

NUMERACY:

The Basics Workbook



Set K: Multiplying Decimals

Companion Workbook to Numeracy: The Basics Video Series

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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



MULTIPLYING 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. $5.3 \times 2 =$ _____

2. $4 \times 2.7 =$ _____

3. $3.7 \times 2.1 =$ _____

4. $2.6 \times 3.4 =$ _____

5. $4.3 \times 2.7 =$ _____

6. $2.7 \times 1.6 =$ _____

7. $3.3 \times 2.9 =$ _____

8. $2.8 \times 3.9 =$ _____

9. $1.7 \times 3.3 =$ _____

10. $4.2 \times 2.7 =$ _____

11. $3.9 \times 5.3 =$ _____

12. $5.6 \times 3.1 =$ _____

13. $2.62 \times 3 =$ _____

14. $1.62 \times 0.4 =$ _____

15. $0.75 \times 4.56 =$ _____

**Practice Section B**

Calculate the following.

1. $2.75 \times 3.5 =$ _____

2. $0.75 \times 4.8 =$ _____

3. $3.81 \times 2.99 =$ _____

4. $4.76 \times 0.19 =$ _____

5. $0.61 \times 0.85 =$ _____

6. $5.32 \times 2.69 =$ _____

7. $7.12 \times 1.05 =$ _____

8. $18.4 \times 3.2 =$ _____

9. $43.7 \times 0.89 =$ _____

10. $4.01 \times 4.27 =$ _____

11. $3.72 \times 4.0061 =$ _____

12. $3.5 \times 2.77 \times 2.04 =$ _____

13. $5.81 \times 0.03 \times 6.49 =$ _____

14. $4.21 \times 2.16 \times 3 =$ _____

15. $23.71 \times 8.72 \times 3.08 =$ _____

**Practice Section C**

Calculate the following.

1. $37.61 \times 24.85 = \underline{\hspace{2cm}}$

2. $345.987 \times 20.45 = \underline{\hspace{2cm}}$

3. $48.5 \times 4.375 \times 2 = \underline{\hspace{2cm}}$

4. $4 \times 5.987 \times 2.531 = \underline{\hspace{2cm}}$

5. $459.872 \times 123.406 = \underline{\hspace{2cm}}$

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.

Calculate: 18.4×3.2

Solution:

$$\begin{array}{r} 18.4 \times 3.2 \\ = 18.4 \\ \times 3.2 \\ \hline 378 \\ 5520 \\ \hline 58.98 \end{array}$$



2.

Calculate: 51.87×13.006

Solution:

$$\begin{array}{r} 51.87 \times 13.006 \\ = 13.006 \\ \quad \times 51.87 \\ \quad \hline \quad 91042 \\ \quad 1040480 \\ \quad 13006000 \\ \quad \hline \quad 65030000 \\ \quad 791.67522 \end{array}$$

Practice Section EChallenge Question. If you can do this one, then you get an A⁺. 😊

Follow the rules for multiplying decimals to calculate the answer.

Calculate: 39785.23×2019.23

= _____



SOLUTIONS

Set K

Multiplying Decimals

**MULTIPLYING DECIMALS****Practice Section A**

1. Solution:
 5.3×2
 $= 5.3$
 $\times \quad 2$

 10.6

2. Solution:
 4×2.7
 $= 2.7$
 $\times \quad 4$

 10.8

3. Solution:
 3.7×2.1
 $= 3.7$
 $\times 2.1$

 37

 740

 7.77

4. Solution:
 2.6×3.4
 $= 2.6$
 $\times 3.4$

 104

 780

 8.84

5. Solution:
 4.3×2.7
 $= 4.3$
 $\times 2.7$

 301

 860

 11.61

6. Solution:
 2.7×1.6
 $= 1.6$
 $\times 2.7$

 112

 320

 4.32

7. Solution:
 3.3×2.9
 $= 3.3$
 $\times 2.9$

 297

 660

 9.57

8. Solution:
 2.8×3.9
 $= 3.9$
 $\times 2.8$

 312

 780

 10.92



9. Solution:
 1.7×3.3
 $= 3.3$
 $\times 1.7$

 231
 330

 5.61

10. Solution:
 4.2×2.7
 $= 4.2$
 $\times 2.7$

 294
 840

 11.34

11. Solution:
 3.9×5.3
 $= 5.3$
 $\times 3.9$

 477
 1590

 20.67

12. Solution:
 5.6×3.1
 $= 5.6$
 $\times 3.1$

 56
 1680

 17.36

13. Solution:
 2.62×3
 $= 26.2$
 $\times 3$

 7.86

14. Solution:
 1.62×0.4
 $= 1.62$
 $\times 0.4$

 0.648

15. Solution:
 0.75×4.56
 $= 4.56$
 $\times .75$

 2280
 31920

 3.4200

**Practice Section B**

1. Solution:
 2.75×3.5
 $= 2.75$
 $\times 3.5$

 1375
 8250

 9.625

2. Solution:
 0.75×4.8
 $= 4.8$
 $\times .75$

 240
 3360

 3.600

3. Solution:
 3.81×2.99
 $= 381$
 $\times 299$

 3429
 34290
 76200

 11.3919

Notice here that the decimals have been omitted to keep better track of the numbers. They have been correctly inserted in the final answer.

