

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

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

Name: _____

Foundational Numeracy

Module 2: Adding and Subtracting Whole Numbers

Solutions Manual

Developed for Alberta's Community Adult Learning Program



Funded by Alberta Advanced Education



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Contents

Introduction to the Module	1
Specific Learning Outcomes	1
Essential Skills.....	2
Unit 1: Addition.....	3
Keywords.....	3
Lesson 1.1: Basic Addition Facts.....	3
Addition Facts	4
Exercise 1.1.....	5
Addition Facts Continued	7
Lesson 1.2: Adding One-Digit Numbers	8
Exercise 1.2.....	8
Lesson 1.3: Adding One-Digit Numbers, Part 2	10
Exercise 1.3.....	10
Lesson 1.4: Adding Two-Digit Numbers	12
Exercise 1.4.....	13
Lesson 1.5: Adding with Estimating	15
Learning Objectives	15
Estimating Sums	15
Exercise 1.5.....	17
Unit 2: Subtraction.....	23
Keywords.....	23
Lesson 2.1: Basic Subtraction Facts	23
Exercise 2.1.....	25
Lesson 2.2: Subtracting Without Borrowing.....	26
Exercise 2.2.....	27
Lesson 2.3: Subtracting With Borrowing	28
Exercise 2.3.....	29
Lesson 2.4: Subtraction with Estimating	31
Exercise 2.4.....	32
Lesson 2.5: Addition and Subtraction Word Problems	38
Learning Objectives	38
Keywords	38

Steps for Solving Word Problems	38
Exercise 2.5.....	40
Glossary for this Module	42
Answer Key.....	43
Unit 1: Addition	43
Exercise 1.1.....	43
Exercise 1.2.....	43
Exercise 1.3.....	44
Exercise 1.4.....	44
Exercise 1.5.....	44
Unit 2: Subtraction.....	45
Exercise 2.1.....	45
Exercise 2.2.....	45
Exercise 2.3.....	46
Exercise 2.4.....	46
Exercise 2.5.....	47

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			

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

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

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

3. $\underline{\quad 0 \quad} + \underline{\quad 3 \quad} = 3$

4. $\underline{\quad 0 \quad} + \underline{\quad 4 \quad} = 4$

$\underline{\quad 1 \quad} + \underline{\quad 2 \quad} = 3$

$\underline{\quad 1 \quad} + \underline{\quad 3 \quad} = 4$

$\underline{\quad 2 \quad} + \underline{\quad 2 \quad} = 4$

5. $\underline{\quad 0 \quad} + \underline{\quad 5 \quad} = 5$

6. $\underline{\quad 0 \quad} + \underline{\quad 6 \quad} = 6$

$\underline{\quad 1 \quad} + \underline{\quad 4 \quad} = 5$

$\underline{\quad 1 \quad} + \underline{\quad 5 \quad} = 6$

$\underline{\quad 2 \quad} + \underline{\quad 3 \quad} = 5$

$\underline{\quad 2 \quad} + \underline{\quad 4 \quad} = 6$

$\underline{\quad 3 \quad} + \underline{\quad 3 \quad} = 6$

7. $\underline{\quad 0 \quad} + \underline{\quad 7 \quad} = 7$

8. $\underline{\quad 0 \quad} + \underline{\quad 8 \quad} = 8$

$\underline{\quad 1 \quad} + \underline{\quad 6 \quad} = 7$

$\underline{\quad 1 \quad} + \underline{\quad 7 \quad} = 8$

$\underline{\quad 2 \quad} + \underline{\quad 5 \quad} = 7$

$\underline{\quad 2 \quad} + \underline{\quad 6 \quad} = 8$

$\underline{\quad 3 \quad} + \underline{\quad 4 \quad} = 7$

$\underline{\quad 3 \quad} + \underline{\quad 5 \quad} = 8$

$\underline{\quad 4 \quad} + \underline{\quad 4 \quad} = 8$

9. $\underline{\quad 0 \quad} + \underline{\quad 9 \quad} = 9$

10. $\underline{\quad 1 \quad} + \underline{\quad 9 \quad} = 10$

$\underline{\quad 1 \quad} + \underline{\quad 8 \quad} = 9$

$\underline{\quad 2 \quad} + \underline{\quad 8 \quad} = 10$

$\underline{\quad 2 \quad} + \underline{\quad 7 \quad} = 9$

$\underline{\quad 3 \quad} + \underline{\quad 7 \quad} = 10$

$\underline{\quad 3 \quad} + \underline{\quad 6 \quad} = 9$

$\underline{\quad 4 \quad} + \underline{\quad 6 \quad} = 10$

$\underline{\quad 4 \quad} + \underline{\quad 5 \quad} = 9$

$\underline{\quad 5 \quad} + \underline{\quad 5 \quad} = 10$

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

$\underline{\quad 3 \quad} + \underline{\quad 8 \quad} = 11$

$\underline{\quad 4 \quad} + \underline{\quad 7 \quad} = 11$

$\underline{\quad 5 \quad} + \underline{\quad 6 \quad} = 11$

$13. \quad \underline{\quad 4 \quad} + \underline{\quad 9 \quad} = 13$

$\underline{\quad 5 \quad} + \underline{\quad 8 \quad} = 13$

$\underline{\quad 6 \quad} + \underline{\quad 7 \quad} = 13$

$15. \quad \underline{\quad 6 \quad} + \underline{\quad 9 \quad} = 15$

$\underline{\quad 7 \quad} + \underline{\quad 8 \quad} = 15$

$17. \quad \underline{\quad 8 \quad} + \underline{\quad 9 \quad} = 17$

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

$\underline{\quad 4 \quad} + \underline{\quad 8 \quad} = 12$

$\underline{\quad 5 \quad} + \underline{\quad 7 \quad} = 12$

$\underline{\quad 6 \quad} + \underline{\quad 6 \quad} = 12$

$14. \quad \underline{\quad 5 \quad} + \underline{\quad 9 \quad} = 14$

$\underline{\quad 6 \quad} + \underline{\quad 8 \quad} = 14$

$\underline{\quad 7 \quad} + \underline{\quad 7 \quad} = 14$

$16. \quad \underline{\quad 7 \quad} + \underline{\quad 9 \quad} = 16$

$\underline{\quad 8 \quad} + \underline{\quad 8 \quad} = 16$

$18. \quad \underline{\quad 9 \quad} + \underline{\quad 9 \quad} = 18$

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

$$\begin{array}{r} 1. \quad 5 \\ + 2 \\ \hline 7 \end{array}$$

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

$$\begin{array}{r} 3. \quad 7 \\ + 2 \\ \hline 9 \end{array}$$

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

$$5. \quad 1 + 2 = 3$$

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

$$7. \quad 2 + 6 = 8$$

$$8. \quad 4 + 3 = 7$$

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

$$\begin{array}{r} 10. \quad 1 \\ + 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11. \quad 3 \\ + 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12. \quad 6 \\ + 3 \\ \hline 9 \end{array}$$

$$13. \quad 2 + 2 = 4$$

$$14. \quad 3 + 4 = 7$$

$$15. \quad 3 + 1 = 4$$

$$16. \quad 4 + 2 = 6$$

$$\begin{array}{r} 17. \quad 2 \\ + 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 18. \quad 3 \\ + 5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 19. \quad 5 \\ + 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 20. \quad 1 \\ + 6 \\ \hline 9 \end{array}$$

$$21. \quad 6 + 2 = 8$$

$$22. \quad 4 + 5 = 9$$

$$23. \quad 2 + 4 = 6$$

$$24. \quad 3 + 6 = 9$$

$$\begin{array}{r} 25. \quad 1 \\ + 8 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 26. \quad 4 \\ + 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 27. \quad 5 \\ + 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 28. \quad 2 \\ + 7 \\ \hline 9 \end{array}$$

