the following answers. Be sure to round to the nearest 10 before adding. Check your work using the answer key at the end of the exercise.

a. $\begin{array}{r} 35 \\ -16 \\ \hline \end{array}$

b. $\begin{array}{r} 52 \\ -14 \\ \hline \end{array}$

c. $\begin{array}{r} 67 \\ -19 \\ \hline \end{array}$

d. $\begin{array}{r} 51 \\ -23 \\ \hline \end{array}$

e. $\begin{array}{r} 36 \\ -17 \\ \hline \end{array}$

f. $\begin{array}{r} 72 \\ -44 \\ \hline \end{array}$

g. $\begin{array}{r} 38 \\ -19 \\ \hline \end{array}$

h. $\begin{array}{r} 74 \\ -26 \\ \hline \end{array}$

i. $\begin{array}{r} 93 \\ -89 \\ \hline \end{array}$

j. $\begin{array}{r} 82 \\ -57 \\ \hline \end{array}$

k. $\begin{array}{r} 56 \\ -27 \\ \hline \end{array}$

l. $\begin{array}{r} 93 \\ -48 \\ \hline \end{array}$

m. $\begin{array}{r} 752 \\ -342 \\ \hline \end{array}$

n. $\begin{array}{r} 765 \\ -439 \\ \hline \end{array}$

o. $\begin{array}{r} 673 \\ -424 \\ \hline \end{array}$

p. $\begin{array}{r} 645 \\ -309 \\ \hline \end{array}$

Answers to Exercise 2

a. 20
b. 40
c. 50
d. 30
e. 20
f. 30
g. 20
h. 40
i. 0
j. 20
k. 30
l. 40
m. 410
n. 330
o. 250
p. 340

Exercise 3

Estimate the following answers. Be sure to round to the nearest ten before adding or subtracting.

Be sure to (circle) the information and underline what's being asked.

Check your work using the answer key at the end of the exercise.

Example:

There are 186 people living in my apartment building. If 103 are children, how many are adults?

There are (186) people living in my apartment building. If (103) are children, how many are adults?

$$\begin{array}{r} 186 \\ -103 \\ \hline \end{array}$$

Estimate:

$$\begin{array}{r} 190 \\ 100 \\ \hline 90 \end{array}$$

About 90 people are adults.

a. The bus has 84 passenger seats. All the seats are filled and 39 passengers are standing. How many passengers are on the bus?

b. Trisha counted 67 boxes on one shelf. She counted 78 boxes on the next shelf. How many boxes were there altogether?

c. The library loaned out 157 books on Monday. It loaned out 118 books on Tuesday. How many books did it loan on both days?

d. Ryan worked on the computer for 78 minutes. Helen worked on the computer for 54 minutes. How much longer did Ryan work on the computer?

e. The Ludlow factory has 73 people working in the factory. The Watson factory has 48 people working in their factory. How many more people work in the Ludlow factory?

f. Mr. Martinez needs 257 metres of fencing. He has 125 metres. How much more fencing does he need to buy?

Answers to Exercise 3

a. 120 passengers
b. 150 boxes
c. 280 books
d. 30 minutes
e. 20 people
f. 130 metres

Topic B: Time

The ancient Babylonians used a number system based on 60. We still use their number system when we talk about time.

There are 60 minutes in an hour, and there are 60 seconds in a minute.

- 60 minutes = 1 hour
- 60 seconds = 1 minute

Writing Time in Standard Format

Time is written in a standard format.

Hours: Minutes: Seconds

Example:

12 noon

would be written as 12:00:00

or 12:00 (without the seconds)

Example:

4 o'clock

would be written as 4:00:00

or 4:00 (without the seconds)

Example:

8 hours, 47 minutes, 3 seconds

would be written as 8:47:03

Note: When there is only one number, put in a zero to hold the tens place.

Example:

3 hours, 9 minutes, 3 seconds

would be written as 3:09:03

Exercise 1

Write the following times in standard format. Check your work using the answer key at the end of the exercise.

Example:

2 hours, 7 minutes, 31 seconds. 2:07:31

a. 3 hours, 56 minutes, 42 seconds
b. 12 hours, 2 minutes, 29 seconds
c. 1 hour, 23 minutes, 54 seconds
d. 6 hours, 7 minutes, 39 seconds
e. 11 hours, 41 minutes
f. 7 hours, 14 minutes, 59 seconds
g. 21 hours, 36 minutes
h. 1 hour, 51 minutes, 41 seconds
i. 5 hours, 18 minutes, 10 seconds

Answers to Exercise 1

a. 3:56:42
b. 12:02:29
c. 1:23:54
d. 6:07:39
e. 11:41
f. 7:14:59
g. 21:36
h. 1:51:41
i. 5:18:10

A.M. and P.M.

You need to go to the dentist at 9:00 a.m. This is in the morning because of the **a.m.** The abbreviation **a.m.** means **ante meridiem** or **before noon.** We use a.m. for any times between 12 midnight and 12 noon.

You are meeting friends for dinner at 6:00 p.m. This is at night because of the **p.m.** The abbreviation **p.m.** means **post meridiem** or **after noon**. We use p.m. for any times between 12 noon and 12 midnight.

Example:

You catch the bus at 7 o’clock in the morning.

The time would be written as 7:00 a.m.

Example:

You are meeting friends to go fishing at 6:30 at night.

The time would be written as 6:30 p.m.

Exercise 2

Write the following times using a.m. or p.m. Check your work using the answer key at the end of the exercise.

Example:

The sun rises at 7:07 in the morning.

7:07 a.m.

a. Your shift at work starts at 8:30 in the morning.
b. Your class starts at 1:00 in the afternoon.
c. Your son has soccer practice at 4:00 in the afternoon.
d. You catch your bus at 6:15 in the morning.
e. You need to go to the doctor at 3:20 in the afternoon.

