

NUMERACY:

The Basics Workbook



Set J: Adding and Subtracting Decimals

Companion Workbook to Numeracy: The Basics Video Series

Workplace Education Manitoba would like to express appreciation to the following for supporting the development of this curriculum:

The Government of Canada
Human Resource Skills Development Canada (HRSDC)

and

The Manitoba Government
Industry Workforce Development (IWD), Entrepreneurship,
Training and Trade (ETT)

Workplace Education Manitoba would also like to thank the individuals from across Manitoba who provided consultation, content, and feedback.

For more information,
visit www.wem.mb.ca
or contact the Project Coordinator
Lindsay Laidlaw at info@wem.mb.ca

Workplace Education Manitoba
1000 Waverley Street
Winnipeg, MB, R3T 0P3

©Workplace Education Manitoba, 2012

All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical, photocopying, recording, or otherwise without prior written permission of the Publishers. This manual may not be lent, resold, hired out or otherwise disposed by way of trade in any form of binding or cover than that which it is published, without the prior consent of the Publishers.

ACKNOWLEDGMENTS





INTRODUCTION

What is Numeracy: The Basics Workbook?

This workbook is intended to accompany Workplace Education Manitoba's (WEM) Numeracy: The Basics Video Series, a set of 50 videos that explain essential numeracy concepts.

The refresher videos cover 25 critical numeracy topics, each broken into concept and practice.

The video series and accompanying downloadable workbooks can be found on the WEM website at http://www.wem.mb.ca/learning_on_demand.aspx

These Numeracy: The Basics workbooks provide an opportunity for additional skill-building practice.

Numeracy: The Basics topics are:

- Order of Operations 1
- Order of Operations 2
- Adding & Subtracting Fractions 1
- Adding & Subtracting Fractions 2
- Multiplying & Dividing Fractions
- Mixed & Improper Fractions
- Operations with Mixed Fractions 1
- Operations with Mixed Fractions 2
- Operations with Mixed Fractions 3
- Adding & Subtracting Decimals
- Multiplying Decimals
- Dividing Decimals
- Order of Operations & Decimals
- Decimals, Fractions & Percent 1
- Decimals, Fractions & Percent 2
- Imperial Conversions
- Metric Conversions
- Metric and Imperial Conversions
- Geometry 1 – Perimeter
- Geometry 2 – Area
- Geometry 3- Volume
- Solving Equations 1
- Solving Equations 2
- Ratio & Proportion
- Averages



ADDING AND SUBTRACTING DECIMALS

This workbook contains five skill-building practice sections. Solutions can be found at the end of the workbook.

Practice Section A

Calculate the following.

1. $0.2 + 0.5$ = _____
2. $1.2 + 0.7$ = _____
3. $3.3 + 1.2$ = _____
4. $1.7 + 2.8$ = _____
5. $2.6 + 3.8$ = _____
6. $0.7 - 0.3$ = _____
7. $1.5 - 0.9$ = _____
8. $2.9 - 1.7$ = _____
9. $3.2 - 2.6$ = _____
10. $6.2 - 4$ = _____
11. $3.25 - 1.15$ = _____
12. $3.86 + 2.57$ = _____
13. $2.38 + 3.1$ = _____
14. $3.71 - 2.56$ = _____
15. $4.25 - 1.8$ = _____

**Practice Section B**

Calculate the following.

1. $4.72 + 2.09$ = _____

2. $6.31 - 4.53$ = _____

3. $2.59 + 3.79$ = _____

4. $10.5 - 3.72$ = _____

5. $7.15 + 6.97$ = _____

6. $2.83 + 5.48$ = _____

7. $6.77 - 2.08$ = _____

8. $5.8 - 4.09$ = _____

9. $3.8 + 5.7 - 2.4$ = _____

10. $6.3 - 4.8 + 2.9$ = _____

11. $3.75 - 1.39 + 2.6$ = _____

12. $4.86 + 3.12 - 2.64$ = _____

13. $12.63 - 5.4 - 2.07$ = _____

14. $1.62 - 3.49 + 3.21$ = _____

15. $6.34 - 3.15 - 3.21$ = _____

**Practice Section C**

Calculate the following.

1. $5.72 - 2.79 + 9.03 - 7.3 + 0.06$ = _____

2. $9.44 - 6.15 - 2.1 + 7.94 - 3$ = _____

3. $10.73 - 3.78 - 2.07 - 6.77 - 2.08$ = _____

4. $9.89 - 2.73 + 0.07 - 0.6 - 6 + 4 - 3.99$ = _____

5. $5 + 0.58 - 3.09 + 6.76 - 1.99 - 6 - 7.49$ = _____

Practice Section D

In this section, solutions for the practice questions contain commonly-made errors. For each question, circle the error(s) and give a correct solution.