Carries

$$\begin{array}{r} 29. \quad 5 \\ + 5 \\ \hline \mathbf{10} \end{array}$$

$$\begin{array}{r} 30. \quad 7 \\ + 4 \\ \hline \mathbf{11} \end{array}$$

$$\begin{array}{r} 31. \quad 5 \\ + 8 \\ \hline \mathbf{13} \end{array}$$

$$\begin{array}{r} 32. \quad 8 \\ + 7 \\ \hline \mathbf{15} \end{array}$$

$33. \quad 9 + 5 = \mathbf{14}$

$34. \quad 8 + 3 = \mathbf{11}$

$35. \quad 6 + 6 = \mathbf{12}$

$36. \quad 5 + 9 = \mathbf{14}$

$$\begin{array}{r} 37. \quad 7 \\ + 9 \\ \hline \mathbf{16} \end{array}$$

$$\begin{array}{r} 38. \quad 5 \\ + 6 \\ \hline \mathbf{11} \end{array}$$

$$\begin{array}{r} 39. \quad 8 \\ + 8 \\ \hline \mathbf{16} \end{array}$$

$$\begin{array}{r} 40. \quad 4 \\ + 9 \\ \hline \mathbf{13} \end{array}$$

$41. \quad 3 + 8 = \mathbf{11}$

$42. \quad 7 + 8 = \mathbf{15}$

$43. \quad 9 + 5 = \mathbf{14}$

$44. \quad 2 + 8 = \mathbf{10}$

$$\begin{array}{r} 45. \quad 6 \\ + 6 \\ \hline \mathbf{12} \end{array}$$

$$\begin{array}{r} 46. \quad 6 \\ + 8 \\ \hline \mathbf{14} \end{array}$$

$$\begin{array}{r} 47. \quad 9 \\ + 7 \\ \hline \mathbf{16} \end{array}$$

$$\begin{array}{r} 48. \quad 5 \\ + 9 \\ \hline \mathbf{14} \end{array}$$

$$\begin{array}{r} 49. \quad 7 \\ + 6 \\ \hline \mathbf{13} \end{array}$$

$$\begin{array}{r} 50. \quad 7 \\ + 7 \\ \hline \mathbf{14} \end{array}$$

$$\begin{array}{r} 51. \quad 3 \\ + 8 \\ \hline \mathbf{11} \end{array}$$

$$\begin{array}{r} 52. \quad 9 \\ + 9 \\ \hline \mathbf{18} \end{array}$$

$$\begin{array}{r} 53. \quad 9 \\ + 8 \\ \hline \mathbf{17} \end{array}$$

$$\begin{array}{r} 54. \quad 6 \\ + 4 \\ \hline \mathbf{10} \end{array}$$

$$\begin{array}{r} 55. \quad 7 \\ + 8 \\ \hline \mathbf{15} \end{array}$$

$$\begin{array}{r} 56. \quad 8 \\ + 9 \\ \hline \mathbf{17} \end{array}$$

$$\begin{array}{r} 57. \quad 2 \\ + 9 \\ \hline \mathbf{11} \end{array}$$

$$\begin{array}{r} 58. \quad 5 \\ + 7 \\ \hline \mathbf{12} \end{array}$$

$$\begin{array}{r} 59. \quad 3 \\ + 8 \\ \hline \mathbf{11} \end{array}$$

$$\begin{array}{r} 60. \quad 6 \\ + 7 \\ \hline \mathbf{13} \end{array}$$

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

$$\begin{array}{r} 1. \quad 4 \\ \quad 3 \\ \quad + 2 \\ \hline \quad \mathbf{9} \end{array}$$

$$\begin{array}{r} 2. \quad 6 \\ \quad 0 \\ \quad + 3 \\ \hline \quad \mathbf{9} \end{array}$$

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

$$\begin{array}{r} 4. \quad 4 \\ \quad 6 \\ \quad + 3 \\ \hline \quad \mathbf{13} \end{array}$$

$$\begin{array}{r} 5. \quad 7 \\ \quad 3 \\ \quad + 4 \\ \hline \quad \mathbf{14} \end{array}$$

$$\begin{array}{r} 6. \quad 8 \\ \quad 2 \\ \quad + 8 \\ \hline \quad \mathbf{18} \end{array}$$

$$\begin{array}{r} 7. \quad 4 \\ \quad 3 \\ \quad + 5 \\ \hline \quad \mathbf{12} \end{array}$$

$$\begin{array}{r} 8. \quad 3 \\ \quad 8 \\ \quad + 4 \\ \hline \quad \mathbf{15} \end{array}$$

$$\begin{array}{r} 9. \quad 2 \\ \quad 8 \\ \quad + 4 \\ \hline \quad \mathbf{14} \end{array}$$

$$\begin{array}{r} 10. \quad 7 \\ \quad 5 \\ \quad + 3 \\ \hline \quad \mathbf{15} \end{array}$$

$$\begin{array}{r} 11. \quad 2 \\ \quad 8 \\ \quad + 9 \\ \hline \quad \mathbf{19} \end{array}$$

$$\begin{array}{r} 12. \quad 0 \\ \quad 8 \\ \quad + 2 \\ \hline \quad \mathbf{10} \end{array}$$

$$\begin{array}{r} 13. \quad 7 \\ \quad 5 \\ \quad + 5 \\ \hline \quad \mathbf{17} \end{array}$$

$$\begin{array}{r} 14. \quad 9 \\ \quad 8 \\ \quad + 2 \\ \hline \quad \mathbf{19} \end{array}$$

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

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

$$\begin{array}{r} 17. \quad 6 \\ \quad 6 \\ \hline + 6 \\ \hline \mathbf{18} \end{array}$$

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

$$\begin{array}{r} 19. \quad 9 \\ \quad 3 \\ \hline + 5 \\ \hline \mathbf{17} \end{array}$$

$$\begin{array}{r} 20. \quad 8 \\ \quad 6 \\ \hline + 2 \\ \hline \mathbf{16} \end{array}$$

$$\begin{array}{r} 21. \quad 8 \\ \quad 3 \\ \hline + 9 \\ \hline \mathbf{20} \end{array}$$

$$\begin{array}{r} 22. \quad 4 \\ \quad 3 \\ \hline + 9 \\ \hline \mathbf{16} \end{array}$$

$$\begin{array}{r} 23. \quad 4 \\ \quad 6 \\ \hline + 5 \\ \hline \mathbf{15} \end{array}$$

$$\begin{array}{r} 24. \quad 4 \\ \quad 8 \\ \hline + 4 \\ \hline \mathbf{16} \end{array}$$

$$\begin{array}{r} 25. \quad 6 \\ \quad 5 \\ \quad 2 \\ \hline + 1 \\ \hline \mathbf{14} \end{array}$$

$$\begin{array}{r} 26. \quad 4 \\ \quad 5 \\ \quad 1 \\ \hline + 0 \\ \hline \mathbf{10} \end{array}$$

$$\begin{array}{r} 27. \quad 7 \\ \quad 1 \\ \quad 6 \\ \hline + 3 \\ \hline \mathbf{17} \end{array}$$

$$\begin{array}{r} 28. \quad 0 \\ \quad 6 \\ \quad 2 \\ \hline + 4 \\ \hline \mathbf{12} \end{array}$$

$$\begin{array}{r} 29. \quad 9 \\ \quad 1 \\ \quad 6 \\ \hline + 3 \\ \hline \mathbf{19} \end{array}$$

$$\begin{array}{r} 30. \quad 2 \\ \quad 5 \\ \quad 8 \\ \hline + 3 \\ \hline \mathbf{18} \end{array}$$

