

$$\begin{array}{r} 52 \\ + 34 \\ \hline \end{array}$$

$$\begin{array}{r} 99 \\ - 54 \\ \hline \end{array}$$

Name: _____

Foundational Numeracy

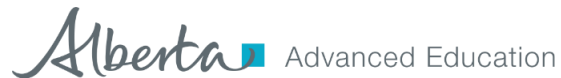
Module 2: Adding and Subtracting Whole Numbers

Learner Guide

Developed for Alberta's Community Adult Learning Program



Funded by Alberta Advanced Education



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Introduction to the Module

In this module, you will work on basic math related to whole number arithmetic. Numeracy is important and is part of our complex world. Whether it is calculating a budget or paying bills, arithmetic skills are critical. Enjoy this module!

Important

When you see an object like the one below, you can either use the camera on your phone or tablet, or you can click on the link to play the video of the math example.



Want to watch a video of this lesson?
<https://youtu.be/QtwiGWi5a7E>

Specific Learning Outcomes

The table below displays the skills and knowledge that you will explore in this module. This is your opportunity to evaluate your own skills to see if you can do these things. At the end of this module, you will be invited to re-evaluate your skills to measure the progress you have made.

In this module I will learn how to ...	I can't do this	I can do this with help	I can do this!
1. Add one-digit numbers			
2. Add two-digit numbers			
3. Estimate sums and adding multi-digit numbers			
4. Subtract one-digit numbers			
5. Subtract two-digit numbers without borrowing			
6. Subtract two-digit numbers with borrowing			
7. Estimate and subtract multi-digit numbers			

Essential Skills

The essential skills used in this module are the following:



Reading: Understanding materials written in sentences or paragraphs



Numeracy: Using and understanding numbers



Writing: Writing on paper or typing on a computer



Vocabulary: Gaining related vocabulary

Unit 1: Addition

Keywords

Adding/ Addition	To join something to something else to increase the size, number, or amount. In an equation, this is indicated by the "+" sign.
Carry	To transfer a digit from one column of digits to another column of digits
Equation	A statement that the values of two mathematical expressions are equal (indicated by the "=" sign)
Operation	A single math task. Adding is an operation, and so are subtracting, multiplying, and dividing
Sum	The answer to an adding equation; also known as the total
Total	The answer to an adding equation; also known as the sum

Lesson 1.1: Basic Addition Facts

Introductory Video:




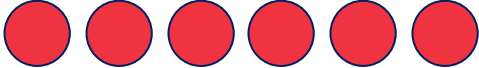


Want to watch a video of this lesson?

<https://youtu.be/AuX7nPBqDts>

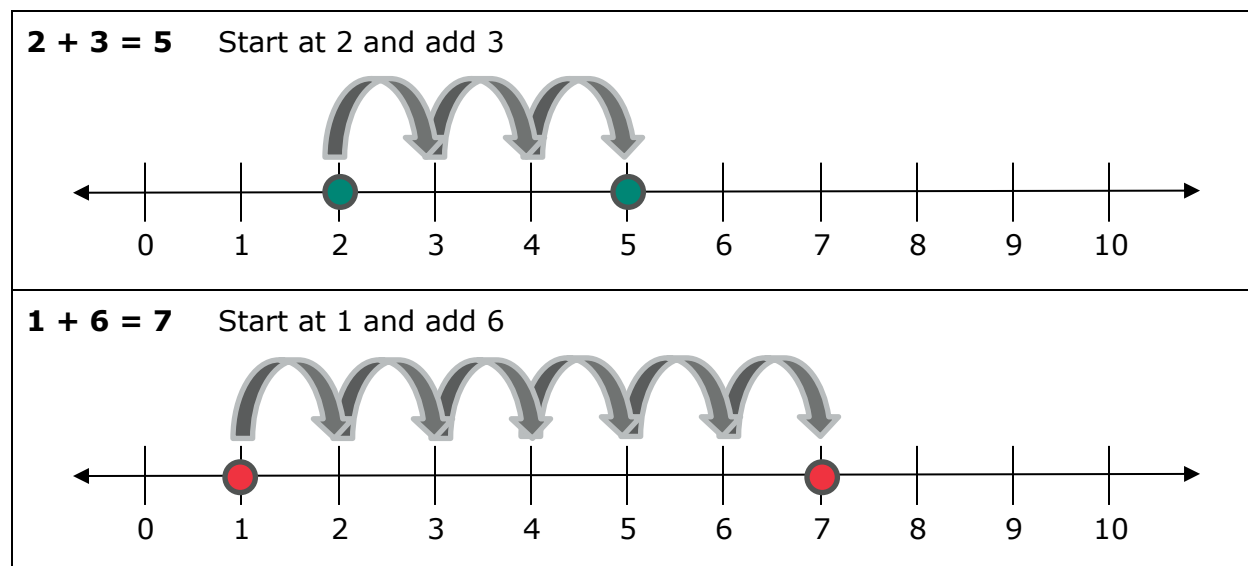
Adding is like counting objects. We can count anything such as the number of cars in a parking lot, the amount of nickels you have in a jar, etc. This is called finding the sum or total.

Examples: We can just count the number of objects. Or we can add. The result is the same.

$2 + 3 = 5$		+	
$1 + 6 = 7$		+	

Another method of counting is to use a number line.

The first number tells you where to start and the second number tells you how far to move to the right.



Addition Facts

We can add only two digits at a time. Even if we are adding up columns of more than two numbers. We can also add numbers in any order.

Example: $2 + 3 = 5$ and $3 + 2 = 5$

Student Example 1

Adding two even numbers:

$$2 + 6 =$$



Want to watch a video of this lesson?

<https://youtu.be/SFRTTUtAjg4>

Watch video from 3:35

Student Example 2

Adding two odd numbers:

$$1 + 3 =$$

Student Example 3

Adding one even number and one odd number:

$$4 + 3 =$$

Exercise 1.1

Fill in the blanks with all the ways you can add two digits to get the required result. Don't reverse the order as we can add the numbers in any order to get the desired result.

1. $\underline{0} + \underline{1} = 1$

2. $\underline{0} + \underline{2} = 2$

$\underline{1} + \underline{1} = 2$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$11. \underline{2} + \underline{9} = 11$

$\underline{\quad} + \underline{\quad} = 11$

$\underline{\quad} + \underline{\quad} = 11$

$\underline{\quad} + \underline{\quad} = 11$

$12. \underline{3} + \underline{9} = 12$

$\underline{\quad} + \underline{\quad} = 12$

$\underline{\quad} + \underline{\quad} = 12$

$\underline{\quad} + \underline{\quad} = 12$

$13. \underline{\quad} + \underline{\quad} = 13$

$\underline{\quad} + \underline{\quad} = 13$

$\underline{\quad} + \underline{\quad} = 13$

$14. \underline{\quad} + \underline{\quad} = 14$

$\underline{\quad} + \underline{\quad} = 14$

$\underline{\quad} + \underline{\quad} = 14$

$15. \underline{\quad} + \underline{\quad} = 15$

$\underline{\quad} + \underline{\quad} = 15$

$16. \underline{\quad} + \underline{\quad} = 16$

$\underline{\quad} + \underline{\quad} = 16$

$17. \underline{\quad} + \underline{\quad} = 17$

$18. \underline{\quad} + \underline{\quad} = 18$

Addition Facts Continued

Practicing your addition facts will help you to become much better at arithmetic. Practice daily until you remember the facts.