1. Evaluate: $9.03 - 4.27 - 5 + 6 - 3.99$

Solution:

$$\begin{aligned} &9.03 - 4.27 - 5 + 6 - 3.99 \\ &= 9.03 - -0.73 + 6 - 3.99 \\ &= 9.03 - 0.73 + 6 - 3.99 \\ &= 8.3 + 6 - 3.99 \\ &= 14.3 - 3.99 \\ &= 10.31 \end{aligned}$$

**Practice Section E**

Challenge Question. If you can do this one, then you get an A⁺. 😊

Follow the rules for adding and subtracting decimals and calculate the answer for this question.

Evaluate:

$$9.89 - 2.73 + [9.03 - 4.27 - 5 + 6 - 3.99] + 0.07 - 5 - 0.3 + 3 - 1.99 + 8$$

= _____



SOLUTIONS

Set J

Adding and Subtracting Decimals

**ADDING AND SUBTRACTING DECIMALS****Practice Section A**

1. Solution:
 $0.2 + 0.5$
 $= 0.2$
 $\begin{array}{r} +0.5 \\ 0.7 \end{array}$

2. Solution:
 $1.2 + 0.7$
 $= 1.2$
 $\begin{array}{r} +0.7 \\ 1.9 \end{array}$

3. Solution:
 $3.3 + 1.2$
 $= 3.3$
 $\begin{array}{r} +1.2 \\ 4.5 \end{array}$

4. Solution:
 $1.7 + 2.8$
 $= 1.7$
 $\begin{array}{r} +2.8 \\ 4.5 \end{array}$

5. Solution:
 $2.6 + 3.8$
 $= 2.6$
 $\begin{array}{r} +3.8 \\ 6.4 \end{array}$

6. Solution:
 $0.7 - 0.3$
 $= 0.7$
 $\begin{array}{r} -0.3 \\ 0.4 \end{array}$

7. Solution:
 $1.5 - 0.9$
 $= 1.5$
 $\begin{array}{r} -0.9 \\ 0.6 \end{array}$

8. Solution:
 $2.9 - 1.7$
 $= 2.9$
 $\begin{array}{r} -1.7 \\ 1.2 \end{array}$

9. Solution:
 $3.2 - 2.6$
 $= 3.2$
 $\begin{array}{r} -2.6 \\ 0.6 \end{array}$

10. Solution:
 $6.2 - 4$
 $= 6.2$
 $\begin{array}{r} -4.0 \\ 2.2 \end{array}$



11. Solution:
 $3.25 - 1.15$
 $= 3.25$
 $\underline{-1.15}$
2.10

12. Solution:
 $3.86 + 2.57$
 $= 3.86$
 $\underline{+2.57}$
6.43

13. Solution:
 $2.38 + 3.1$
 $= 2.38$
 $\underline{+3.10}$
5.48

14. Solution:
 $3.71 - 2.56$
 $= 3.71$
 $\underline{-2.56}$
1.15

15. Solution:
 $4.25 - 1.8$
 $= 4.25$
 $\underline{-1.80}$
2.45

Practice Section B

1. Solution:
 $4.72 + 2.09$
 $= 4.72$
 $\underline{+2.09}$
6.81

2. Solution:
 $6.31 - 4.53$
 $= 6.31$
 $\underline{-4.53}$
1.78

3. Solution:
 $2.59 + 3.79$
 $= 2.59$
 $\underline{+3.79}$
6.38

4. Solution:
 $10.5 - 3.72$
 $= 10.50$
 $\underline{- 3.72}$
6.78



5. Solution:
 $7.15 + 6.97$
 $= 7.15$
 $\underline{+6.97}$
14.12

6. Solution:
 $2.83 + 5.48$
 $= 2.83$
 $\underline{+5.48}$
8.31

7. Solution:
 $6.77 - 2.08$
 $= 6.77$
 $\underline{-2.08}$
4.69

8. Solution:
 $5.8 - 4.09$
 $= 5.80$
 $\underline{-4.09}$
1.71

9. Solution:
 $3.8 + 5.7 - 2.4$
 $= 3.8$
 $\underline{+5.7}$
9.5
 $\underline{-2.4}$
7.1

10. Solution:
 $6.3 - 4.8 + 2.9$
 $= 6.3$
 $\underline{-4.8}$
1.5
 $\underline{+2.9}$
4.4

11. Solution:
 $3.75 - 1.39 + 2.6$
 $= 3.75$
 $\underline{-1.39}$
2.36
 $\underline{+2.60}$
4.96

12. Solution:
 $4.86 + 3.12 - 2.64$
 $= 4.86$
 $\underline{+3.12}$
7.98
 $\underline{-2.64}$
5.34

13. Solution:
 $12.63 - 5.4 - 2.07$
 $= 12.63$
 $\underline{-5.40}$
7.23
 $\underline{-2.07}$
5.16



14. Solution:
 $1.62 - 3.49 + 3.21$

$$= 1.62$$

$$\begin{array}{r} +3.21 \\ 4.83 \end{array} \quad \text{adding the positives together first}$$