Exercise 1.4

$$\begin{array}{r} 1. \quad \overset{1}{16} \\ + \quad 4 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 2. \quad \overset{1}{18} \\ + \quad 5 \\ \hline 23 \end{array}$$

$$\begin{array}{r} 3. \quad 22 \\ + \quad 7 \\ \hline 29 \end{array}$$

$$\begin{array}{r} 4. \quad \overset{1}{14} \\ + \quad 9 \\ \hline 23 \end{array}$$

$$\begin{array}{r} 5. \quad \overset{1}{14} \\ + \quad 8 \\ \hline 22 \end{array}$$

$$\begin{array}{r} 6. \quad \overset{1}{19} \\ + \quad 9 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 7. \quad \overset{1}{16} \\ + \quad 7 \\ \hline 23 \end{array}$$

$$\begin{array}{r} 8. \quad \overset{1}{17} \\ + \quad 7 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 9. \quad \overset{1}{25} \\ + \quad 7 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 10. \quad \overset{1}{36} \\ + \quad 7 \\ \hline 43 \end{array}$$

$$\begin{array}{r} 11. \quad \overset{1}{25} \\ + \quad 8 \\ \hline 33 \end{array}$$

$$\begin{array}{r} 12. \quad \overset{1}{27} \\ + \quad 9 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 13. \quad 23 \\ + \quad 16 \\ \hline 39 \end{array}$$

$$\begin{array}{r} 14. \quad 52 \\ + \quad 34 \\ \hline 86 \end{array}$$

$$\begin{array}{r} 15. \quad 41 \\ + \quad 54 \\ \hline 95 \end{array}$$

$$\begin{array}{r} 16. \quad 34 \\ + \quad 55 \\ \hline 89 \end{array}$$

$$\begin{array}{r} 17. \quad \overset{1}{62} \\ + \quad 29 \\ \hline 91 \end{array}$$

$$\begin{array}{r} 18. \quad \overset{1}{25} \\ + \quad 55 \\ \hline 80 \end{array}$$

$$\begin{array}{r} 19. \quad \overset{1}{77} \\ + \quad 14 \\ \hline 91 \end{array}$$

$$\begin{array}{r} 20. \quad \overset{1}{27} \\ + \quad 39 \\ \hline 66 \end{array}$$

$$\begin{array}{r} 21. \quad \overset{1}{33} \\ + \quad 47 \\ \hline 80 \end{array}$$

$$\begin{array}{r} 22. \quad 53 \\ + \quad 35 \\ \hline 88 \end{array}$$

$$\begin{array}{r} 23. \quad \overset{1}{49} \\ + \quad 44 \\ \hline 93 \end{array}$$

$$\begin{array}{r} 24. \quad \overset{1}{36} \\ + \quad 64 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 25. \quad \overset{1}{73} \\ + \quad 28 \\ \hline 101 \end{array}$$

$$\begin{array}{r} 26. \quad \overset{1}{45} \\ + \quad 35 \\ \hline 80 \end{array}$$

$$\begin{array}{r} 27. \quad \overset{1}{65} \\ + \quad 57 \\ \hline 122 \end{array}$$

$$\begin{array}{r} 28. \quad \overset{1}{67} \\ + \quad 47 \\ \hline 114 \end{array}$$

$$\begin{array}{r} 29. \quad \overset{1}{89} \\ + \quad 31 \\ \hline 120 \end{array}$$

$$\begin{array}{r} 30. \quad 64 \\ + \quad 83 \\ \hline 147 \end{array}$$

$$\begin{array}{r} 31. \quad \overset{1}{99} \\ + \quad 22 \\ \hline 121 \end{array}$$

$$\begin{array}{r} 32. \quad \overset{1}{55} \\ + \quad 77 \\ \hline 132 \end{array}$$

$$\begin{array}{r} 33. \quad \overset{1}{88} \\ + 44 \\ \hline 132 \end{array}$$

$$\begin{array}{r} 34. \quad \overset{1}{65} \\ + 36 \\ \hline 101 \end{array}$$

$$\begin{array}{r} 35. \quad \overset{1}{26} \\ + 84 \\ \hline 110 \end{array}$$

$$\begin{array}{r} 36. \quad \overset{1}{66} \\ + 58 \\ \hline 124 \end{array}$$

$$\begin{array}{r} 37. \quad 72 \\ + 87 \\ \hline 159 \end{array}$$

$$\begin{array}{r} 38. \quad \overset{1}{56} \\ + 47 \\ \hline 103 \end{array}$$

$$\begin{array}{r} 39. \quad \overset{1}{78} \\ + 42 \\ \hline 120 \end{array}$$

$$\begin{array}{r} 40. \quad \overset{1}{55} \\ + 86 \\ \hline 141 \end{array}$$

$$\begin{array}{r} 41. \quad \overset{1}{76} \\ + 96 \\ \hline 172 \end{array}$$

$$\begin{array}{r} 42. \quad \overset{1}{93} \\ + 27 \\ \hline 120 \end{array}$$

$$\begin{array}{r} 43. \quad \overset{1}{69} \\ + 48 \\ \hline 117 \end{array}$$

$$\begin{array}{r} 44. \quad \overset{1}{97} \\ + 36 \\ \hline 133 \end{array}$$

$$\begin{array}{r} 45. \quad 33 \\ 22 \\ + 42 \\ \hline 97 \end{array}$$

$$\begin{array}{r} 46. \quad 21 \\ 41 \\ + 11 \\ \hline 73 \end{array}$$

$$\begin{array}{r} 47. \quad \overset{1}{36} \\ 24 \\ + 35 \\ \hline 95 \end{array}$$

$$\begin{array}{r} 48. \quad \overset{1}{48} \\ 42 \\ + 37 \\ \hline 127 \end{array}$$

$$\begin{array}{r} 49. \quad \overset{1}{63} \\ 55 \\ + 24 \\ \hline 142 \end{array}$$

$$\begin{array}{r} 50. \quad \overset{1}{73} \\ 38 \\ + 27 \\ \hline 138 \end{array}$$

$$\begin{array}{r} 51. \quad \overset{1}{96} \\ 53 \\ + 26 \\ \hline 175 \end{array}$$

$$\begin{array}{r} 52. \quad \overset{1}{84} \\ 56 \\ + 45 \\ \hline 185 \end{array}$$

$$\begin{array}{r} 53. \quad \overset{2}{23} \\ 69 \\ + 48 \\ \hline 140 \end{array}$$

$$\begin{array}{r} 54. \quad \overset{2}{57} \\ 69 \\ + 74 \\ \hline 200 \end{array}$$

$$\begin{array}{r} 55. \quad \overset{1}{85} \\ 49 \\ + 63 \\ \hline 197 \end{array}$$

$$\begin{array}{r} 56. \quad \overset{2}{57} \\ 68 \\ + 75 \\ \hline 200 \end{array}$$

$$\begin{array}{r} 57. \quad \overset{1}{88} \\ 75 \\ + 96 \\ \hline 259 \end{array}$$

$$\begin{array}{r} 58. \quad \overset{2}{76} \\ 57 \\ + 48 \\ \hline 181 \end{array}$$

$$\begin{array}{r} 59. \quad \overset{1}{84} \\ 56 \\ + 95 \\ \hline 235 \end{array}$$

$$\begin{array}{r} 60. \quad \overset{2}{96} \\ 57 \\ + 79 \\ \hline 232 \end{array}$$