Answers to Exercise 2

a. 8:30 a.m.
b. 1:00 p.m.
c. 4:00 p.m.
d. 6:15 a.m.
e. 3:20 p.m.

Rounding Time

When you round time, if the minutes are more than thirty, you round up to the next number of hours. If the minutes are less than thirty, you remain at the same number of hours.

Example:

If it took 45 minutes to drive to school, you would round that to one hour because 45 minutes is greater than 30 minutes.

Example:

If it took one hour and 15 minutes to get to school by bus, you would round that to one hour because 15 minutes is less than 30 minutes.

Example:

If it took 8 hours and 37 minutes to complete the painting job, you would round that to 9 hours because 37 minutes is greater than 30 minutes.

Exercise 3

Round the following times to the nearest hour. Check your work using the answer key at the end of the exercise.

Example:

The movie lasted 3 hours and 13 minutes.

3 hours.

a. You needed 2 hours and 15 minutes for grocery shopping.
b. It took 1 hour and 50 minutes to cook dinner.
c. You drove for 9 hours and 23 minutes.
d. Your baby slept for 1 hour and 47 minutes.
e. You visited with friends for 3 hours and 11 minutes.
f. It took 2 hours and 35 minutes to play the hockey game.
g. You rode on the bus for 1 hour and 28 minutes.
h. You walked to work in 38 minutes.
i. How long does it take you to get to school?

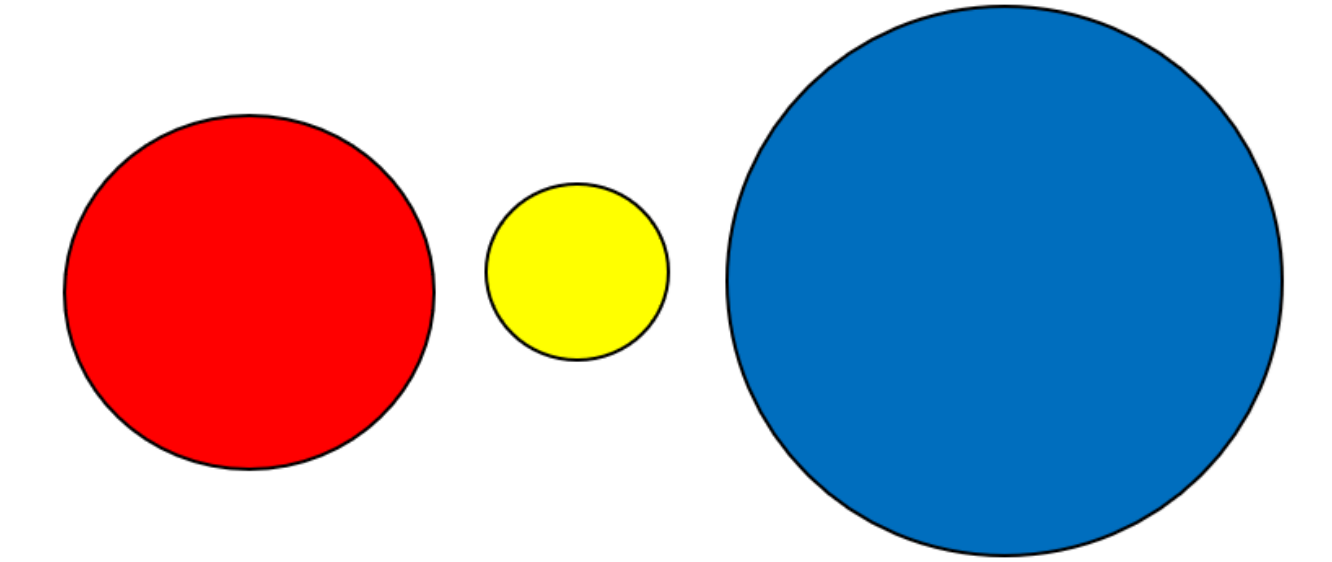
Answers to Exercise 3

a. 2 hours
b. 2 hours
c. 9 hours
d. 2 hours
e. 3 hours
f. 3 hours
g. 1 hour
h. 1 hour
i. Check with your instructor.

Topic C: Shapes

Circle

The circle is a shape we all know.



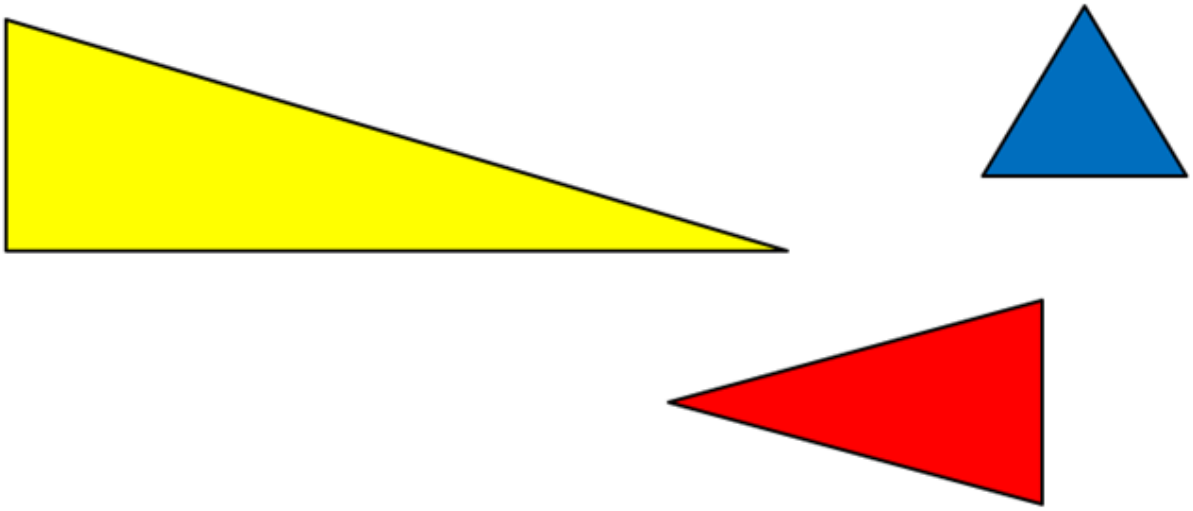
These objects suggest the idea of a circle:

- rim of coffee cups and glasses
- top of lamp shades top of cans of food
- compact discs
- the ends of pipes and hoses (called the cross-section)
- the coloured part of your eye (the iris)

Add some examples of your own.