Fill in the chart below with the addition facts you already know leave the ones blank that you have to think about. Keep this with you as you continue to learn your addition facts. You can colour the ones you know as you don't need to practice those ones.

+	0	1	2	3	4	5	6	7	8	9
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										

Lesson 1.2: Adding One-Digit Numbers

When adding single-digit numbers together, they can be in a column or in a row. Remember numbers can be added in any order.

Exercise 1.2

No Carries

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

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

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

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

$$5. \quad 1 + 2 =$$

$$6. \quad 5 + 1 =$$

$$7. \quad 2 + 6 =$$

$$8. \quad 4 + 3 =$$

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

$$\begin{array}{r} 10. \quad 1 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 3 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 6 \\ + 3 \\ \hline \end{array}$$

$$13. \quad 2 + 2 =$$

$$14. \quad 3 + 4 =$$

$$15. \quad 3 + 1 =$$

$$16. \quad 4 + 2 =$$

$$\begin{array}{r} 17. \quad 2 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 3 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 5 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 1 \\ + 6 \\ \hline \end{array}$$

$$21. \quad 6 + 2 =$$

$$22. \quad 4 + 5 =$$

$$23. \quad 2 + 4 =$$

$$24. \quad 3 + 6 =$$

$$\begin{array}{r} 25. \quad 1 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 4 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 5 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 2 \\ + 7 \\ \hline \end{array}$$

Carries

$$\begin{array}{r} 29. \quad 5 \\ \quad + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 7 \\ \quad + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 31. \quad 5 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 32. \quad 8 \\ \quad + 7 \\ \hline \end{array}$$

$$33. \quad 9 + 5 =$$

$$34. \quad 8 + 3 =$$

$$35. \quad 6 + 6 =$$

$$36. \quad 5 + 9 =$$

$$\begin{array}{r} 37. \quad 7 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 38. \quad 5 \\ \quad + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 39. \quad 8 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 40. \quad 4 \\ \quad + 9 \\ \hline \end{array}$$

$$41. \quad 3 + 8 =$$

$$42. \quad 7 + 8 =$$

$$43. \quad 9 + 5 =$$

$$44. \quad 2 + 8 =$$

$$\begin{array}{r} 45. \quad 6 \\ \quad + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 46. \quad 6 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 47. \quad 9 \\ \quad + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 48. \quad 5 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 49. \quad 7 \\ \quad + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 50. \quad 7 \\ \quad + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 51. \quad 3 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 52. \quad 9 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 53. \quad 9 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 54. \quad 6 \\ \quad + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 55. \quad 7 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 56. \quad 8 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 57. \quad 2 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 58. \quad 5 \\ \quad + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 59. \quad 3 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 60. \quad 6 \\ \quad + 7 \\ \hline \end{array}$$

Lesson 1.3: Adding One-Digit Numbers, Part 2

When adding 3 or 4 one-digit numbers, try to add the digits you know the sum of first and then add the next digit or digits. This will make adding the numbers quicker.

Exercise 1.3

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

$$\begin{array}{r} 2. \quad 6 \\ \quad 0 \\ \quad + 3 \\ \hline \end{array}$$

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

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

$$\begin{array}{r} 5. \quad 7 \\ \quad 3 \\ \quad + 4 \\ \hline \end{array}$$

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

$$\begin{array}{r} 7. \quad 4 \\ \quad 3 \\ \quad + 5 \\ \hline \end{array}$$

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

$$\begin{array}{r} 9. \quad 2 \\ \quad 8 \\ \quad + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 7 \\ \quad 5 \\ \quad + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 2 \\ \quad 8 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 0 \\ \quad 8 \\ \quad + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 7 \\ \quad 5 \\ \quad + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 9 \\ \quad 8 \\ \quad + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 4 \\ \quad 5 \\ \quad + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 6 \\ \quad 1 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 6 \\ \quad 6 \\ \hline + 6 \end{array}$$

$$\begin{array}{r} 18. \quad 3 \\ \quad 8 \\ \hline + 7 \end{array}$$

$$\begin{array}{r} 19. \quad 9 \\ \quad 3 \\ \hline + 5 \end{array}$$

$$\begin{array}{r} 20. \quad 8 \\ \quad 6 \\ \hline + 2 \end{array}$$

$$\begin{array}{r} 21. \quad 8 \\ \quad 3 \\ \hline + 9 \end{array}$$

$$\begin{array}{r} 22. \quad 4 \\ \quad 3 \\ \hline + 9 \end{array}$$

$$\begin{array}{r} 23. \quad 4 \\ \quad 6 \\ \hline + 5 \end{array}$$

$$\begin{array}{r} 24. \quad 4 \\ \quad 8 \\ \hline + 4 \end{array}$$

$$\begin{array}{r} 25. \quad 6 \\ \quad 5 \\ \quad 2 \\ \hline + 1 \end{array}$$

$$\begin{array}{r} 26. \quad 4 \\ \quad 5 \\ \quad 1 \\ \hline + 0 \end{array}$$

$$\begin{array}{r} 27. \quad 7 \\ \quad 1 \\ \quad 6 \\ \hline + 3 \end{array}$$

$$\begin{array}{r} 28. \quad 0 \\ \quad 6 \\ \quad 2 \\ \hline + 4 \end{array}$$

$$\begin{array}{r} 29. \quad 9 \\ \quad 1 \\ \quad 6 \\ \hline + 3 \end{array}$$

$$\begin{array}{r} 30. \quad 2 \\ \quad 5 \\ \quad 8 \\ \hline + 3 \end{array}$$

Lesson 1.4: Adding Two-Digit Numbers

Introductory Video:



SCAN ME

Want to watch a video of this lesson?

<https://youtu.be/mAvuom42NyY>

When adding two-digit numbers put in columns so the place values are under the same place values. Add the ones, then the tens, then the hundreds, and on.

Student Example 1

Add: $35 + 6$



SCAN ME

Want to watch a video of this lesson?

<https://youtu.be/G1cNKc3PD74>

Student Example 2

Add: $35 + 27$



SCAN ME

Want to watch a video of this lesson?