Exercise 1.5

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

	Estimate	Actual
1. $43 + 6$	$\begin{array}{r} 40 \\ + 6 \\ \hline 46 \end{array}$	$\begin{array}{r} 43 \\ + 6 \\ \hline 49 \end{array}$
2. $57 + 8$	$\begin{array}{r} 60 \\ + 8 \\ \hline 68 \end{array}$	$\begin{array}{r} \overset{1}{5} 7 \\ + 8 \\ \hline 65 \end{array}$
3. $61 + 28$	$\begin{array}{r} 60 \\ + 30 \\ \hline 90 \end{array}$	$\begin{array}{r} 61 \\ + 28 \\ \hline 89 \end{array}$
4. $32 + 45$	$\begin{array}{r} 30 \\ + 50 \\ \hline 80 \end{array}$	$\begin{array}{r} 32 \\ + 45 \\ \hline 77 \end{array}$
5. $33 + 66$	$\begin{array}{r} 30 \\ + 70 \\ \hline 100 \end{array}$	$\begin{array}{r} 33 \\ + 66 \\ \hline 99 \end{array}$
6. $37 + 34$	$\begin{array}{r} 40 \\ + 30 \\ \hline 70 \end{array}$	$\begin{array}{r} \overset{1}{3} 7 \\ + 34 \\ \hline 71 \end{array}$

	Estimate	Actual
7. $45 + 55$	$\begin{array}{r} 50 \\ + 60 \\ \hline 110 \end{array}$	$\begin{array}{r} \overset{1}{4}5 \\ + \overset{1}{5}5 \\ \hline 100 \end{array}$
8. $36 + 79$	$\begin{array}{r} 40 \\ + 80 \\ \hline 120 \end{array}$	$\begin{array}{r} \overset{1}{3}6 \\ + \overset{1}{7}9 \\ \hline 115 \end{array}$
9. $87 + 34$	$\begin{array}{r} 90 \\ + 30 \\ \hline 120 \end{array}$	$\begin{array}{r} \overset{1}{8}7 \\ + \overset{1}{3}4 \\ \hline 121 \end{array}$
10. $95 + 28$	$\begin{array}{r} 100 \\ + 30 \\ \hline 130 \end{array}$	$\begin{array}{r} \overset{1}{9}5 \\ + \overset{1}{2}8 \\ \hline 123 \end{array}$
11. $652 + 43$	$\begin{array}{r} 700 \\ + 40 \\ \hline 740 \end{array}$	$\begin{array}{r} 652 \\ + 43 \\ \hline 695 \end{array}$
12. $88 + 489$	$\begin{array}{r} 500 \\ + 90 \\ \hline 590 \end{array}$	$\begin{array}{r} \overset{1}{4} \overset{1}{8}9 \\ + \overset{1}{8}8 \\ \hline 577 \end{array}$
13. $27 + 484$	$\begin{array}{r} 500 \\ + 30 \\ \hline 530 \end{array}$	$\begin{array}{r} \overset{1}{4} \overset{1}{8}4 \\ + \overset{1}{2}7 \\ \hline 511 \end{array}$

	Estimate	Actual
14. $886 + 52$	$\begin{array}{r} 900 \\ + 50 \\ \hline 950 \end{array}$	$\begin{array}{r} \overset{1}{8}86 \\ + 52 \\ \hline 938 \end{array}$
15. $44 + 327$	$\begin{array}{r} 300 \\ + 40 \\ \hline 340 \end{array}$	$\begin{array}{r} \overset{1}{3}27 \\ + 44 \\ \hline 371 \end{array}$
16. $764 + 977$	$\begin{array}{r} 800 \\ + 1000 \\ \hline 1800 \end{array}$	$\begin{array}{r} \overset{1}{7}\overset{1}{6}4 \\ + 977 \\ \hline 1741 \end{array}$
17. $240 + 264$	$\begin{array}{r} 200 \\ + 300 \\ \hline 600 \end{array}$	$\begin{array}{r} \overset{1}{2}40 \\ + 264 \\ \hline 504 \end{array}$
18. $666 + 753$	$\begin{array}{r} 700 \\ + 800 \\ \hline 1500 \end{array}$	$\begin{array}{r} \overset{1}{6}66 \\ + 753 \\ \hline 1419 \end{array}$
19. $925 + 489$	$\begin{array}{r} 900 \\ + 500 \\ \hline 1400 \end{array}$	$\begin{array}{r} \overset{1}{9}\overset{1}{2}5 \\ + 489 \\ \hline 1414 \end{array}$
20. $726 + 877$	$\begin{array}{r} 700 \\ + 900 \\ \hline 1600 \end{array}$	$\begin{array}{r} \overset{1}{7}\overset{1}{2}6 \\ + 877 \\ \hline 1603 \end{array}$

	Estimate	Actual
21. $2\,499 + 889$	$\begin{array}{r} 2000 \\ + 900 \\ \hline 2900 \end{array}$	$\begin{array}{r} \overset{1}{2} \overset{1}{4} \overset{1}{9} 9 \\ + 889 \\ \hline 3388 \end{array}$
22. $5\,247 + 3\,866$	$\begin{array}{r} 5000 \\ + 4000 \\ \hline 9000 \end{array}$	$\begin{array}{r} \overset{1}{5} \overset{1}{2} \overset{1}{4} 7 \\ + 3866 \\ \hline 9113 \end{array}$
23. $5\,467 + 2\,567$	$\begin{array}{r} 5000 \\ + 3000 \\ \hline 8000 \end{array}$	$\begin{array}{r} \overset{1}{5} \overset{1}{4} \overset{1}{6} 7 \\ + 2567 \\ \hline 8034 \end{array}$
24. $7\,850 + 5\,056$	$\begin{array}{r} 8000 \\ + 5000 \\ \hline 13000 \end{array}$	$\begin{array}{r} \overset{1}{7} 850 \\ + 5056 \\ \hline 12806 \end{array}$
25. $59\,475 + 4\,808$	$\begin{array}{r} 60000 \\ + 5000 \\ \hline 65000 \end{array}$	$\begin{array}{r} \overset{1}{5} \overset{1}{9} 4 \overset{1}{7} 5 \\ + 4808 \\ \hline 64283 \end{array}$
26. $8\,108 + 22\,646$	$\begin{array}{r} 20000 \\ + 8000 \\ \hline 28000 \end{array}$	$\begin{array}{r} \overset{1}{2} \overset{1}{2} \overset{1}{6} \overset{1}{4} 6 \\ + 8108 \\ \hline 30754 \end{array}$
27. $7\,518 + 79\,874$	$\begin{array}{r} 80000 \\ + 8000 \\ \hline 88000 \end{array}$	$\begin{array}{r} \overset{1}{7} \overset{1}{9} 8 \overset{1}{7} 4 \\ + 7518 \\ \hline 87392 \end{array}$