Triangle

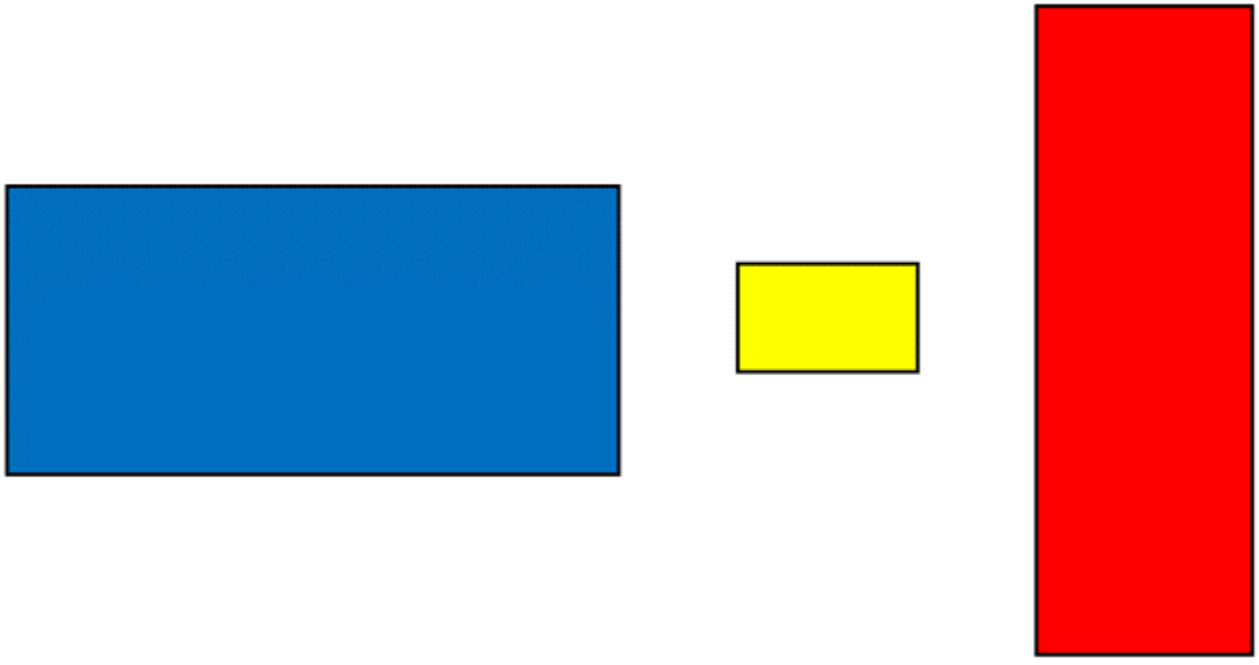
A **triangle** is a three-sided shape. Triangles have **three sides** and **three angles**.



Draw some different sized triangles here.

Rectangle

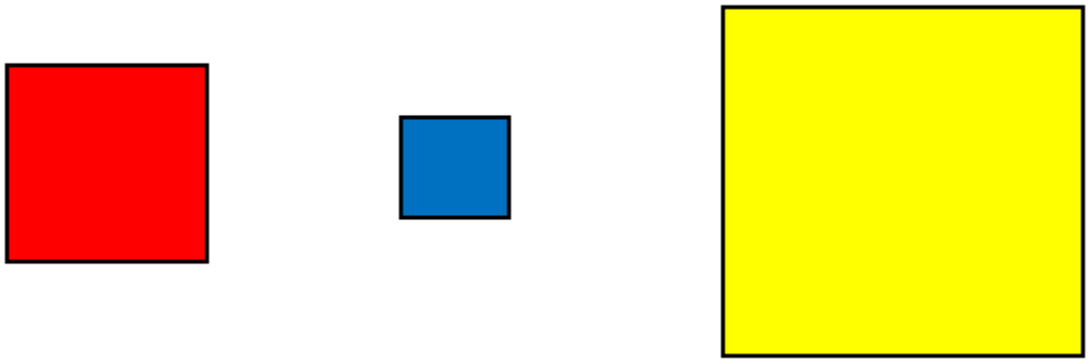
A **rectangle** is a four-sided shape. Rectangles have four sides and four **right** angles (square corners).



Can you think of anything that has a rectangle shape? Write it here.

Square

A **square** is a special kind of rectangle. Squares have square corners and all four sides are the same length.



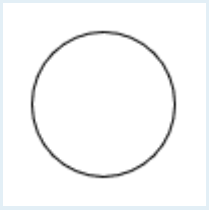
Can you think of anything that has a square shape? Write it here.

Exercise 1

The following things give the idea of a shape. Write the name of the shape in each blank. Then draw the shape.

Example:

A cookie is a circle.



a. A door is a _____.
b. This page is a _____.
c. A yield sign is a _____.
d. A room is usually a _____.
e. A coin is a _____.
f. A ten dollar bill is a _____.
g. The rim of a jar is a _____.
h. This warning sign is a _____.
i. A pizza is a _____.

