

Grade 5 Long Multiplication and Division Workbook

3 lessons · printable · answer key at the back



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Multiplying Three Digits by Two

WORKED EXAMPLE

$$\begin{array}{r}
 216 \\
 \times 32 \\
 \hline
 432 \\
 6480 \\
 \hline
 6912
 \end{array}$$

1. Multiply multi-digit numbers

Multiply. Show your working.

$$\begin{array}{r}
 1 \quad 320 \\
 \times 18 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 2 \quad 150 \\
 \times 11 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 3 \quad 240 \\
 \times 98 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 4 \quad 646 \\
 \times 24 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 5 \quad 442 \\
 \times 19 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 6 \quad 451 \\
 \times 41 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 7 \quad 107 \\
 \times 96 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 8 \quad 211 \\
 \times 14 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 9 \quad 933 \\
 \times 75 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 10 \quad 228 \\
 \times 59 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 11 \quad 258 \\
 \times 82 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 12 \quad 138 \\
 \times 65 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 13 \quad 508 \\
 \times 30 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 14 \quad 321 \\
 \times 69 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 15 \quad 129 \\
 \times 69 \\
 \hline
 \end{array}$$

1. Multiply multi-digit numbers (continued)

Multiply. Show your working.

$$\begin{array}{r} 16 \quad 941 \\ \times \quad 12 \\ \hline \end{array}$$

2. Multiply and divide by 10, 100, 1000

Multiply or divide by moving the decimal point.

17 $2.4 \div 100 = \underline{\hspace{2cm}}$

18 $0.3 \div 1000 = \underline{\hspace{2cm}}$

19 $1.3 \times 100 = \underline{\hspace{2cm}}$

20 $3.5 \div 100 = \underline{\hspace{2cm}}$

21 $1.3 \times 10 = \underline{\hspace{2cm}}$

22 $4.9 \times 100 = \underline{\hspace{2cm}}$

23 $2.8 \times 10 = \underline{\hspace{2cm}}$

24 $0.44 \div 10 = \underline{\hspace{2cm}}$

25 $9.34 \div 100 = \underline{\hspace{2cm}}$

26 $0.49 \div 100 = \underline{\hspace{2cm}}$

Long Division

WORKED EXAMPLE

$$\begin{array}{r} 30 \\ 67 \overline{)2010} \\ \underline{201} \\ 0 \end{array}$$

3. Long division

Divide. Show your working.

1

$$47 \overline{)3431}$$

2

$$52 \overline{)4628}$$

3

$$17 \overline{)2839}$$

4

$$40 \overline{)9120}$$

5

$$27 \overline{)3051}$$

6

$$25 \overline{)5875}$$

7

$$48 \overline{)3456}$$

8

$$42 \overline{)8568}$$

9

$$28 \overline{)6888}$$

10

$$32 \overline{)1472}$$

4. Add and subtract decimals

Add or subtract the decimals.

$$\begin{array}{r} 11 \quad 6.94 \\ - 4.43 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \quad 16.67 \\ - 0.02 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \quad 9.30 \\ - 5.10 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \quad 14.11 \\ + 18.26 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \quad 2.94 \\ - 1.60 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \quad 14.75 \\ - 4.69 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \quad 15.13 \\ - 11.88 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \quad 16.24 \\ + 19.47 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \quad 5.46 \\ + 6.89 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \quad 13.48 \\ - 7.18 \\ \hline \end{array}$$

Long Division with Remainders

WORKED EXAMPLE

$$\begin{array}{r} 40 \\ 26 \overline{)1064} \\ \underline{104} \\ 24 \end{array}$$

5. Long division with remainders

Divide. Give the quotient and the remainder.

$$\begin{array}{l} 1 \quad \quad \quad _ R _ \quad 2 \\ 65 \overline{)5639} \end{array} \quad \begin{array}{l} _ R _ \quad 3 \\ 91 \overline{)3319} \end{array} \quad \begin{array}{l} _ R _ \quad 4 \\ 66 \overline{)9554} \end{array} \quad \begin{array}{l} _ R _ \quad 5 \\ 83 \overline{)6795} \end{array} \quad \begin{array}{l} _ R _ \\ 28 \overline{)9570} \end{array}$$

$$\begin{array}{l} 6 \quad \quad \quad _ R _ \quad 7 \\ 37 \overline{)4456} \end{array} \quad \begin{array}{l} _ R _ \quad 8 \\ 35 \overline{)7083} \end{array} \quad \begin{array}{l} _ R _ \quad 9 \\ 98 \overline{)1196} \end{array} \quad \begin{array}{l} _ R _ \quad 10 \\ 43 \overline{)7622} \end{array} \quad \begin{array}{l} _ R _ \\ 41 \overline{)5893} \end{array}$$

6. Multiply and divide decimals

Multiply the decimals.