	Estimate	Actual
28. $65 + 47 + 36$	$\begin{array}{r} 70 \\ 50 \\ + 40 \\ \hline 160 \end{array}$	$\begin{array}{r} \overset{1}{6}5 \\ 47 \\ + 36 \\ \hline 148 \end{array}$
29. $96 + 83 + 14$	$\begin{array}{r} 100 \\ 80 \\ + 10 \\ \hline 190 \end{array}$	$\begin{array}{r} \overset{1}{9}6 \\ 83 \\ + 14 \\ \hline 193 \end{array}$
30. $267 + 477 + 83$	$\begin{array}{r} 300 \\ 500 \\ + 80 \\ \hline 880 \end{array}$	$\begin{array}{r} \overset{2}{2}\overset{1}{6}7 \\ 477 \\ + 83 \\ \hline 827 \end{array}$
31. $205 + 93 + 366$	$\begin{array}{r} 200 \\ 400 \\ + 90 \\ \hline 690 \end{array}$	$\begin{array}{r} \overset{1}{2}\overset{1}{0}5 \\ 366 \\ + 93 \\ \hline 664 \end{array}$
32. $817 + 375 + 449$	$\begin{array}{r} 800 \\ 400 \\ + 400 \\ \hline 1600 \end{array}$	$\begin{array}{r} \overset{1}{8}\overset{2}{1}7 \\ 375 \\ + 449 \\ \hline 1641 \end{array}$
33. $375 + 629 + 772$	$\begin{array}{r} 400 \\ 600 \\ + 800 \\ \hline 1800 \end{array}$	$\begin{array}{r} \overset{1}{3}\overset{1}{7}5 \\ 629 \\ + 772 \\ \hline 1776 \end{array}$
34. $3\,267 + 885 + 266$	$\begin{array}{r} \overset{1}{3}000 \\ 900 \\ + 300 \\ \hline 4200 \end{array}$	$\begin{array}{r} \overset{1}{3}\overset{2}{2}\overset{1}{6}7 \\ 885 \\ + 266 \\ \hline 4418 \end{array}$

	Estimate	Actual
35. $6\,452 + 8\,506 + 217$	$\begin{array}{r} 6000 \\ 9000 \\ + 200 \\ \hline 15200 \end{array}$	$\begin{array}{r} \overset{1}{6} \overset{1}{4} \overset{1}{5} 2 \\ 8\,5\,0\,6 \\ + \underline{2\,1\,7} \\ 15\,1\,7\,5 \end{array}$
36. $7\,442 + 5\,808 + 782$	$\begin{array}{r} 7000 \\ 6000 \\ + 800 \\ \hline 13800 \end{array}$	$\begin{array}{r} \overset{2}{7} \overset{1}{4} \overset{1}{4} 2 \\ 5\,8\,0\,8 \\ + \underline{7\,8\,2} \\ 14\,0\,3\,2 \end{array}$
37. $5\,499 + 8\,889 + 7\,721$	$\begin{array}{r} 5000 \\ 9000 \\ + 8000 \\ \hline 22000 \end{array}$	$\begin{array}{r} \overset{2}{5} \overset{2}{4} \overset{1}{9} 9 \\ 8\,8\,8\,9 \\ + \underline{7\,7\,2\,1} \\ 22\,1\,0\,9 \end{array}$
38. $25\,180 + 12\,264 + 3\,341$	$\begin{array}{r} 30000 \\ 10000 \\ + 3000 \\ \hline 43000 \end{array}$	$\begin{array}{r} \overset{1}{2}5\,1\,8\,0 \\ 12\,2\,6\,4 \\ + \underline{3\,3\,4\,1} \\ 40\,6\,8\,5 \end{array}$

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?

estimate	200	actual	$\overset{1}{1}54$	
	100		146	Edmonton and Lethbridge are 513 kilometres apart.
	<u>+ 200</u>		<u>+ 213</u>	
	500		513	

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?

estimate	8	actual	$\overset{3}{1}4$	Jamal spent \$113.
	10		14	
	20		8	
	20		18	
	<u>+ 60</u>		16	
	118		<u>+ 57</u>	
			113	

Exercise 2.1

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

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

$$\begin{array}{r} 3. \quad 6 \\ -1 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 4. \quad 8 \\ -1 \\ \hline 7 \end{array}$$

$$5. \quad 5 - 2 = \mathbf{3}$$

$$6. \quad 7 - 3 = \mathbf{4}$$

$$7. \quad 8 - 5 = \mathbf{3}$$

$$8. \quad 5 - 3 = \mathbf{2}$$

$$\begin{array}{r} 9. \quad 4 \\ -3 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 10. \quad 6 \\ -2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11. \quad 9 \\ -7 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 12. \quad 6 \\ -5 \\ \hline 1 \end{array}$$

$$13. \quad 9 - 3 = \mathbf{6}$$

$$14. \quad 8 - 4 = \mathbf{4}$$

$$15. \quad 7 - 2 = \mathbf{5}$$

$$16. \quad 6 - 3 = \mathbf{3}$$

$$\begin{array}{r} 17. \quad 5 \\ -4 \\ \hline 1 \end{array}$$

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

$$\begin{array}{r} 19. \quad 8 \\ -3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 20. \quad 6 \\ -5 \\ \hline 1 \end{array}$$

$$21. \quad 3 - 3 = \mathbf{0}$$

$$22. \quad 4 - 2 = \mathbf{2}$$

$$23. \quad 7 - 1 = \mathbf{6}$$

$$24. \quad 9 - 9 = \mathbf{0}$$

$$\begin{array}{r} 25. \quad 6 \\ -2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 26. \quad 1 \\ -1 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 27. \quad 8 \\ -3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 28. \quad 4 \\ -1 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 29. \quad 9 \\ -4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 30. \quad 8 \\ -6 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 31. \quad 9 \\ -3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 32. \quad 8 \\ -7 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 33. \quad 7 \\ -3 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 34. \quad 7 \\ -2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 35. \quad 5 \\ -4 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 36. \quad 6 \\ -6 \\ \hline 0 \end{array}$$

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

$$\begin{array}{r} 38. \quad 8 \\ -1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 39. \quad 7 \\ -6 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 40. \quad 5 \\ -2 \\ \hline 3 \end{array}$$