Answers to Exercise 1

a. rectangle b. rectangle c. triangle

d. rectangle
e. circle
f. rectangle
g. circle
h. triangle
i. circle

Exercise 2

Look around the room and find each of the following shapes. Write the name on the line. Have your instructor check your answers.

Example:

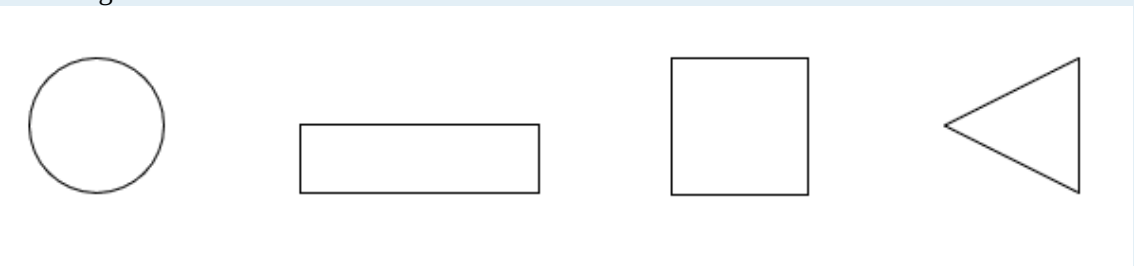
A rectangle door.

a. A circle _____.
b. A rectangle _____.
c. A square _____.
d. A triangle _____.

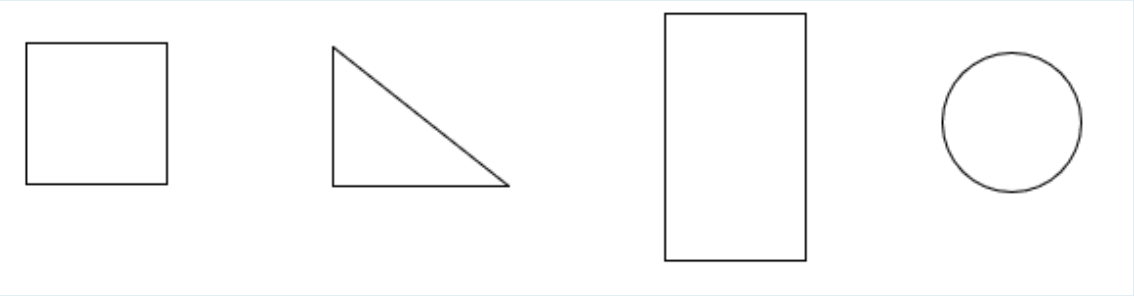
Exercise 3

Circle the correct shape in each line. Have your instructor check your answers.

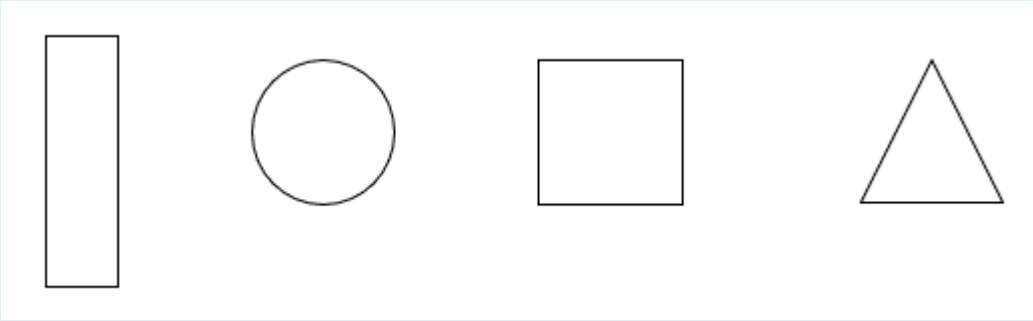
a. A rectangle



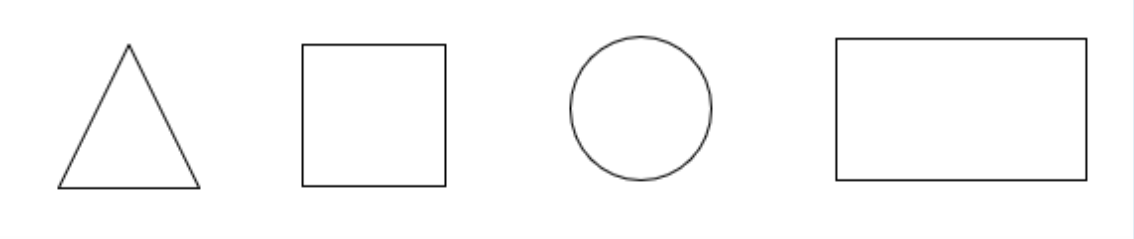
b. A circle



c. A square



d. A triangle



Exercise 4

What shape are the following things? Write **triangle, square, rectangle or circle**.

a.

b.

c. 

d. 

e. 

f. 

g. 

h. 

Answers to Exercise 4

a. circle
b. triangle
c. rectangle
d. square
e. rectangle or triangle
f. circle
g. square
h. rectangle

Unit 4 Review: Estimating, Time, and Shapes

You will now practice all the skills you learned in Unit 4. Check your work using the answer key at the end of the review.