$$\begin{array}{lll} 11 \quad 7.48 \times 12 = \underline{\hspace{2cm}} & 12 \quad 5.5 \times 7 = \underline{\hspace{2cm}} & 13 \quad 2.56 \times 4.95 = \underline{\hspace{2cm}} \\ 14 \quad 0.37 \times 5.6 = \underline{\hspace{2cm}} & 15 \quad 5.6 \times 8.69 = \underline{\hspace{2cm}} & 16 \quad 10.36 \times 12 = \underline{\hspace{2cm}} \\ 17 \quad 8.22 \times 6.11 = \underline{\hspace{2cm}} & 18 \quad 7.8 \times 6 = \underline{\hspace{2cm}} & 19 \quad 7.4 \times 7.87 = \underline{\hspace{2cm}} \\ 20 \quad 0.26 \times 4.53 = \underline{\hspace{2cm}} & & \end{array}$$

Answer Key

Multiplying Three Digits by Two

Multiply multi-digit numbers

1. $320 \times 18 = 5760$
2. $150 \times 11 = 1650$
3. $240 \times 98 = 23520$
4. $646 \times 24 = 15504$
5. $442 \times 19 = 8398$
6. $451 \times 41 = 18491$
7. $107 \times 96 = 10272$
8. $211 \times 14 = 2954$
9. $933 \times 75 = 69975$
10. $228 \times 59 = 13452$
11. $258 \times 82 = 21156$
12. $138 \times 65 = 8970$
13. $508 \times 30 = 15240$
14. $321 \times 69 = 22149$
15. $129 \times 69 = 8901$
16. $941 \times 12 = 11292$

Multiply and divide by 10, 100, 1000

17. $2.4 \div 100 = 0.024$
18. $0.3 \div 1000 = 0.0003$
19. $1.3 \times 100 = 130$
20. $3.5 \div 100 = 0.035$
21. $1.3 \times 10 = 13$
22. $4.9 \times 100 = 490$
23. $2.8 \times 10 = 28$
24. $0.44 \div 10 = 0.044$
25. $9.34 \div 100 = 0.0934$
26. $0.49 \div 100 = 0.0049$

Long Division

Long division

1. $3431 \div 47 = 73$
2. $4628 \div 52 = 89$
3. $2839 \div 17 = 167$
4. $9120 \div 40 = 228$
5. $3051 \div 27 = 113$
6. $5875 \div 25 = 235$
7. $3456 \div 48 = 72$
8. $8568 \div 42 = 204$
9. $6888 \div 28 = 246$
10. $1472 \div 32 = 46$

Add and subtract decimals

11. $6.94 - 4.43 = 2.51$
12. $16.67 - 0.02 = 16.65$

Long Division (continued)

Add and subtract decimals (continued)

13. $9.30 - 5.10 = 4.20$
14. $14.11 + 18.26 = 32.37$
15. $2.94 - 1.60 = 1.34$
16. $14.75 - 4.69 = 10.06$
17. $15.13 - 11.88 = 3.25$
18. $16.24 + 19.47 = 35.71$
19. $5.46 + 6.89 = 12.35$
20. $13.48 - 7.18 = 6.30$

Long Division with Remainders

Long division with remainders

1. $5639 \div 65 = 86 \text{ R } 49$
2. $3319 \div 91 = 36 \text{ R } 43$
3. $9554 \div 66 = 144 \text{ R } 50$
4. $6795 \div 83 = 81 \text{ R } 72$
5. $9570 \div 28 = 341 \text{ R } 22$
6. $4456 \div 37 = 120 \text{ R } 16$
7. $7083 \div 35 = 202 \text{ R } 13$
8. $1196 \div 98 = 12 \text{ R } 20$
9. $7622 \div 43 = 177 \text{ R } 11$
10. $5893 \div 41 = 143 \text{ R } 30$

Multiply and divide decimals

11. $7.48 \times 12 = 89.76$
12. $5.5 \times 7 = 38.5$
13. $2.56 \times 4.95 = 12.6720$
14. $0.37 \times 5.6 = 2.072$
15. $5.6 \times 8.69 = 48.664$
16. $10.36 \times 12 = 124.32$
17. $8.22 \times 6.11 = 50.2242$
18. $7.8 \times 6 = 46.8$
19. $7.4 \times 7.87 = 58.238$
20. $0.26 \times 4.53 = 1.1778$

Solutions (1 of 4)

Multiplying Three Digits by Two

Multiply multi-digit numbers

1.

$$\begin{array}{r} 320 \\ \times 18 \\ \hline 2560 \\ 3200 \\ \hline 5760 \end{array}$$

320×18 , set out in columns. Split the 18 by place value and take one piece at a time.

The 8 is in the ones, so it is just 8: $320 \times 8 = 2560$.

The 1 is in the tens, so it is worth 10 — not 1. That is why this row is $320 \times 10 = 3200$, and why it ends in 0.