Exercise 2.2

$$\begin{array}{r} 1. \quad 28 \\ \quad - 5 \\ \hline \quad 23 \end{array}$$

$$\begin{array}{r} 2. \quad 34 \\ \quad - 14 \\ \hline \quad 20 \end{array}$$

$$\begin{array}{r} 3. \quad 25 \\ \quad - 23 \\ \hline \quad 2 \end{array}$$

$$\begin{array}{r} 4. \quad 39 \\ \quad - 14 \\ \hline \quad 25 \end{array}$$

$5. \quad 62 - 20 = \mathbf{42}$

$6. \quad 44 - 33 = \mathbf{11}$

$7. \quad 32 - 11 = \mathbf{21}$

$8. \quad 67 - 43 = \mathbf{24}$

$$\begin{array}{r} 9. \quad 74 \\ \quad - 34 \\ \hline \quad 40 \end{array}$$

$$\begin{array}{r} 10. \quad 68 \\ \quad - 56 \\ \hline \quad 12 \end{array}$$

$$\begin{array}{r} 11. \quad 99 \\ \quad - 54 \\ \hline \quad 45 \end{array}$$

$$\begin{array}{r} 12. \quad 76 \\ \quad - 34 \\ \hline \quad 42 \end{array}$$

$13. \quad 77 - 55 = \mathbf{22}$

$14. \quad 89 - 14 = \mathbf{75}$

$15. \quad 65 - 32 = \mathbf{33}$

$16. \quad 49 - 35 = \mathbf{14}$

$17. \quad 62 - 21 = \mathbf{41}$

$18. \quad 99 - 76 = \mathbf{23}$

$19. \quad 70 - 70 = \mathbf{0}$

$20. \quad 38 - 18 = \mathbf{20}$

$21. \quad 279 - 127 = \mathbf{152} \quad 22. \quad 436 - 215 = \mathbf{221} \quad 23. \quad 657 - 433 = \mathbf{224} \quad 24. \quad 815 - 202 = \mathbf{613}$

$$\begin{array}{r} 25. \quad 980 \\ \quad - 630 \\ \hline \quad 350 \end{array}$$

$$\begin{array}{r} 26. \quad 777 \\ \quad - 362 \\ \hline \quad 415 \end{array}$$

$$\begin{array}{r} 27. \quad 958 \\ \quad - 531 \\ \hline \quad 427 \end{array}$$

$$\begin{array}{r} 28. \quad 439 \\ \quad - 333 \\ \hline \quad 106 \end{array}$$

$$\begin{array}{r} 29. \quad 2\,685 \\ \quad - 1\,274 \\ \hline \quad 1411 \end{array}$$

$$\begin{array}{r} 30. \quad 7\,795 \\ \quad - 4\,582 \\ \hline \quad 3213 \end{array}$$

$$\begin{array}{r} 31. \quad 8\,273 \\ \quad - 6\,261 \\ \hline \quad 2012 \end{array}$$

$$\begin{array}{r} 32. \quad 5\,007 \\ \quad - 3\,004 \\ \hline \quad 2003 \end{array}$$

Student Example 1

Subtract: $83 - 25$



SCAN ME

Want to watch a video of this lesson?

<https://youtu.be/egjDLFX9VHg>

Student Example 2

Subtract: $312 - 189$



SCAN ME

Want to watch a video of this lesson?

<https://youtu.be/QD86addRZEw>

Student Example 3

Subtract: $389\,002 - 76\,151$



SCAN ME

Want to watch a video of this lesson?

<https://youtu.be/buyK1y4rV3E>

Exercise 2.3

1.
$$\begin{array}{r} 15 \\ - 7 \\ \hline 8 \end{array}$$

2.
$$\begin{array}{r} 34 \\ - 8 \\ \hline 26 \end{array}$$

3.
$$\begin{array}{r} \overset{1}{\cancel{2}}15 \\ - 16 \\ \hline 9 \end{array}$$

4.
$$\begin{array}{r} \overset{2}{\cancel{7}}12 \\ - 17 \\ \hline 15 \end{array}$$

5.
$$\begin{array}{r} \overset{5}{\cancel{8}}12 \\ - 27 \\ \hline 35 \end{array}$$

6.
$$\begin{array}{r} \overset{3}{\cancel{4}}11 \\ - 33 \\ \hline 8 \end{array}$$

7.
$$\begin{array}{r} \overset{2}{\cancel{8}}13 \\ - 14 \\ \hline 19 \end{array}$$

8.
$$\begin{array}{r} \overset{6}{\cancel{7}}12 \\ - 45 \\ \hline 27 \end{array}$$

9.
$$\begin{array}{r} \overset{6}{\cancel{7}}10 \\ - 36 \\ \hline 34 \end{array}$$

10.
$$\begin{array}{r} \overset{7}{\cancel{8}}15 \\ - 56 \\ \hline 29 \end{array}$$

11.
$$\begin{array}{r} \overset{8}{\cancel{9}}12 \\ - 74 \\ \hline 18 \end{array}$$

12.
$$\begin{array}{r} \overset{5}{\cancel{8}}13 \\ - 39 \\ \hline 24 \end{array}$$

$$13. \begin{array}{r} \overset{6}{\cancel{7}}^{17} \\ - 59 \\ \hline 18 \end{array}$$

$$14. \begin{array}{r} \overset{2}{\cancel{3}}^{11} \\ - 14 \\ \hline 17 \end{array}$$

$$15. \begin{array}{r} \overset{5}{\cancel{6}}^{15} \\ - 38 \\ \hline 27 \end{array}$$

$$16. \begin{array}{r} \overset{3}{\cancel{4}}^{15} \\ - 37 \\ \hline 8 \end{array}$$

$$17. \begin{array}{r} \overset{5}{\cancel{6}}^{12} \\ - 28 \\ \hline 34 \end{array}$$

$$18. \begin{array}{r} \overset{8}{\cancel{9}}^{12} \\ - 76 \\ \hline 16 \end{array}$$

$$19. \begin{array}{r} \overset{7}{\cancel{8}}^{10} \\ - 73 \\ \hline 7 \end{array}$$

$$20. \begin{array}{r} \overset{3}{\cancel{4}}^{18} \\ - 19 \\ \hline 29 \end{array}$$

$$21. \begin{array}{r} \overset{7}{\cancel{8}}^{15} \\ - 127 \\ \hline 258 \end{array}$$

$$22. \begin{array}{r} \overset{5}{\cancel{6}}^{127} \\ - 245 \\ \hline 382 \end{array}$$

$$23. \begin{array}{r} \overset{6}{\cancel{7}}^{127} \\ - 464 \\ \hline 263 \end{array}$$

$$24. \begin{array}{r} \overset{7}{\cancel{8}} \overset{10}{\cancel{1}}^{15} \\ - 246 \\ \hline 569 \end{array}$$

$$25. \begin{array}{r} \overset{7}{\cancel{8}}^{102} \\ - 760 \\ \hline 42 \end{array}$$

$$26. \begin{array}{r} \overset{3}{\cancel{4}}^{108} \\ - 285 \\ \hline 123 \end{array}$$

$$27. \begin{array}{r} \overset{8}{\cancel{9}} \overset{9}{\cancel{0}}^{10} \\ - 569 \\ \hline 331 \end{array}$$

$$28. \begin{array}{r} \overset{4}{\cancel{5}} \overset{9}{\cancel{0}}^{10} \\ - 168 \\ \hline 332 \end{array}$$

$$29. \begin{array}{r} 3485 \\ - 1374 \\ \hline 2111 \end{array}$$

$$30. \begin{array}{r} \overset{3}{\cancel{6}}^{175} \\ - 3283 \\ \hline 3092 \end{array}$$

$$31. \begin{array}{r} \overset{8}{\cancel{9}} \overset{9}{\cancel{0}} \overset{18}{\cancel{7}}^{13} \\ - 5295 \\ \hline 3778 \end{array}$$

$$32. \begin{array}{r} \overset{4}{\cancel{5}} \overset{9}{\cancel{0}} \overset{9}{\cancel{0}}^{10} \\ - 3087 \\ \hline 1913 \end{array}$$

$$33. \begin{array}{r} \overset{6}{\cancel{7}} \overset{9}{\cancel{0}} \overset{9}{\cancel{0}}^{10} \\ - 4999 \\ \hline 2001 \end{array}$$

$$34. \begin{array}{r} \overset{5}{\cancel{6}} \overset{9}{\cancel{0}} \overset{9}{\cancel{0}}^{10} \\ - 3034 \\ \hline 2966 \end{array}$$

$$35. \begin{array}{r} \overset{7}{\cancel{8}} \overset{9}{\cancel{0}} \overset{18}{\cancel{4}}^{10} \\ - 3857 \\ \hline 4183 \end{array}$$

$$36. \begin{array}{r} \overset{4}{\cancel{5}} \overset{9}{\cancel{0}} \overset{9}{\cancel{0}}^{12} \\ - 4267 \\ \hline 735 \end{array}$$