A. Estimate the following answers. Be sure to round to the nearest 10 before adding.

a. $23 + 32$

b. $68 + 17$

c. $34 + 28$

d. $42 + 53$

e. $74 + 24$

f. $33 + 28$

g. $17 + 42$

h. $27 + 18$

B. Estimate the following sums. Be sure to round to the nearest 10 before adding.

a. $625 + 254$

b. $432 + 325$

c. $328 + 163$

d. $529 + 248$

e. $536 + 137$

f. $867 + 215$

g. $\begin{array}{r} 843 \\ +107 \\ \hline \end{array}$

h. $\begin{array}{r} 435 \\ +127 \\ \hline \end{array}$

C. Estimate the following answers. Be sure to round to the nearest 10 before subtracting.

a. $\begin{array}{r} 43 \\ -28 \\ \hline \end{array}$

e. $\begin{array}{r} 68 \\ -28 \\ \hline \end{array}$

b. $\begin{array}{r} 64 \\ -25 \\ \hline \end{array}$

f. $\begin{array}{r} 54 \\ -22 \\ \hline \end{array}$

c. $\begin{array}{r} 73 \\ -47 \\ \hline \end{array}$

g. $\begin{array}{r} 67 \\ -29 \\ \hline \end{array}$

d. $\begin{array}{r} 83 \\ -24 \\ \hline \end{array}$

h. $\begin{array}{r} 85 \\ -29 \\ \hline \end{array}$

D. Estimate the following answers. Be sure to round to the nearest 10 before subtracting.

a. $\begin{array}{r} 625 \\ -407 \\ \hline \end{array}$

e. $\begin{array}{r} 572 \\ -154 \\ \hline \end{array}$

b. $\begin{array}{r} 908 \\ -413 \\ \hline \end{array}$

f. $\begin{array}{r} 908 \\ -713 \\ \hline \end{array}$

c. $\begin{array}{r} 976 \\ -134 \\ \hline \end{array}$

g. $\begin{array}{r} 965 \\ -702 \\ \hline \end{array}$

d. $\begin{array}{r} 882 \\ -257 \\ \hline \end{array}$

h. $\begin{array}{r} 988 \\ -254 \\ \hline \end{array}$

E. Write the following times in standard format.

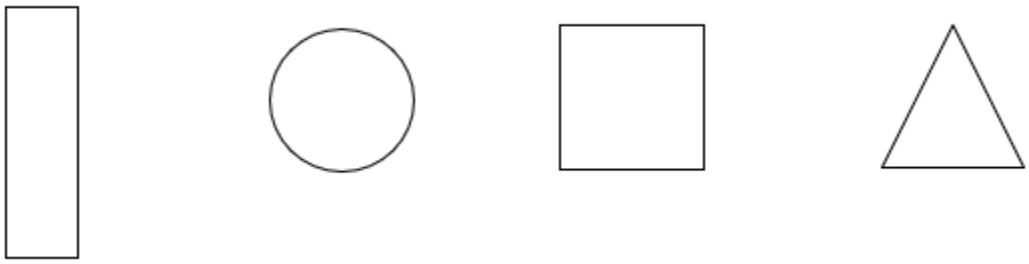
a. 10 hours, 20 minutes, 12 seconds
b. 8 hours,45 minutes, 6 seconds
c. 5 hours, 32 minutes, 45 seconds
d. 1 hour, 7 minutes, 28 seconds
e. 12 hours, 55 minutes
f. 6 hours, 5 minutes, 39 seconds

F. Write the following times using a.m. or p.m.
   a. The movie starts at 6:45 in the evening.
   b. Your friend calls and wakes you up at 3:23 in the morning.
   c. Your dog barks at the mailman at 2:35 in the afternoon.
   d. Your morning break is at 10:15.

G. Round the following times to the nearest hour.
   a. You took a walk for 47 minutes.
   b. Your round trip (there and back) to the mall took 2 hours and 12 minutes.

H. Circle the correct shape in each line.
   a. A triangle

   b. A square



I. The following things give the idea of a shape. Write the name of the shape in each blank.
   a. A window is a _____.
   b. A checkerboard is a _____.
   c. A watch is a _____.
   d. A yield sign is a _____.

J. Word Problems. Estimate the following answers. Be sure to round to the nearest 10 before adding or subtracting. Be sure to circle the information and underline what's being

asked.

a. The Sears Tower is 443 metres tall. It has a 105 metre TV antenna on top. Estimate the height of the building and the antenna.

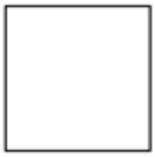
b. A restaurant used 76 kilograms of potatoes and 68 kilograms of meat. Estimate how many kilograms of potatoes and meat the restaurant used altogether.

c. Paolo's father weighs 78 kilograms. Paolo weighs 29 kilograms. Estimate how much more Paolo's father weighs.

d. Chi bought 54 litres of gasoline on Tuesday. He ought 38 litres of gasoline on Friday. Estimate how many litres of gas he bought altogether.

Answers to Unit 4 Review

A.	a. 50	d. 90	g. 60
	b. 90	e. 90	h. 50
	c. 60	f. 60	
B.	a. 880	d. 780	g. 950
	b. 760	e. 680	h. 570
	c. 490	f. 1090	
C.	a. 10	d. 60	g. 40
	b. 30	e. 40	h. 60
	c. 20	f. 30	
D.	a. 220	d. 620	g. 270
	b. 500	e. 420	h. 740
	c. 850	f. 200	
E.	a. 10:20:12	c. 5:32:45	e. 12:55
	b. 8:45:06	d. 1:07:28	f. 6:05:39
F.	a. 6:45 p.m.	c. 2:35 p.m.	
	b. 3:23 a.m.	d. 10:15 a.m.	
G.	a. 1 hour	b. 2 hours	