$$\begin{array}{r} -3.49 \\ \hline 1.34 \end{array} \quad \text{eliminates the 'negative' value.}$$

$$= 1.34$$

15. Solution:
 $6.34 - 3.15 - 3.21$

$$= 3.15$$

$$\begin{array}{r} -3.21 \\ \hline -0.06 \end{array}$$

$$= -0.06$$

$$6.34 - -0.06$$

$$= 6.34$$

$$\begin{array}{r} +0.06 \\ \hline 6.40 \end{array}$$

$$= 6.40$$

Practice Section C

1. Solution:
 $5.72 - 2.79 + 9.03 - 7.3 + 0.06$

$$= 2.93 + 9.03 - 7.3 + 0.06$$

$$= 11.96 - 7.3 + 0.06$$

$$= 4.66 + 0.06$$

$$= 4.72$$

2. Solution:
 $9.44 - 6.15 - 2.1 + 7.94 - 3$

$$= 9.44 - 4.05 + 7.94 - 3$$

$$= 5.39 + 7.94 - 3$$

$$= 13.33 - 3$$

$$= 10.33$$

3. Solution:
 $10.73 - 3.78 - 2.07 - 6.77 - 2.08$

$$= 10.73 - 3.78 - 2.07 - 6.77 - 2.08$$

$$= 10.73 - 3.78 - 2.07 - 4.69$$

$$= 6.95 - 2.07 - 4.69$$

$$= 4.88 - 4.69$$

$$= 0.19$$

4. Solution:
 $9.89 - 2.73 + 0.07 - 0.6 - 6 + 4 - 3.99$

$$= 9.89 - 2.73 + 0.07 - -5.4 + 4 - 3.99$$

$$= 9.89 - 2.73 + 0.07 + 5.4 + 4 - 3.99$$

$$= 7.16 + 0.07 + 5.4 + 4 - 3.99$$

$$= 7.23 + 5.4 + 4 - 3.99$$

$$= 12.63 + 4 - 3.99$$

$$= 16.63 - 3.99$$

$$= 12.64$$

5. Solution:
 $5 + 0.58 - 3.09 + 6.76 - 1.99 - 6 - 7.49$

$$= 5 + 0.58 - 3.09 + 6.76 - 1.99 - -1.49$$

$$= 5 + 0.58 - 3.09 + 6.76 - 1.99 + 1.49$$

$$= 5.58 - 3.09 + 6.76 - 1.99 + 1.49$$

$$= 2.49 + 6.76 - 1.99 + 1.49$$

$$= 9.25 - 1.99 + 1.49$$

$$= 7.26 + 1.49$$

$$= 8.75$$

**Practice Section D**

1. Solution:

The one and only error is in line 3. The double negative should result in $+ 0.73$ not $- 0.73$. The question is otherwise correct.

The correct solution is:

$$\begin{aligned} & 9.03 - 4.27 - 5 + 6 - 3.99 \\ &= 9.03 - -0.73 + 6 - 3.99 \\ &= 9.03 + 0.73 + 6 - 3.99 \\ &= 9.76 + 6 - 3.99 \\ &= 15.76 - 3.99 \\ &= 11.77 \end{aligned}$$

Practice Section E

Solution:

$$\begin{aligned} & 9.89 - 2.73 + [9.03 - 4.27 - 5 + 6 - 3.99] + 0.07 - 5 - 0.3 + 3 - 1.99 + 8 \\ &= 7.16 + [9.03 - -0.73 + 6 - 3.99] + 0.07 - 4.7 + 3 - 1.99 + 8 \\ &= 7.16 + 9.03 + 0.73 + 6 - 3.99 + 0.07 - 4.7 + 3 - 1.99 + 8 \\ &= 7.16 + 15.76 - 3.99 + 0.07 - 4.7 + 3 - 1.99 + 8 \\ &= 7.16 + 11.77 + 0.07 - 4.7 + 3 - 1.99 + 8 \\ &= 18.93 + 0.07 - 4.7 + 3 - 1.99 + 8 \\ &= 19 - 4.7 + 3 - 1.99 + 8 \\ &= 14.3 + 3 - 1.99 + 8 \\ &= 17.3 - 1.99 + 8 \\ &= 15.31 + 8 \\ &= 23.31 \end{aligned}$$