Exercise 2.4

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

	Estimate	Actual
1. $28 - 6$	$\begin{array}{r} \overset{2}{\cancel{3}}0 \\ - \quad 6 \\ \hline 24 \end{array}$	$\begin{array}{r} 28 \\ - \quad 6 \\ \hline 22 \end{array}$
2. $65 - 4$	$\begin{array}{r} \overset{6}{\cancel{7}}0 \\ - \quad 4 \\ \hline 66 \end{array}$	$\begin{array}{r} 65 \\ - \quad 4 \\ \hline 61 \end{array}$
3. $34 - 9$	$\begin{array}{r} \overset{2}{\cancel{3}}0 \\ - \quad 9 \\ \hline 21 \end{array}$	$\begin{array}{r} \overset{2}{\cancel{3}}4 \\ - \quad 9 \\ \hline 25 \end{array}$
4. $72 - 5$	$\begin{array}{r} \overset{6}{\cancel{7}}0 \\ - \quad 5 \\ \hline 65 \end{array}$	$\begin{array}{r} \overset{6}{\cancel{7}}2 \\ - \quad 5 \\ \hline 67 \end{array}$
5. $49 - 36$	$\begin{array}{r} 50 \\ - \quad 10 \\ \hline 40 \end{array}$	$\begin{array}{r} 49 \\ - \quad 36 \\ \hline 13 \end{array}$
6. $87 - 31$	$\begin{array}{r} 90 \\ - \quad 30 \\ \hline 60 \end{array}$	$\begin{array}{r} 87 \\ - \quad 31 \\ \hline 56 \end{array}$

	Estimate	Actual
7. 22 - 18	$\begin{array}{r} 20 \\ - 20 \\ \hline 0 \end{array}$	$\begin{array}{r} \cancel{2}^1 2 \\ - 18 \\ \hline 4 \end{array}$
8. 65 - 37	$\begin{array}{r} 60 \\ - 40 \\ \hline 20 \end{array}$	$\begin{array}{r} \cancel{6}^5 15 \\ - 37 \\ \hline 28 \end{array}$
9. 72 - 48	$\begin{array}{r} 70 \\ - 50 \\ \hline 20 \end{array}$	$\begin{array}{r} \cancel{7}^6 12 \\ - 48 \\ \hline 24 \end{array}$
10. 30 - 19	$\begin{array}{r} 30 \\ - 20 \\ \hline 10 \end{array}$	$\begin{array}{r} \cancel{3}^2 10 \\ - 19 \\ \hline 11 \end{array}$
11. 62 - 27	$\begin{array}{r} 60 \\ - 30 \\ \hline 30 \end{array}$	$\begin{array}{r} \cancel{6}^5 12 \\ - 27 \\ \hline 35 \end{array}$
12. 80 - 42	$\begin{array}{r} 80 \\ - 40 \\ \hline 40 \end{array}$	$\begin{array}{r} \cancel{8}^7 10 \\ - 42 \\ \hline 38 \end{array}$
13. 50 - 37	$\begin{array}{r} 50 \\ - 40 \\ \hline 10 \end{array}$	$\begin{array}{r} \cancel{5}^4 10 \\ - 37 \\ \hline 13 \end{array}$

	Estimate	Actual
14. 90 - 59	$\begin{array}{r} 90 \\ - 60 \\ \hline 30 \end{array}$	$\begin{array}{r} \overset{8/}{9}10 \\ - 59 \\ \hline 31 \end{array}$
15. 849 - 25	$\begin{array}{r} \overset{7/}{8}100 \\ - 30 \\ \hline 770 \end{array}$	$\begin{array}{r} 849 \\ - 25 \\ \hline 824 \end{array}$
16. 961 - 41	$\begin{array}{r} \overset{9/}{10}100 \\ - 40 \\ \hline 960 \end{array}$	$\begin{array}{r} 961 \\ - 41 \\ \hline 920 \end{array}$
17. 455 - 37	$\begin{array}{r} \overset{4/}{5}100 \\ - 40 \\ \hline 460 \end{array}$	$\begin{array}{r} 4\overset{4/}{5}15 \\ - 37 \\ \hline 418 \end{array}$
18. 327 - 63	$\begin{array}{r} \overset{2/}{3}100 \\ - 60 \\ \hline 240 \end{array}$	$\begin{array}{r} \overset{2/}{3}127 \\ - 63 \\ \hline 264 \end{array}$
19. 911 - 88	$\begin{array}{r} \overset{8/}{9}100 \\ - 90 \\ \hline 810 \end{array}$	$\begin{array}{r} \overset{8/14/}{9}11 \\ - 88 \\ \hline 863 \end{array}$
20. 459 - 264	$\begin{array}{r} 500 \\ - 300 \\ \hline 200 \end{array}$	$\begin{array}{r} \overset{3/}{4}159 \\ - 264 \\ \hline 195 \end{array}$

	Estimate	Actual
21. 918 - 627	$\begin{array}{r} 900 \\ - 600 \\ \hline 300 \end{array}$	$\begin{array}{r} \overset{8/}{\cancel{9}} \overset{1}{1} 8 \\ - 627 \\ \hline 291 \end{array}$
22. 836 - 399	$\begin{array}{r} 800 \\ - 400 \\ \hline 400 \end{array}$	$\begin{array}{r} \overset{7/}{\cancel{8}} \overset{1}{\cancel{3}} \overset{2/}{1} 6 \\ - 399 \\ \hline 437 \end{array}$
23. 607 - 352	$\begin{array}{r} 600 \\ - 400 \\ \hline 200 \end{array}$	$\begin{array}{r} \overset{7/}{\cancel{6}} \overset{1}{\cancel{0}} \overset{2/}{1} 6 \\ - 399 \\ \hline 437 \end{array}$
24. 720 - 408	$\begin{array}{r} 700 \\ - 400 \\ \hline 300 \end{array}$	$\begin{array}{r} \overset{7/}{\cancel{7}} \overset{1}{\cancel{2}} \overset{2/}{1} 6 \\ - 399 \\ \hline 437 \end{array}$
25. 900 - 325	$\begin{array}{r} 900 \\ - 300 \\ \hline 600 \end{array}$	$\begin{array}{r} \overset{8/}{\cancel{9}} \overset{9/}{\cancel{0}} \overset{1}{0} 0 \\ - 325 \\ \hline 575 \end{array}$
26. 1299 - 587	$\begin{array}{r} 1000 \\ - 600 \\ \hline 400 \end{array}$	$\begin{array}{r} 1299 \\ - 587 \\ \hline 712 \end{array}$
27. 5637 - 674	$\begin{array}{r} \overset{5/}{\cancel{6}} \overset{1}{1} 000 \\ - 700 \\ \hline 5300 \end{array}$	$\begin{array}{r} \overset{4/}{\cancel{5}} \overset{15/}{\cancel{6}} \overset{1}{1} 37 \\ - 674 \\ \hline 4963 \end{array}$