H. a.  b. 

I. a. rectangle c. circle
b. square d. triangle

J. a. 550 metres c. 150 kilograms
b. 50 kilograms d. 90 litres

Book 1 Review

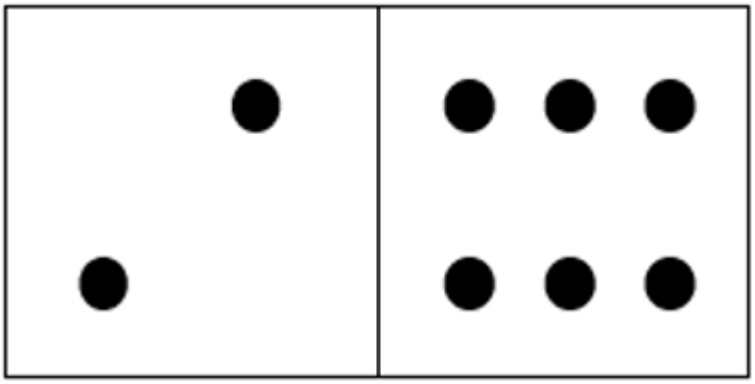
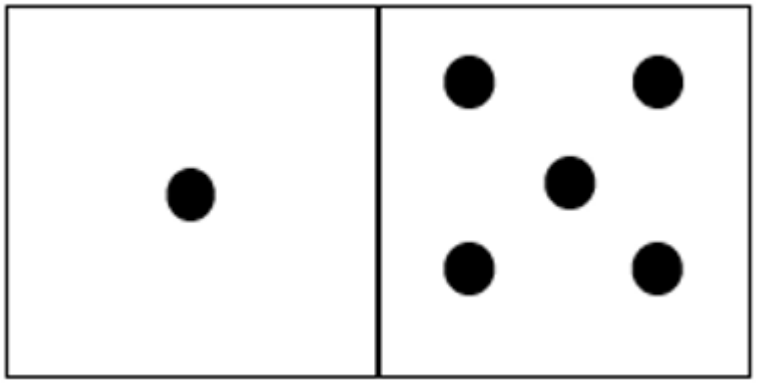
You will now practice all the skills you learned in Book 1. Check your work using the answer key at the end of the review.

If you can't remember how to do a question, go back to the lesson on this topic to refresh your memory. The unit and topic for where each question came from is listed next to the question.

Example: 1-B means Unit 1, Topic B

1-A

A. Count the number of things in each picture. Write the number and word name.

Picture	Answer
a. 	Numeral: Word Name:
b. 	Numeral: Word Name:
c. 	Numeral: Word Name:
d. 	Numeral: Word Name:

1-B

B. Fill in the blanks to make each sentence true. Draw a picture for B and D.

a. 58 means _____ tens and _____ ones.

b. 18 means _____ tens and _____ ones.

c. 471 means _____ hundreds, _____ tens and _____ ones.

d. 127 means _____ hundreds, _____ tens and _____ ones.

C. Write the place value names (ones, tens, hundreds) for each underlined digit.

a. 5<u>6</u>4 _____
b. 23<u>9</u> _____
c. 9<u>8</u>6 _____
d. <u>5</u>34 _____

D. Name the digit for the place value named from the number 5782.

a. Ten _____
b. Hundreds _____

E. Write the word names for the numbers.

a. 17
b. 342
c. 625

F. Write numerals for these word names.

a. seventy-five
b. nineteen
c. seven hundred fifty
d. nine hundred five
e. eight hundred seventy-three

1-C

G. Place a box around the larger number.

a. 452, 245
b. 678, 687

H. H. Arrange these numbers in order from smallest to largest.

a. 86, 668, 886, 686, 868, 66, 866
b. 23, 323, 223, 33, 332, 322, 232

I. Write <, > or = in each blank as needed.

a. 23 _____ 34
b. 118 _____ 118
c. 667 _____ 576
d. 405 _____ 450

1-D

J. Round each number to the nearest ten.

a. 52

b. 123

c. 178

d. 89

K. Word problems. For each problem, round the numbers to the nearest 10.

a. The polar bear can weigh 1 002 kilograms, a koala bear can weigh 14 kilograms, a panda bear can weigh 113 kilograms, a Kodiak bear can weigh 679 kilograms and a black bear can weigh 272 kilograms. Round each number to the nearest 10.

Bear	**Number**	**Rounded Number**
Polar Bear		
Koala Bear		
Panda Bear		
Kodiak Bear		
Black Bear		

L. How much money do you have?

a. _____ cents

b. _____ dollars

2-A

M. Check out your addition facts.

a. $\begin{array}{r} 0 \\ +8 \\ \hline \end{array}$

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

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

d. $\begin{array}{r} 1 \\ +4 \\ \hline \end{array}$

e. $\begin{array}{r} 5 \\ +0 \\ \hline \end{array}$

f. $\begin{array}{r} 9 \\ +5 \\ \hline \end{array}$

g. $\begin{array}{r} 6 \\ +7 \\ \hline \end{array}$

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

N. Add across or horizontally.

a. 7 + 4 =

b. 3 + 0 =

c. 2 + 9 =

d. 9 + 8 =

e. 6 + 2 =

f. 5 + 6 =

g. 8 + 9 =

h. 4 + 2 =

O. Find the sums.

a. $\begin{array}{r} 4 \\ 5 \\ +3 \\ \hline \end{array}$

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

c. $\begin{array}{r} 4 \\ 2 \\ +8 \\ \hline \end{array}$

d. $\begin{array}{r} 4 \\ 6 \\ +7 \\ \hline \end{array}$

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

f.
$$\begin{array}{r} 6 \\ 1 \\ +5 \\ \hline \end{array}$$

P. Find the sums.

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

d.
$$\begin{array}{r} 2 \\ 3 \\ 1 \\ +2 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 2 \\ 3 \\ 4 \\ +7 \\ \hline \end{array}$$