<https://youtu.be/8mcTsyV56jI>

Exercise 1.4

$$\begin{array}{r} 1. \quad 16 \\ \quad + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 18 \\ \quad + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 22 \\ \quad + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 14 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 14 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 19 \\ \quad + 9 \\ \hline \end{array}$$

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

$$\begin{array}{r} 8. \quad 17 \\ \quad + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 25 \\ \quad + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 36 \\ \quad + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 25 \\ \quad + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 27 \\ \quad + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 23 \\ \quad + 16 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 52 \\ \quad + 34 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 41 \\ \quad + 54 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 34 \\ \quad + 55 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 62 \\ \quad + 29 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 25 \\ \quad + 55 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 77 \\ \quad + 14 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 27 \\ \quad + 39 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 33 \\ \quad + 47 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 53 \\ \quad + 35 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 49 \\ \quad + 44 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 36 \\ \quad + 64 \\ \hline \end{array}$$

$$\begin{array}{r} 25. \quad 73 \\ \quad + 28 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 45 \\ \quad + 35 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 65 \\ \quad + 57 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 67 \\ \quad + 47 \\ \hline \end{array}$$

$$\begin{array}{r} 29. \quad 89 \\ \quad + 31 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 64 \\ \quad + 83 \\ \hline \end{array}$$

$$\begin{array}{r} 31. \quad 99 \\ \quad + 22 \\ \hline \end{array}$$

$$\begin{array}{r} 32. \quad 55 \\ \quad + 77 \\ \hline \end{array}$$

$$\begin{array}{r} 33. \quad 88 \\ + 44 \\ \hline \end{array}$$

$$\begin{array}{r} 34. \quad 65 \\ + 36 \\ \hline \end{array}$$

$$\begin{array}{r} 35. \quad 26 \\ + 84 \\ \hline \end{array}$$

$$\begin{array}{r} 36. \quad 66 \\ + 58 \\ \hline \end{array}$$

$$\begin{array}{r} 37. \quad 72 \\ + 87 \\ \hline \end{array}$$

$$\begin{array}{r} 38. \quad 56 \\ + 47 \\ \hline \end{array}$$

$$\begin{array}{r} 39. \quad 78 \\ + 42 \\ \hline \end{array}$$

$$\begin{array}{r} 40. \quad 55 \\ + 86 \\ \hline \end{array}$$

$$\begin{array}{r} 41. \quad 76 \\ + 96 \\ \hline \end{array}$$

$$\begin{array}{r} 42. \quad 93 \\ + 27 \\ \hline \end{array}$$

$$\begin{array}{r} 43. \quad 69 \\ + 48 \\ \hline \end{array}$$

$$\begin{array}{r} 44. \quad 97 \\ + 36 \\ \hline \end{array}$$

$$\begin{array}{r} 45. \quad 33 \\ \quad 22 \\ + 42 \\ \hline \end{array}$$

$$\begin{array}{r} 46. \quad 21 \\ \quad 41 \\ + 11 \\ \hline \end{array}$$

$$\begin{array}{r} 47. \quad 36 \\ \quad 24 \\ + 35 \\ \hline \end{array}$$

$$\begin{array}{r} 48. \quad 48 \\ \quad 42 \\ + 37 \\ \hline \end{array}$$

$$\begin{array}{r} 49. \quad 63 \\ \quad 55 \\ + 24 \\ \hline \end{array}$$

$$\begin{array}{r} 50. \quad 73 \\ \quad 38 \\ + 27 \\ \hline \end{array}$$

$$\begin{array}{r} 51. \quad 96 \\ \quad 53 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 52. \quad 84 \\ \quad 56 \\ + 45 \\ \hline \end{array}$$

$$\begin{array}{r} 53. \quad 23 \\ \quad 69 \\ + 48 \\ \hline \end{array}$$

$$\begin{array}{r} 54. \quad 57 \\ \quad 69 \\ + 74 \\ \hline \end{array}$$

$$\begin{array}{r} 55. \quad 85 \\ \quad 49 \\ + 63 \\ \hline \end{array}$$

$$\begin{array}{r} 56. \quad 57 \\ \quad 68 \\ + 75 \\ \hline \end{array}$$

$$\begin{array}{r} 57. \quad 88 \\ \quad 75 \\ + 96 \\ \hline \end{array}$$

$$\begin{array}{r} 58. \quad 76 \\ \quad 57 \\ + 48 \\ \hline \end{array}$$

$$\begin{array}{r} 59. \quad 84 \\ \quad 56 \\ + 95 \\ \hline \end{array}$$

$$\begin{array}{r} 60. \quad 96 \\ \quad 57 \\ + 79 \\ \hline \end{array}$$

Lesson 1.5: Adding with Estimating

Learning Objectives

- Add two or more numbers with estimating and regrouping

Estimating Sums

To estimate an answer means to use rounded numbers in a calculation to get an idea of what the size of the actual answer should be.

Rule for Estimating Sums

1. Use front end rounding. Round each number to the place of the **left-most digit**, the numbers behind become zeros.
2. Add these rounded numbers.

Example 1

Add: $468 + 936 + 687$

$$\begin{array}{r} 468 \longrightarrow 500 \\ 936 \longrightarrow 900 \\ + 687 \longrightarrow + 700 \\ \hline 2100 \end{array} \quad \begin{array}{l} \longleftarrow \text{The given numbers rounded to the left-} \\ \text{most digit.} \\ \longleftarrow \text{The estimated sum.} \end{array}$$

$$\begin{array}{r} 468 \\ 936 \\ + 687 \\ \hline 2091 \end{array} \quad \longleftarrow \text{The actual sum is close to the estimated sum.}$$

Example 2

$$\begin{array}{r} 24\,642 \longrightarrow 20\,000 \\ 445 \longrightarrow 400 \\ 9\,261 \longrightarrow 9\,000 \\ + 16\,792 \longrightarrow + 20\,000 \\ \hline 49\,400 \end{array} \quad \begin{array}{l} \longleftarrow \text{The given numbers rounded to the} \\ \text{left-most digit.} \end{array}$$

$$\begin{array}{r} \\ 24\,642 \\ 445 \\ 9\,261 \\ + 16\,792 \\ \hline 51\,140 \end{array} \quad \longleftarrow \text{The actual sum is close to the estimated sum.}$$

Student Example 1

Estimate:

$$4\,909 + 3\,217$$



Want to watch a video of this lesson?

<https://youtu.be/FmaLJJdMQdE>

Student Example 2

Add:

$$37 + 725$$



Want to watch a video of this lesson?

<https://youtu.be/N6OVX23Hvvk>

Student Example 3

Add:

$$249 + 383$$



Want to watch a video of this lesson?

<https://youtu.be/8TD6iDzt4oQ>

Exercise 1.5

Solve the following. Use front-end rounding for the estimates.