4. Solution:
 4.76×0.19
 $= 4.76$
 $\times .19$

 4284
 4760

 0.9044



5. Solution:
 0.61×0.85
 $= .85$
 $\times .61$
 85
5100
0.5185

6. Solution:
 5.32×2.69
 $= 5.32$
 $\times 2.69$
 4788
31920
106400
14.3108

7. Solution:
 7.12×1.05
 $= 7.12$
 $\times 1.05$
 3560
71200
7.4760

8. Solution:
 18.4×3.2
 $= 18.4$
 $\times 3.2$
 368
5520
58.88

9. Solution:
 43.7×0.89
 $= 43.7$
 $\times .89$
 3933
34960
38.893

10. Solution:
 4.01×4.27
 $= 4.01$
 $\times 4.27$
 2807
8020
160400
17.1227

11. Solution:
 3.72×4.0061
 $= 40061$
 $\times 372$
 80122
2804270
12018300
14.902692

12. Solution:
 $3.5 \times 2.77 \times 2.04$ 9.695×2.04
 $= 2.77$ $= 9.695$
 $\times 3.5$ $\times 2.04$
 1385 38780
 8310 1939000
9.695 19.77780



13. Solution:

$$\begin{array}{r} 5.81 \times 0.03 \times 6.49 \\ = \quad 6.49 \qquad = 0.1947 \times 5.81 \\ \quad \times 0.03 \qquad \quad 1947 \\ \hline \quad 0.1947 \qquad \quad \times 581 \\ \qquad \qquad \qquad \quad 1947 \\ \qquad \qquad \qquad 155760 \\ \qquad \qquad \quad \underline{973500} \\ \qquad \qquad \quad 1.131207 \end{array}$$

14. Solution:

$$\begin{array}{r} 4.21 \times 2.16 \times 3 \\ = \quad 4.21 \qquad = 12.63 \times 2.16 \\ \quad \times 3 \qquad \quad 1263 \\ \hline \quad 12.63 \qquad \quad \times 216 \\ \qquad \qquad \quad 7578 \\ \qquad \qquad 12630 \\ \qquad \quad \underline{252600} \\ \qquad \quad 27.2808 \end{array}$$

15. Solution:

$$\begin{array}{r} 23.71 \times 8.72 \times 3.08 \\ = \quad 2371 \qquad = 206.7512 \times 3.08 \\ \quad \times 872 \qquad \quad 2067512 \\ \hline \quad 4742 \qquad \quad \times \quad 308 \\ \quad 165970 \qquad \quad \underline{16540096} \\ \quad 1896800 \qquad \quad \underline{620253600} \\ \quad 206.7512 \qquad \quad 636.793696 \end{array}$$

**Practice Section C****1.** Solution:

$$\begin{array}{r}
 37.61 \times 24.85 \\
 = \quad 3761 \\
 \quad \times 2485 \\
 \hline
 18805 \\
 300880 \\
 1504400 \\
 7522000 \\
 \hline
 934.6085
 \end{array}$$

$$= 10.124 \times 5.987$$

$$10124$$

$$\times 5987$$

$$\hline 70868$$

$$809920$$

$$9111600$$

$$\hline 50620000$$

$$60.612388$$

4. Solution:

$$\begin{array}{r}
 4 \times 5.987 \times 2.531 \\
 = 2.531 \times 4 \\
 \quad 2.531 \\
 \quad \times \quad 4 \\
 \hline
 10.124
 \end{array}$$

2. Solution:

$$\begin{array}{r}
 345.987 \times 20.45 \\
 = \quad 345987 \\
 \quad \times 2045 \\
 \hline
 1729935 \\
 13839480 \\
 691974000 \\
 \hline
 7075.43415
 \end{array}$$

5. Solution:

$$\begin{array}{r}
 459.872 \times 123.406 \\
 = \quad 459872 \\
 \quad \times 123406 \\
 \hline
 2759232 \\
 183948800 \\
 1379616000 \\
 9197440000 \\
 45987200000 \\
 \hline
 56750.964032
 \end{array}$$

3. Solution:

$$48.5 \times 4.375 \times 2$$

$$= 4.375 \times 2$$

$$4.375$$

$$\times \quad 2$$

$$\hline 8.750$$

$$= 48.5 \times 8.75$$

$$485$$

$$\times 875$$

$$\hline 2425$$

$$33950$$

$$\hline 388000$$

$$424.375$$

**Practice Section D**

1. Solution:

The error is in line 4. The number should be 368, not 378. It appears that there was an extra 1 carried from the previous column.

The correct solution is:

$$\begin{array}{r} 18.4 \times 3.2 \\ = 18.4 \\ \times 3.2 \\ \hline 368 \\ 5520 \\ \hline 58.88 \end{array}$$

2. Solution:

The error is in line 6. The digits 13006 are moved one place too many to the left.

The correct solution is:

$$\begin{array}{r} 51.87 \times 13.006 \\ = 13.006 \\ \times 51.87 \\ \hline 91042 \\ 1040480 \\ 1300600 \\ \hline 65030000 \\ 674.62122 \end{array}$$

Practice Section E

Solution:

$$\begin{array}{r} 39785.23 \times 2019.23 \\ = 3978523 \\ \times 201923 \\ \hline 11935569 \\ 79570460 \\ 3580670700 \\ 3978523000 \\ \hline 795704600000 \\ 80335529.9729 \end{array}$$