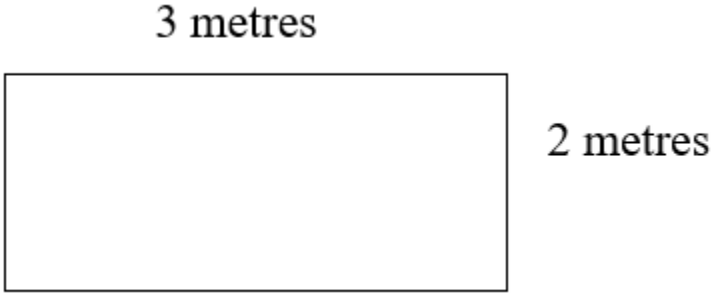
e.
$$\begin{array}{r} 5 \\ 1 \\ 3 \\ +2 \\ \hline \end{array}$$

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

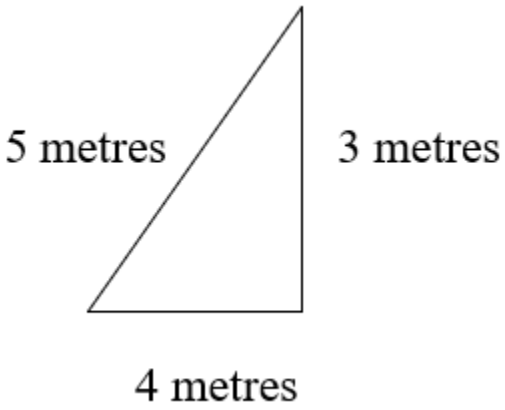
f.
$$\begin{array}{r} 4 \\ 3 \\ 2 \\ +6 \\ \hline \end{array}$$

Q. Find the perimeter of the shape. Be sure to put the unit of measure in your answer. Write the name of the shape below the picture.

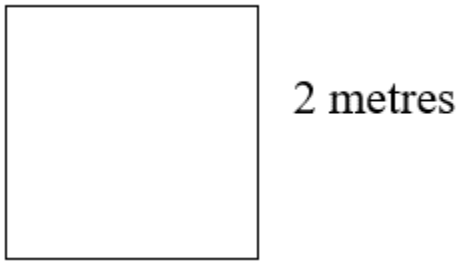
a.



b.



c.



R. Find the sums.

a. $\begin{array}{r} 46 \\ +33 \\ \hline \end{array}$

b. $\begin{array}{r} 35 \\ +93 \\ \hline \end{array}$

c. $\begin{array}{r} 82 \\ +56 \\ \hline \end{array}$

d. $\begin{array}{r} 91 \\ +17 \\ \hline \end{array}$

e. $\begin{array}{r} 740 \\ +859 \\ \hline \end{array}$

f. $\begin{array}{r} 638 \\ +610 \\ \hline \end{array}$

S. Word problems.

a. Seven cars were in the first row. Four cars were in the second row. How many cars are there in the first two rows?

b. One bicycle stored ordered 56 bikes. Another store ordered 72 bikes. How many bikes did both stores order?

c. A mail carrier walked 51 kilometres in a week. The next week she walked 48 kilometres the next week. How far did she walk in two weeks?

3-A

T. Check out your subtraction facts.

a. $\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$

b. $\begin{array}{r} 6 \\ -3 \\ \hline \end{array}$

c. $\begin{array}{r} 17 \\ -8 \\ \hline \end{array}$

d. $\begin{array}{r} 14 \\ -7 \\ \hline \end{array}$

e. $\begin{array}{r} 14 \\ -9 \\ \hline \end{array}$

f. $\begin{array}{r} 11 \\ -2 \\ \hline \end{array}$

g. $\begin{array}{r} 12 \\ -5 \\ \hline \end{array}$

h. $\begin{array}{r} 9 \\ -3 \\ \hline \end{array}$

U. Subtract across or horizontally

a. 4 − 1 =

b. 8 − 2 =

c. 17 − 8 =

d. 11 − 6 =

e. 6 − 4 =

f. 11 − 3 =

3-B

V. Find the differences.

a. $\begin{array}{r} 76 \\ -25 \\ \hline \end{array}$

b. $\begin{array}{r} 84 \\ -43 \\ \hline \end{array}$

c. $\begin{array}{r} 95 \\ -74 \\ \hline \end{array}$

d. $\begin{array}{r} 69 \\ -16 \\ \hline \end{array}$

e. $\begin{array}{r} 852 \\ -321 \\ \hline \end{array}$

f. $\begin{array}{r} 789 \\ -650 \\ \hline \end{array}$

W. Word problems. Solve each work problem.

a. There were 18 roses in a bouquet. Milton gave 9 roses away. How many roses were left?

b. A city has 89 mail carriers. One day only 54 were at work. How many were not at work?

c. Mariko and Stefan went 5-pin bowling. Mariko scored 274 points while Stefan scored 152. How many more points did Mariko score?

4-A

X. Estimate the following answers. Be sure to round to the nearest 10 before adding.

a. $\begin{array}{r} 81 \\ +74 \\ \hline \end{array}$

d. $\begin{array}{r} 733 \\ +719 \\ \hline \end{array}$

b. $\begin{array}{r} 53 \\ +39 \\ \hline \end{array}$

e. $\begin{array}{r} 907 \\ +448 \\ \hline \end{array}$

c. $\begin{array}{r} 43 \\ +68 \\ \hline \end{array}$

f. $\begin{array}{r} 623 \\ +914 \\ \hline \end{array}$

Y. Estimate the following answers. Be sure to round to the nearest 10 before subtracting.

a. $\begin{array}{r} 82 \\ -59 \\ \hline \end{array}$

c. $\begin{array}{r} 61 \\ -17 \\ \hline \end{array}$

b. $\begin{array}{r} 67 \\ -38 \\ \hline \end{array}$

d. $\begin{array}{r} 968 \\ -426 \\ \hline \end{array}$

e. $\begin{array}{r} 577 \\ -171 \\ \hline \end{array}$

f. $\begin{array}{r} 742 \\ -533 \\ \hline \end{array}$

Z. Word problems. Estimate the following answers. Be sure to round to the nearest 10 before adding or subtracting.

a. Mr. Han worked in his store for 33 years. Before owning a store, he had worked in a bank for 24 years. How many years has Mr. Han worked?

b. The longest span of the Lions Gate Bridge in Vancouver is 473 metres. The longest span of the Confederation Bridge in Prince Edward Island is 247 metres. What is the difference?