	Estimate	Actual
1. $43 + 6$	$\begin{array}{r} 40 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ + 6 \\ \hline \end{array}$
2. $57 + 8$		
3. $61 + 28$		
4. $32 + 45$		
5. $33 + 66$		
6. $37 + 34$	$\begin{array}{r} 40 \\ + 30 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ + 34 \\ \hline \end{array}$

	Estimate	Actual
7. $45 + 55$		
8. $36 + 79$		
9. $87 + 34$		
10. $95 + 28$		
11. $652 + 43$	$\begin{array}{r} 700 \\ + 40 \\ \hline \end{array}$	$\begin{array}{r} 652 \\ + 43 \\ \hline \end{array}$
12. $88 + 489$	$\begin{array}{r} 500 \\ + 90 \\ \hline \end{array}$	$\begin{array}{r} 489 \\ + 88 \\ \hline \end{array}$
13. $27 + 484$		

	Estimate	Actual
14. $886 + 52$		
15. $44 + 327$		
16. $764 + 977$	$\begin{array}{r} 800 \\ + 1000 \\ \hline \end{array}$	$\begin{array}{r} 764 \\ + 977 \\ \hline \end{array}$
17. $240 + 264$		
18. $666 + 753$		
19. $925 + 489$		
20. $726 + 877$		

	Estimate	Actual
21. $2\,499 + 889$	$\begin{array}{r} 2\,000 \\ + 900 \\ \hline \end{array}$	$\begin{array}{r} 2\,499 \\ + 889 \\ \hline \end{array}$
22. $5\,247 + 3\,866$		
23. $5\,467 + 2\,567$		
24. $7\,850 + 5\,056$		
25. $59\,475 + 4\,808$		
26. $8\,108 + 22\,646$		
27. $7\,518 + 79\,874$		

	Estimate	Actual
28. $65 + 47 + 36$	$\begin{array}{r} 70 \\ 50 \\ + 40 \\ \hline \end{array}$	$\begin{array}{r} 65 \\ 47 \\ + 36 \\ \hline \end{array}$
29. $96 + 83 + 14$	$\begin{array}{r} 100 \\ 80 \\ + 10 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ 83 \\ + 14 \\ \hline \end{array}$
30. $267 + 477 + 83$		
31. $205 + 93 + 366$		
32. $817 + 375 + 449$	$\begin{array}{r} 800 \\ 400 \\ + 400 \\ \hline \end{array}$	$\begin{array}{r} 817 \\ 375 \\ + 449 \\ \hline \end{array}$
33. $375 + 629 + 772$		
34. $3267 + 885 + 266$		

	Estimate	Actual
35. $6\,452 + 8\,506 + 217$	$\begin{array}{r} 6\,000 \\ 9\,000 \\ + 200 \\ \hline \end{array}$	$\begin{array}{r} 6\,452 \\ 8\,506 \\ + 217 \\ \hline \end{array}$
36. $7\,442 + 5\,808 + 782$		
37. $5\,499 + 8\,889 + 7\,721$		
38. $25\,180 + 12\,264 + 3\,341$		

39. The distance from Edmonton to Red Deer is 154 kilometres. From Red Deer to Calgary, the distance is 146 kilometres. From Calgary to Lethbridge, the distance is 213 kilometres. How many kilometres apart are Edmonton and Lethbridge?

40. At the grocery store, Jamal buys oranges (\$8), milk (\$14), beef (\$18), light bulbs (\$16), and diapers (\$57). How much does he spend altogether?

Unit 2: Subtraction

Keywords

Borrow	In subtraction, to take 1 from a digit of the first number (<i>minuend</i>) in order to add a 10 to the digit to the right of it.	$\begin{array}{r} 8 \text{ } 9 \text{ } 4 \text{ } 8 \\ - 2 \text{ } 6 \text{ } 3 \\ \hline 6 \text{ } 8 \text{ } 5 \end{array}$
Difference	The <i>answer</i> or <i>result</i> of the subtraction. For example, $12 - 10 = 2$	
Inverse	Inverse operations is also called the opposite operations. Addition and subtraction are opposite operations. For example, $4 + 6 = 10$ (addition) and $10 - 6 = 4$ (subtraction)	
Minus	Means to subtract. We say "seven minus four" which means $7 - 4$	
Subtraction	The process of taking one number or amount away from another	

Lesson 2.1: Basic Subtraction Facts

Introductory Video:



Want to watch a video of this lesson?

<https://youtu.be/yBT7bsrFTnI>

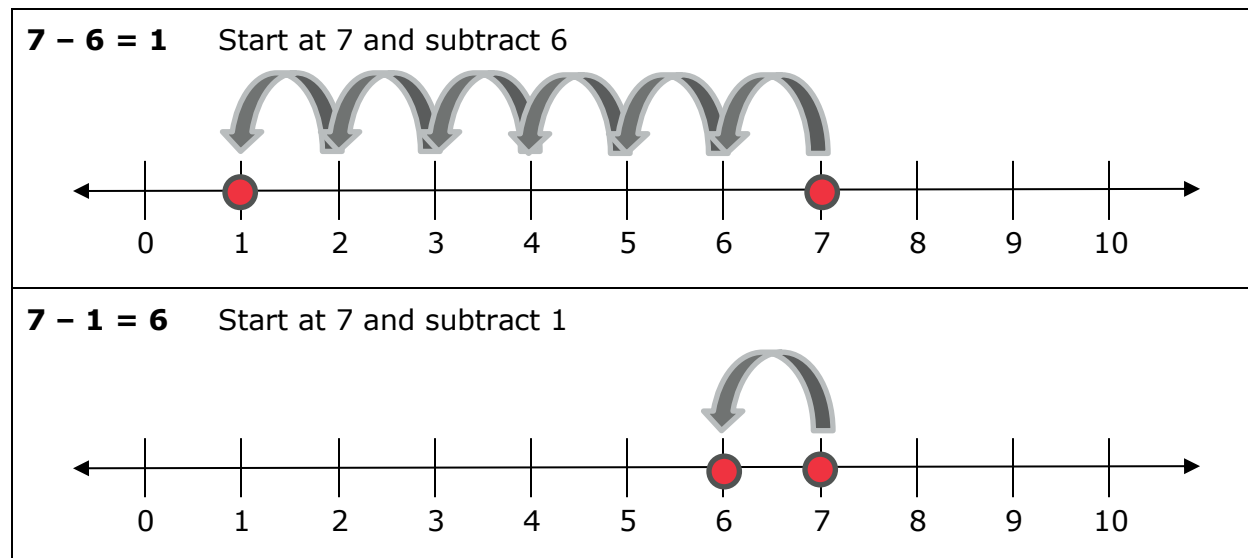
Addition and subtraction are opposite operations. We add two numbers to get the sum or total. We subtract two numbers to find the difference.