	Estimate	Actual
28. 4 239 – 747	$\begin{array}{r} \cancel{4}^{3/} 1000 \\ - 700 \\ \hline 3300 \end{array}$	$\begin{array}{r} \cancel{4}^{3/} \cancel{2}^{1/} 139 \\ - 747 \\ \hline 3492 \end{array}$
29. 6 300 – 532	$\begin{array}{r} \cancel{6}^{5/} 1000 \\ - 500 \\ \hline 5500 \end{array}$	$\begin{array}{r} \cancel{6}^{5/} \cancel{3}^{1/} \cancel{0}^{9/} 10 \\ - 532 \\ \hline 5768 \end{array}$
30. 4 000 – 967	$\begin{array}{r} 4000 \\ - 1000 \\ \hline 3000 \end{array}$	$\begin{array}{r} \cancel{4}^{3/} \cancel{0}^{9/} \cancel{0}^{9/} 10 \\ - 967 \\ \hline 3033 \end{array}$
31. 4 614 – 2 837	$\begin{array}{r} 5000 \\ - 3000 \\ \hline 2000 \end{array}$	$\begin{array}{r} \cancel{4}^{3/} \cancel{6}^{1/} \cancel{1}^{10/} 14 \\ - 2837 \\ \hline 1777 \end{array}$
32. 6 007 – 1 706	$\begin{array}{r} 6000 \\ - 2000 \\ \hline 4000 \end{array}$	$\begin{array}{r} \cancel{6}^{5/} 1007 \\ - 1706 \\ \hline 4301 \end{array}$
33. 4 713 – 2 192	$\begin{array}{r} 5000 \\ - 2000 \\ \hline 3000 \end{array}$	$\begin{array}{r} 4 \cancel{7}^{6/} 113 \\ - 2192 \\ \hline 2521 \end{array}$
34. 6 000 – 4 974	$\begin{array}{r} 6000 \\ - 5000 \\ \hline 1000 \end{array}$	$\begin{array}{r} \cancel{6}^{5/} \cancel{0}^{9/} \cancel{0}^{9/} 10 \\ - 4974 \\ \hline 1026 \end{array}$

	Estimate	Actual
35. 24 753 – 7 182	$\begin{array}{r} \overset{1/}{2} 10\,000 \\ - \quad 7\,000 \\ \hline 13\,000 \end{array}$	$\begin{array}{r} \overset{1/}{2} 14 \overset{6/}{7} 15\,3 \\ - \quad 7\,182 \\ \hline 17\,571 \end{array}$
36. 35 963 – 7 275	$\begin{array}{r} \overset{3/}{4} 10\,000 \\ - \quad 7\,000 \\ \hline 33\,000 \end{array}$	$\begin{array}{r} \overset{2/}{3} 15 \overset{8/}{9} \overset{15/}{6} 13 \\ - \quad 7\,275 \\ \hline 28\,688 \end{array}$
37. 74 003 – 9 456	$\begin{array}{r} \overset{6/}{7} 10\,000 \\ - \quad 9\,000 \\ \hline 61\,000 \end{array}$	$\begin{array}{r} \overset{6/}{7} 13 \overset{9/}{0} \overset{9/}{0} 13 \\ - \quad 9\,456 \\ \hline 64\,547 \end{array}$
38. 20 000 – 16 694	$\begin{array}{r} 20\,000 \\ - \quad 20\,000 \\ \hline 0 \end{array}$	$\begin{array}{r} \overset{1/}{2} \overset{9/}{0} \overset{9/}{0} \overset{9/}{0} 10 \\ - \quad 1\,6694 \\ \hline 3\,306 \end{array}$

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

estimate 1 0 0 0 actual 1 2 ^{4/}5 13 Jamal has \$514 left in his bank account

$$\begin{array}{r} 1\,000 \\ - \quad 700 \\ \hline 500 \end{array}$$

$$\begin{array}{r} 1\,253 \\ - \quad 739 \\ \hline 514 \end{array}$$

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

estimate ^{3/}4 10 0 0 0 actual ^{6/}3 ^{13/}4 10 0 Jessica's old salary was \$34 850.

$$\begin{array}{r} 40\,000 \\ - \quad 3\,000 \\ \hline 37\,000 \end{array}$$

$$\begin{array}{r} 37\,400 \\ - \quad 2\,550 \\ \hline 34\,850 \end{array}$$

Exercise 2.5

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

- In Edmonton, the temperature is 3 degrees at night. During the day, the temperature is 18 degrees higher. What is the daytime temperature?

$$3 + 18 = 21$$

The day time temperature is 21 degrees.

- This morning, you drove 223 kilometres. In the afternoon you drove another 198 kilometres. How many kilometres have you driven so far.

estimate	$\begin{array}{r} 200 \\ + 200 \\ \hline 400 \end{array}$	actual	$\begin{array}{r} \overset{1}{2} \overset{1}{2} 3 \\ + 198 \\ \hline 421 \end{array}$	You will have drive 421 kilometres.
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- 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?

$$12 - 7 = 5 \quad \text{Heather has 5 metres of edging left.}$$

- Mona was born in 1983. How old will she be on her birthday in 2020?

$\begin{array}{r} \overset{1}{2} \overset{0}{0} \overset{1}{2} 10 \\ - 1983 \\ \hline 37 \end{array}$	Mona will be 37 on her birthday.
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- 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?

estimate	$\begin{array}{r} 60000 \\ + 30000 \\ \hline 90000 \end{array}$	actual	$\begin{array}{r} \overset{1}{6} \overset{1}{2} \overset{1}{8} 87 \\ + 34637 \\ \hline 97524 \end{array}$	There are 97 524 people who live in the two cities combined.
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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?

estimate	2 0 0	Actual	$\overset{1}{1}56$	The total driving distance is 402 kilometres.
	1 0 0		143	
	<u>+ 1 0 0</u>		<u>+ 103</u>	
	4 0 0		402	

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?

estimate	$\overset{1}{2}10000$	actual	$\overset{4}{5}12813$	There are still 13 447 fans at the game.
	<u>- 2000</u>		<u>- 1 8 3 6</u>	
	18000		1 3 4 4 7	

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

estimate	10000	actual	$\overset{1}{2}0010$	Ben has 4 587 nails left.
	<u>- 7000</u>		<u>- 7 4 1 3</u>	
	5000		4 5 8 7	

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?

$\overset{3}{4}10$	125	Lori has \$113 left for groceries.
<u>- 1 5</u>	<u>- 12</u>	
1 2 5	113	

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 go to get to Jasper?

Estimate	400	actual	$\overset{2}{3}14$	You have 176 kilometres left to go.
	<u>- 200</u>		<u>- 1 8 8</u>	
	200		1 7 6	