4-B

AA. Write the following times in standard format.

a. 3 h, 22 min, 51 s

b. 8 h, 38 min, 9 s

c. 10 h, 18 min, 23 s

d. 7 h, 43 min, 34 s

AB. Write the following times using a.m. or p.m.

a. The movie begins at 8:30 in the evening.

b. The coffee shop opens at 5:15 in the morning.

c. The shopping mall closes at 10:00 at night.

AC. Round the following times to the nearest hour.

a. The running time for the movie was 2 hours and 25 minutes.

b. It took 5 hours and 53 minutes to go the hockey and return home after the game.

AD. The following things give the idea of a shape. Write the name of the shape in each blank.

a. A tree is a _____.

b. A swimming pool is a _____.

c. A quarter is a _____.

AE. What shape are the following things? Write triangle, square, rectangle or circle.

a. 

b.

8			4		6			7
						4		
	1					6	5	
5		9		3		7	8	
				7				
	4	8		2		1		3
	5	2					9	
		1						
3			9		2			5

Answers to Book 1 Review

a. 4, four
b. 3, three
c. 8, eight
d. 6, six

a. 5 tens, 8 ones
b. 1 ten, 8 ones
c. 4 hundreds, 7 tens, 1 one
d. 1 hundred, 2 tens, 7 ones

a. tens
b. ones
c. tens
d. hundreds

a. 8
b. 7

a. seventeen
b. three hundred forty-two
c. six hundred twenty-five

a. 75
b. 19
c. 750
d. 905
e. 873

a. 452
b. 687

a. 66, 86, 668, 686, 866, 868, 886
b. 23, 33, 223, 232, 322, 323, 332

a. <
b. =
c. >
d. <

a. 50
b. 120
c. 180
d. 90

a.

Bear	Number	Rounded Number
Polar Bear	1002	1000
Koala Bear	14	10
Panda Bear	113	110
Kodiak Bear	679	680
Black Bear	272	270

a. 40 cents
b. 12 dollars

a. 8
b. 5
c. 10
d. 5
e. 5
f. 14
g. 13
h. 9

a. 11
b. 3
c. 11
d. 17
e. 8
f. 11
g. 17
h. 6

a. 12
b. 17
c. 14
d. 17
e. 8
f. 12

a. 14
b. 16
c. 6
d. 8
e. 11
f. 15

a. 10 metres, rectangle
b. 12 metres, triangle
c. 8 metres, square

a. 79
b. 128
c. 138
d. 108
e. 1599
f. 1248

a. 11 cars
b. 128 bikes
c. 99 kilometres

a. 4
b. 3
c. 9
d. 7
e. 5
f. 9
g. 7
h. 6

a. 3
b. 6
c. 9
d. 5
e. 2
f. 8

a. 51
b. 41
c. 21
d. 53
e. 531
f. 139

a. 9 roses
b. 35 mail carriers
c. 122 points

a. 80 + 70 = 150
b. 50 + 40 = 90
c. 40 + 70 = 110
d. 730 + 720 = 1450
e. 910 + 450 = 1360
f. 620 + 910 = 1530

a. 80 − 60 = 20
b. 70 − 40 = 30
c. 60 − 20 = 40
d. 970 − 430 = 540
e. 580 − 170 = 410
f. 740 − 530 = 210

a. 50 years
b. 220 metres

a. 3:22:51
b. 8:38:09
c. 10:18:23
d. 7:43:34

a. 8:30 p.m.
b. 5:15 a.m.
c. 10:00 p.m.

a. 2 hours
b. 6 hours

a. triangle
b. rectangle
c. circle

a. rectangle
b. square

Acknowledgements - 1st Edition

Curriculum Writers

- Liz Girard, North Island College
- Wendy Tagami, Selkirk College

Advisory Committee Members

- Jill Auchinachie, Camosun College
- Leanne Caillier-Smith, College of the Rockies
- Mercedes de la Nuez, Northwest Community College
- Barbara Stirsky, University of the Fraser Valley
- Jan Weiten, Vancouver Community College

The Deans and Directors of Developmental Education

- Stephanie Jewell, Vancouver Community College
- Vivian Hermansen, North Island College
- Lyle Olsen, Selkirk College
- Allison Alder, Selkirk College

Also

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Versioning History

This page provides a record of edits and changes made to this book since its initial publication. Whenever edits or updates are made in the text, we provide a record and description of those changes here. If the change is minor, the version number increases by 0.01. If the edits involve substantial updates, the version number increases to the next full number.

The files posted by this book always reflect the most recent version. If you find an error in this book, please fill out the Report an Error form.

Version	Date	Change	Details
1.00	October 3, 2014	Book published in Microsoft Word.	
2.00	September 22, 2021	Book updated and republished in Pressbooks as the second edition.	
2.01	January 25, 2023	Minor edits for consistency of ALF Math series.	• Moved acknowledgements to the back matter. • Created a “How to Deal with Math Anxiety” front matter section, which is now standardized across all ALF Math books. • Deleted “Topic A: Emotions and Learning” since that content is now covered in the “How to Deal with Math Anxiety” front matter. • Re-lettered the remaining topics in Unit 1.