Order wasn't important when adding. **Order is important when subtracting. The largest number must always be first when subtracting whole numbers.**

This exercise is to practice your subtraction facts. We sometimes use backwards adding

$7 - 5$ we might think **what** + 5 = 7 $2 + 5 = 7$ so $7 - 5 = 2$

Example:



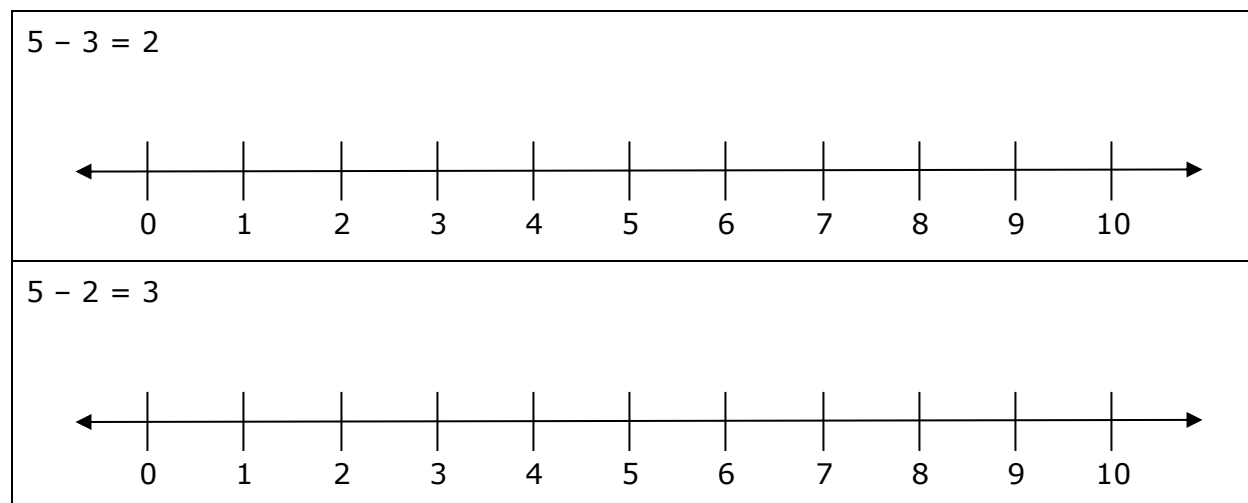
Student Example 1



Want to watch a video of this lesson?

<https://youtu.be/incKJchBCLo>

Video for example 1 and 2



Student Example 2

$7 - 4 =$

Exercise 2.1

$$\begin{array}{r} 1. \quad 3 \\ \quad -1 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 4 \\ \quad -1 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 6 \\ \quad -1 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 8 \\ \quad -1 \\ \hline \end{array}$$

$$5. \quad 5 - 2 =$$

$$6. \quad 7 - 3 =$$

$$7. \quad 8 - 5 =$$

$$8. \quad 5 - 3 =$$

$$\begin{array}{r} 9. \quad 4 \\ \quad -3 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 6 \\ \quad -2 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 9 \\ \quad -7 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 6 \\ \quad -5 \\ \hline \end{array}$$

$$13. \quad 9 - 3 =$$

$$14. \quad 8 - 4 =$$

$$15. \quad 7 - 2 =$$

$$16. \quad 6 - 3 =$$

$$\begin{array}{r} 17. \quad 5 \\ \quad -4 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 8 \\ \quad -4 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 8 \\ \quad -3 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 6 \\ \quad -5 \\ \hline \end{array}$$

$$21. \quad 3 - 3 =$$

$$22. \quad 4 - 2 =$$

$$23. \quad 7 - 1 =$$

$$24. \quad 9 - 9 =$$

$$\begin{array}{r} 25. \quad 6 \\ \quad -2 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 1 \\ \quad -1 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 8 \\ \quad -3 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 4 \\ \quad -1 \\ \hline \end{array}$$

$$\begin{array}{r} 29. \quad 9 \\ \quad -4 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 8 \\ \quad -6 \\ \hline \end{array}$$

$$\begin{array}{r} 31. \quad 9 \\ \quad -3 \\ \hline \end{array}$$

$$\begin{array}{r} 32. \quad 8 \\ \quad -7 \\ \hline \end{array}$$

$$\begin{array}{r} 33. \quad 7 \\ \quad -3 \\ \hline \end{array}$$

$$\begin{array}{r} 34. \quad 7 \\ \quad -2 \\ \hline \end{array}$$

$$\begin{array}{r} 35. \quad 5 \\ \quad -4 \\ \hline \end{array}$$

$$\begin{array}{r} 36. \quad 6 \\ \quad -6 \\ \hline \end{array}$$

$$\begin{array}{r} 37. \quad 1 \\ \quad -0 \\ \hline \end{array}$$

$$\begin{array}{r} 38. \quad 8 \\ \quad -1 \\ \hline \end{array}$$

$$\begin{array}{r} 39. \quad 7 \\ \quad -6 \\ \hline \end{array}$$

$$\begin{array}{r} 40. \quad 5 \\ \quad -2 \\ \hline \end{array}$$

Lesson 2.2: Subtracting Without Borrowing

Introductory Video:



Want to watch a video of this lesson?

<https://youtu.be/Y6M89-6106I>

Watch video to 2:00

When subtracting make sure place values are lined up. If the numbers are beside each other put in column form.

Example

Solve: $86 - 52$

$$\begin{array}{r} 86 \\ - 52 \\ \hline 34 \end{array}$$

Arrange in columns. The larger number is always on top
First subtract the Ones column: $6 - 2 = 4$
Then subtract the Tens column: $8 - 5 = 3$

Student Example

Subtract: $65 - 23$



Want to watch a video of this lesson?

<https://youtu.be/slIX9EDcHgE>

Exercise 2.2

$$\begin{array}{r} 1. \quad 28 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 34 \\ - 14 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 25 \\ - 23 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 39 \\ - 14 \\ \hline \end{array}$$

$$5. \quad 62 - 20 =$$

$$6. \quad 44 - 33 =$$

$$7. \quad 32 - 11 =$$

$$8. \quad 67 - 43 =$$

$$\begin{array}{r} 9. \quad 74 \\ - 34 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 68 \\ - 56 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 99 \\ - 54 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 76 \\ - 34 \\ \hline \end{array}$$

$$13. \quad 77 - 55 =$$

$$14. \quad 89 - 14 =$$

$$15. \quad 65 - 32 =$$

$$16. \quad 49 - 35 =$$

$$17. \quad 62 - 21 =$$

$$18. \quad 99 - 76 =$$

$$19. \quad 70 - 70 =$$

$$20. \quad 38 - 18 =$$

$$21. \quad 279 - 127 =$$

$$22. \quad 436 - 215 =$$

$$23. \quad 657 - 433 =$$

$$24. \quad 815 - 202 =$$

$$\begin{array}{r} 25. \quad 980 \\ - 630 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 777 \\ - 362 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 958 \\ - 531 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 439 \\ - 333 \\ \hline \end{array}$$

$$\begin{array}{r} 29. \quad 2\,685 \\ - 1\,274 \\ \hline \end{array}$$

$$\begin{array}{r} 30. \quad 7\,795 \\ - 4\,582 \\ \hline \end{array}$$

$$\begin{array}{r} 31. \quad 8\,273 \\ - 6\,261 \\ \hline \end{array}$$

$$\begin{array}{r} 32. \quad 5\,007 \\ - 3\,004 \\ \hline \end{array}$$

Lesson 2.3: Subtracting With Borrowing

Introductory Video:



Want to watch a video of this lesson?

<https://youtu.be/Y6M89-6106I>

Watch video from 2:00

When subtracting make sure place values are lined up. If the numbers are beside each other put in column form.

<p>Example 1</p>	<p>Solve: $71 - 32$</p> $\begin{array}{r} 71 \\ - 32 \\ \hline 39 \end{array}$ <p>Ones column: $1 - 2$, can't do it! Borrow 1 from the hundreds column (it is reduced from 7 to 6) and increase the tens column from 1 to 11. Now subtract: $11 - 2 = 9$</p> <p>Tens column: $6 - 3 = 3$ (Remember, the 7 was borrowed from, so it is now 6!)</p>
<p>Example 2</p>	<p>Borrowing more than once</p> <p>Sometimes it is necessary to borrow more than once in order to find the difference. Solve: $637 - 549$</p> $\begin{array}{r} 637 \\ - 549 \\ \hline \end{array}$ <p>Ones column: We cannot take 9 from 7, so we borrow from the tens column to get 17. Now we can subtract 9 from 17.</p> $\begin{array}{r} 512 \\ 637 \\ - 549 \\ \hline 88 \end{array}$ <p>Tens column: We cannot subtract 4 tens from 2 tens, so we borrow again. Borrow 1 from the hundreds column to make 12 in the tens column and complete the subtraction to find the difference.</p>
<p>Example 3</p>	<p>Solve: $7\,000 - 542$</p> $\begin{array}{r} 7000 \\ - 542 \\ \hline 6458 \end{array}$ <p>We cannot borrow from zero so we must borrow from 7 000.</p> <p>6 4 5 8 → Difference</p>

Student Example 1

Subtract: $83 - 25$



Want to watch a video of this lesson?

<https://youtu.be/egjDLFX9VHg>

Student Example 2

Subtract: $312 - 189$



Want to watch a video of this lesson?

<https://youtu.be/QD86addRZEw>

Student Example 3

Subtract: $389\ 002 - 76\ 151$



Want to watch a video of this lesson?

<https://youtu.be/buyK1y4rV3E>

Exercise 2.3

1.
$$\begin{array}{r} 15 \\ - 7 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 34 \\ - 8 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 25 \\ - 16 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 32 \\ - 17 \\ \hline \end{array}$$

5. $62 - 27 =$

6. $41 - 33 =$

7. $33 - 14 =$

8. $72 - 45 =$

9.
$$\begin{array}{r} 70 \\ - 36 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 85 \\ - 56 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 92 \\ - 74 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 83 \\ - 39 \\ \hline \end{array}$$

$13. 77 - 59 =$

$14. 31 - 14 =$

$15. 65 - 38 =$

$16. 45 - 37 =$

$$\begin{array}{r} 17. \quad 62 \\ \quad - 28 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 92 \\ \quad - 76 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 80 \\ \quad - 73 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 48 \\ \quad - 19 \\ \hline \end{array}$$

$21. 385 - 127 =$

$22. 627 - 245 =$

$23. 727 - 464 =$

$24. 815 - 246 =$

$$\begin{array}{r} 25. \quad 802 \\ \quad - 760 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 408 \\ \quad - 285 \\ \hline \end{array}$$

$$\begin{array}{r} 27. \quad 900 \\ \quad - 569 \\ \hline \end{array}$$

$$\begin{array}{r} 28. \quad 500 \\ \quad - 168 \\ \hline \end{array}$$

$29. 3\,485 - 1\,374$

$30. 6\,375 - 3\,283$

$31. 9\,073 - 5\,295$

$32. 5\,000 - 3\,087$

$$\begin{array}{r} 33. \quad 7\,000 \\ \quad - 4\,999 \\ \hline \end{array}$$

$$\begin{array}{r} 34. \quad 6\,000 \\ \quad - 3\,034 \\ \hline \end{array}$$

$$\begin{array}{r} 35. \quad 8\,040 \\ \quad - 3\,857 \\ \hline \end{array}$$

$$\begin{array}{r} 36. \quad 5\,002 \\ \quad - 4\,269 \\ \hline \end{array}$$

Lesson 2.4: Subtraction with Estimating

Rule for Estimating Differences

1. Use front end rounding. Round each number to the place of the **left-most digit**.
2. Subtract these rounded numbers.

Example 1

Subtract: $896 - 685$

$$\begin{array}{r} 896 \longrightarrow 900 \\ - 685 \longrightarrow - 700 \\ \hline \end{array}$$

The given numbers rounded to the left-most digit.

200 ← The estimated difference.

$$\begin{array}{r} 896 \\ - 685 \\ \hline 211 \end{array}$$

← The actual difference is close to the estimated difference.

Student Example 1

Estimate using front end rounding:

$$6\,325 - 1\,578$$



Want to watch a video of this lesson?

<https://youtu.be/s0cUAaT1HIU>

SCAN ME

Student Example 2

Estimate using front end rounding:

$$8\,000 - 3\,362$$

Exercise 2.4

Solve the following. Put in columns and use front-end rounding for the estimates. Then complete the calculations.

	Estimate	Actual
1. $28 - 6$	$\begin{array}{r} 30 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ - 6 \\ \hline \end{array}$
2. $65 - 4$		
3. $34 - 9$		
4. $72 - 5$		
5. $49 - 36$	$\begin{array}{r} 50 \\ - 40 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ - 36 \\ \hline \end{array}$
6. $87 - 31$		

	Estimate	Actual
7. 22 - 18		
8. 65 - 37		
9. 72 - 48		
10. 30 - 19		
11. 62 - 27		
12. 80 - 42		
13. 50 - 37		

	Estimate	Actual
14. 90 - 59		
15. 849 - 25	$\begin{array}{r} 800 \\ - 30 \\ \hline \end{array}$	$\begin{array}{r} 849 \\ - 25 \\ \hline \end{array}$
16. 961 - 41		
17. 455 - 37		
18. 327 - 63		
19. 911 - 88		
20. 459 - 264	$\begin{array}{r} 500 \\ - 300 \\ \hline \end{array}$	$\begin{array}{r} 459 \\ - 264 \\ \hline \end{array}$

	Estimate	Actual
21. 918 – 627		
22. 836 – 399		
23. 607 – 352		
24. 720 – 408		
25. 900 – 325		
26. 1 299 – 587	$\begin{array}{r} 1\ 000 \\ -\ 600 \\ \hline \end{array}$	$\begin{array}{r} 1\ 299 \\ -\ 587 \\ \hline \end{array}$
27. 5 637 – 674		

	Estimate	Actual
28. 4 239 – 747		
29. 6 300 – 532		
30. 4 000 – 967		
31. 4 614 – 2 837	$\begin{array}{r} 5\ 000 \\ - 3\ 000 \\ \hline \end{array}$	$\begin{array}{r} 4\ 614 \\ - 2\ 837 \\ \hline \end{array}$
32. 6 007 – 1 706		
33. 4 713 – 2 192		
34. 6 000 – 4 974		

	Estimate	Actual
35. 24 753 – 7 182	$\begin{array}{r} 20\,000 \\ - 7\,000 \\ \hline \end{array}$	$\begin{array}{r} 24\,753 \\ - 7\,182 \\ \hline \end{array}$
36. 35 963 – 7 275		
37. 74 003 – 9 456		
38. 20 000 – 16 694		

39. Jamal had \$1 253 in his bank account. He spent \$739 on a new bicycle. How much is left in his bank account.

40. Jessica's salary increased by \$2 550 this year. If her new salary is \$37 400, how much was her old salary?

Lesson 2.5: Addition and Subtraction Word Problems

Learning Objectives

- Solve application problems using addition and subtraction

Keywords

Addition	Subtraction	Equals
plus	less	is
more	subtract	the same as
more than	subtracted from	equals
added to	difference	equals to
increased by	less than	yields
sum	fewer	results in
total	decreased by	are
sum of	loss of	
increase of	minus	
gain of	take away	
add		

Steps for Solving Word Problems

1. Read the problem carefully to ensure that you understand what is being asked. You may need to read the problem several times.
2. Decide what to do to solve the problem.
3. Write a number sentence to show how you would arrive at the answer.
4. Estimate using front end rounding, to determine if the answer is reasonable. If it is, calculate. If not, choose another operation and estimate again.
5. Calculate.
6. Write the final answer in a clear, concise sentence using the appropriate units.

Example 1: Addition

Sarah earned \$56 on Monday, \$34 on Tuesday, and \$112 on Wednesday. How much were her combined earnings?

Solution:

Number sentence	Estimate	Calculation	Answer in sentence form
$56 + 34 + 112$	$\begin{array}{r} 60 \\ 30 \\ + 100 \\ \hline 190 \end{array}$	$\begin{array}{r} 56 \\ 34 \\ + 112 \\ \hline 202 \end{array}$	Sarah's combined earnings were \$202.

Example 2: Subtraction

Last year, it snowed only 857 millimetres in Edmonton, but it snowed 2 648 millimetres in Montreal. How much less did it snow in Edmonton?

Solution:

Number sentence	Estimate	Calculation	Answer in sentence form
$2\ 648 - 857$	$\begin{array}{r} 3\ 000 \\ - 900 \\ \hline 2\ 100 \end{array}$	$\begin{array}{r} 2\ 648 \\ - 857 \\ \hline 1\ 791 \end{array}$	It snowed 1 791 mm less in Edmonton.

Student Example 1

Aya recycled 277 kilograms of paper and 134 kilograms of aluminum. What is the total kilograms of paper and aluminum that she recycled?



Want to watch a video of this lesson?

<https://youtu.be/W3zji0qh658>

Student Example 2

A farmer grows five hundred thirty-one tomatoes. In three days he sells one hundred seventy-six tomatoes. How many does he have left at the end of three days?



Want to watch a video of this lesson?

<https://youtu.be/QY8vv7eVVJE>

Exercise 2.5

Complete the following word problems. Remember to write your answers in sentence form.

1. In Edmonton, the temperature is 3 degrees at night. During the day, the temperature is 18 degrees higher. What is the daytime temperature?
2. This morning, you drove 223 kilometres. In the afternoon you drove another 198 kilometres. How many kilometres have you driven so far?
3. Heather buys 12 metres of plastic edging for her yard. She puts 7 metres of edging around a tree. How much edging does she have left?
4. Mona was born in 1983. How old will she be on her birthday in 2020?
5. A few years ago, Red Deer's population was 62 887. Lethbridge's population was 34 637. How many people live in the two cities combined?

6. You are planning a trip to the mountains. Starting from Edmonton, you must drive 156 km to Red Deer, then 143 km to Calgary, then 103 km to Canmore. What is the total driving distance?

7. At the Edmonton Oilers hockey game on Wednesday night 15 283 people attended. Halfway through the third period, the Oilers were losing badly and 1 836 fans left the game. How many fans were still present?

8. Ben ordered 12 000 nails for a house construction project. So far, he has used 7 413 nails. How many nails are left?

9. Lori is going to buy groceries and has \$140 with her. On the way to the grocery store, she spends \$15 on cookies and \$12 for parking. How much money does she have left for groceries?

10. On a long weekend you decide to take your family on a trip to Jasper. The distance from Edmonton to Jasper is 364 km. You leave Edmonton at 7:00 a.m. and at 9:30 a.m. you have traveled 188 km. How much farther do you need to get to Jasper?

Glossary for this Module

Adding/ Addition	To join something to something else to increase the size, number, or amount. In an equation, this is indicated by the "+" sign.
Borrow	In subtraction, to take 1 from a digit of the first number (<i>minuend</i>) in order to add a 10 to the digit to the right of it. <div style="text-align: right; margin-top: 10px;"> $\begin{array}{r} 8\cancel{9}48 \\ -263 \\ \hline 685 \end{array}$ </div>
Carry	To transfer a digit from one column of digits to another column of digits
Difference	The <i>answer</i> or <i>result</i> of the subtraction. For example, $12 - 10 = 2$
Equation	A statement that the values of two mathematical expressions are equal (indicated by the "=" sign)
Inverse	Inverse operations is also called the opposite operations. Addition and subtraction are opposite operations. For example, $4 + 6 = 10$ (addition) and $10 - 6 = 4$ (subtraction)
Minus	Means to subtract. We say "seven minus four" which means $7 - 4$
Operation	A single math task. Adding is an operation, and so are subtracting, multiplying, and dividing
Subtraction	The process of taking one number or amount away from another
Sum	The answer to an adding equation; also known as the total
Total	The answer to an adding equation; also known as the sum

Answer Key

Unit 1: Addition

Exercise 1.1

3. $0 + 3$
 $1 + 2$

4. $0 + 4$
 $1 + 3$
 $2 + 2$

5. $0 + 5$
 $1 + 4$
 $2 + 3$

6. $0 + 6$
 $1 + 5$
 $2 + 4$
 $3 + 3$

7. $0 + 7$
 $1 + 6$
 $2 + 5$
 $3 + 4$

8. $0 + 8$
 $1 + 7$
 $2 + 6$
 $3 + 5$
 $4 + 4$

9. $0 + 9$
 $1 + 8$
 $2 + 7$
 $3 + 6$
 $4 + 5$

10. $1 + 9$
 $2 + 8$
 $3 + 7$
 $4 + 6$
 $5 + 5$

11. $2 + 9$
 $3 + 8$
 $4 + 7$
 $5 + 6$

12. $3 + 9$
 $4 + 8$
 $5 + 7$
 $6 + 6$

13. $4 + 9$
 $5 + 8$
 $6 + 7$

14. $5 + 9$
 $6 + 8$
 $7 + 7$

15. $6 + 9$
 $7 + 8$

16. $7 + 9$
 $8 + 8$

17. $8 + 9$

18. $9 + 9$

Exercise 1.2

1. 7

2. 6

3. 9

4. 5

5. 3

6. 6

7. 8

8. 7

9. 9

10. 6

11. 5

12. 9

13. 4

14. 7

15. 4

16. 6

17. 7

18. 8

19. 9

20. 7

21. 8

22. 9

23. 6

24. 9

25. 9

26. 8

27. 8

28. 9

29. 10

30. 11

31. 13

32. 15

33. 14

34. 11

35. 12

36. 14

37. 16

38. 11

39. 16

40. 13

41. 11

42. 15

43. 14

44. 10

45. 12

46. 14

47. 16

48. 14

49. 13

50. 14

51. 11

52. 18

53. 17

54. 10

55. 15

56. 17

57. 11

58. 12

59. 11

60. 13

Exercise 1.3

- | | | | | | |
|--------|--------|--------|--------|--------|--------|
| 1. 9 | 2. 9 | 3. 8 | 4. 13 | 5. 14 | 6. 18 |
| 7. 12 | 8. 15 | 9. 14 | 10. 15 | 11. 19 | 12. 10 |
| 13. 17 | 14. 19 | 15. 15 | 16. 16 | 17. 18 | 18. 18 |
| 19. 17 | 20. 16 | 21. 20 | 22. 16 | 23. 15 | 24. 16 |
| 25. 14 | 26. 10 | 27. 17 | 28. 12 | 29. 19 | 30. 18 |

Exercise 1.4

- | | | | | | |
|---------|---------|---------|---------|---------|---------|
| 1. 20 | 2. 23 | 3. 29 | 4. 23 | 5. 22 | 6. 28 |
| 7. 23 | 8. 24 | 9. 32 | 10. 43 | 11. 33 | 12. 36 |
| 13. 39 | 14. 86 | 15. 95 | 16. 89 | 17. 91 | 18. 80 |
| 19. 91 | 20. 66 | 21. 80 | 22. 88 | 23. 92 | 24. 100 |
| 25. 101 | 26. 80 | 27. 122 | 28. 114 | 29. 120 | 30. 147 |
| 31. 121 | 32. 132 | 33. 132 | 34. 101 | 35. 130 | 36. 124 |
| 37. 159 | 38. 103 | 39. 120 | 40. 141 | 41. 172 | 42. 120 |
| 43. 117 | 44. 133 | 45. 97 | 46. 73 | 47. 95 | 48. 127 |
| 49. 142 | 50. 138 | 51. 175 | 52. 185 | 53. 140 | 54. 200 |
| 55. 197 | 56. 200 | 57. 259 | 58. 181 | 59. 235 | 60. 232 |

Exercise 1.5

	Estimate	Actual
1.	46	49
3.	90	89
5.	90	99
7.	100	100
9.	120	121
11.	740	695
13.	530	511
15.	340	371
17.	500	504
19.	1 400	1 414
21.	2 900	3 388

	Estimate	Actual
2.	68	65
4.	80	77
6.	70	71
8.	120	115
10.	130	123
12.	590	577
14.	950	938
16.	1 800	1 741
18.	1 500	1 419
20.	1 600	1 603
22.	9 000	9 113

	Estimate	Actual
23.	8 000	8 034
25.	65 000	64 283
27.	88 000	87 392
29.	190	193
31.	690	664
33.	1 800	1 776
35.	15 200	15 175
37.	22 000	22 109

	Estimate	Actual
24.	13 000	12 906
26.	28 000	30 754
28.	150	148
30.	880	827
32.	1 600	1 641
34.	4 200	4 418
36.	13 800	14 032
38.	43 000	40 785

39. Edmonton and Lethbridge are 513 kilometres apart.

40. Jamal spends \$113 at the grocery store.

Unit 2: Subtraction

Exercise 2.1

- | | | | | |
|-------|-------|-------|-------|-------|
| 1. 2 | 2. 3 | 3. 5 | 4. 7 | 5. 3 |
| 6. 4 | 7. 3 | 8. 2 | 9. 1 | 10. 4 |
| 11. 2 | 12. 1 | 13. 6 | 14. 4 | 15. 5 |
| 16. 3 | 17. 1 | 18. 4 | 19. 5 | 20. 1 |
| 21. 0 | 22. 2 | 23. 6 | 24. 1 | 25. 4 |
| 26. 0 | 27. 5 | 28. 3 | 29. 5 | 30. 2 |
| 31. 6 | 32. 1 | 33. 4 | 34. 5 | 35. 1 |
| 36. 0 | 37. 1 | 38. 7 | 39. 1 | 40. 3 |

Exercise 2.2

- | | | | | |
|-----------|-----------|---------|-----------|-----------|
| 1. 23 | 2. 20 | 3. 2 | 4. 25 | 5. 42 |
| 6. 11 | 7. 21 | 8. 24 | 9. 40 | 10. 12 |
| 11. 45 | 12. 42 | 13. 22 | 14. 75 | 15. 33 |
| 16. 14 | 17. 41 | 18. 23 | 19. 0 | 20. 20 |
| 21. 152 | 22. 221 | 23. 214 | 24. 613 | 25. 350 |
| 26. 415 | 27. 427 | 28. 106 | 29. 4 111 | 30. 3 213 |
| 31. 4 012 | 32. 2 003 | | | |

Exercise 2.3

- | | | | | |
|-----------|-----------|-----------|-----------|-----------|
| 1. 8 | 2. 26 | 3. 9 | 4. 15 | 5. 35 |
| 6. 8 | 7. 19 | 8. 27 | 9. 34 | 10. 29 |
| 11. 18 | 12. 44 | 13. 18 | 14. 17 | 15. 27 |
| 16. 8 | 17. 34 | 18. 16 | 19. 7 | 20. 29 |
| 21. 258 | 22. 382 | 23. 263 | 24. 569 | 25. 42 |
| 26. 123 | 27. 331 | 28. 332 | 29. 2 111 | 30. 3 092 |
| 31. 3 778 | 32. 1 913 | 33. 2 001 | 34. 2 966 | 35. 4 183 |
| 36. 733 | | | | |

Exercise 2.4

	Estimate	Actual
1.	24	22
3.	21	25
5.	10	13
7.	0	4
9.	20	24
11.	30	35
13.	10	13
15.	770	824
17.	460	418
19.	810	823
21.	300	291
23.	200	255
25.	600	575
27.	5 300	4 963
29.	5 500	5 768
31.	2 000	1 777
33.	3 000	2 521
35.	13 000	17 571
37.	61 000	64 547

	Estimate	Actual
2.	66	61
4.	65	67
6.	60	56
8.	30	28
10.	10	11
12.	40	38
14.	30	31
16.	960	920
18.	240	264
20.	200	195
22.	400	437
24.	300	312
26.	400	712
28.	3 300	3 492
30.	3 000	3 033
32.	4 000	4 301
34.	1 000	1 026
36.	33 000	28 688
38.	0	3 306

39. Jamal has \$514 left in his bank account.

40. Jessica's old salary was \$34 850.

Exercise 2.5

1. The daytime temperature is 21 degrees.
2. You have driven 421 kilometres so far.
3. Heather has 5 metres of edging left.
4. Mona will be 37 years old.
5. There are 97 524 people in both cities.
6. The total driving distance is 402 km.
7. There are 13 447 fans are still there.
8. Ben has 4 587 nails left.
9. Lori has \$113 left for groceries.
10. You need to travel another 176 kilometres.