Now add the pieces: $2560 + 3200 = 5760$.

2.

$$\begin{array}{r} 150 \\ \times 11 \\ \hline 150 \\ 1500 \\ \hline 1650 \end{array}$$

150×11 , set out in columns. Split the 11 by place value and take one piece at a time.

The 1 is in the ones, so it is just 1: $150 \times 1 = 150$.

The 1 is in the tens, so it is worth 10 — not 1. That is why this row is $150 \times 10 = 1500$, and why it ends in 0.

Now add the pieces: $150 + 1500 = 1650$.

Multiply and divide by 10, 100, 1000

17. $2.4 \div 100 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 2.4 \div 100 \\ 0.24 \\ 0.024 \end{array}$$

100 is 10×10 , so there are 2 moves to make — one for each ten.

$\div 10$ — every digit is worth a tenth as much, so the point steps one place left: 0.24.

And $\div 10$ again — every digit is worth a tenth as much, so the point steps one place left: 0.024. The digits never changed — only where the point sits. $2.4 \div 100 = 0.024$.

Solutions (2 of 4)

Multiplying Three Digits by Two (continued)

Multiply and divide by 10, 100, 1000 (continued)

18. $0.3 \div 1000 = \underline{\hspace{2cm}}$

$$0.3 \div 1000$$

$$0.03$$

$$0.003$$

$$0.0003$$

1000 is $10 \times 10 \times 10$, so there are 3 moves to make — one for each ten.

$\div 10$ — every digit is worth a tenth as much, so the point steps one place left: 0.03.

And $\div 10$ again — every digit is worth a tenth as much, so the point steps one place left: 0.003.

And $\div 10$ again — every digit is worth a tenth as much, so the point steps one place left: 0.0003. The digits never changed — only where the point sits. $0.3 \div 1000 = 0.0003$.

Long Division

Long division

1.

$$\begin{array}{r} 73 \\ 47 \overline{)3431} \\ \underline{329} \\ 141 \\ \underline{141} \\ 0 \end{array}$$

3431 shared into groups of 47. Long division starts at the LEFT — the other way round from adding.

Start at the left. How many 47s fit into 343? 7 of them — write the 7 on top. $7 \times 47 = 329$, and $343 - 329$ leaves 14. Bring down the 1, which makes 141.

How many 47s fit into 141? 3 — write it on top. $3 \times 47 = 141$, and $141 - 141$ leaves 0.

Nothing is left to bring down and nothing is left over. $3431 \div 47 = 73$.

2.

$$\begin{array}{r} 89 \\ 52 \overline{)4628} \\ \underline{416} \\ 468 \\ \underline{468} \\ 0 \end{array}$$

4628 shared into groups of 52. Long division starts at the LEFT — the other way round from adding.

Start at the left. How many 52s fit into 462? 8 of them — write the 8 on top. $8 \times 52 = 416$, and $462 - 416$ leaves 46. Bring down the 8, which makes 468.

How many 52s fit into 468? 9 — write it on top. $9 \times 52 = 468$, and $468 - 468$ leaves 0.

Nothing is left to bring down and nothing is left over. $4628 \div 52 = 89$.

Solutions (3 of 4)

Long Division (continued)

Add and subtract decimals

11.

$$\begin{array}{r} 6.94 \\ 4.43 \\ \hline 2.51 \end{array}$$

6.94 – 4.43. Line the POINTS up under each other — not the right-hand ends. Right-aligning is what turns $12.5 + 3.75$ into a tidy-looking wrong answer.

4 take away 3 leaves 1.

9 take away 4 leaves 5.

6 take away 4 leaves 2.

The point in the answer comes straight down from the ones above it — it was never moved, only lined up. $6.94 - 4.43 = 2.51$.

12.

$$\begin{array}{r} 16.67 \\ .02 \\ \hline 16.65 \end{array}$$

16.67 – 0.02. Line the POINTS up under each other — not the right-hand ends. Right-aligning is what turns $12.5 + 3.75$ into a tidy-looking wrong answer.

7 take away 2 leaves 5.

6 take away 0 leaves 6.

6 take away 0 leaves 6.

1 take away 0 leaves 1.

The point in the answer comes straight down from the ones above it — it was never moved, only lined up. $16.67 - 0.02 = 16.65$.

Long Division with Remainders

Long division with remainders

1.

$$\begin{array}{r} 86 \\ 65 \overline{)5639} \\ \underline{520} \\ 439 \\ \underline{390} \\ 49 \end{array}$$

5639 shared into groups of 65. Long division starts at the LEFT — the other way round from adding.

Start at the left. How many 65s fit into 563? 8 of them — write the 8 on top. $8 \times 65 = 520$, and $563 - 520$ leaves 43. Bring down the 9, which makes 439.

How many 65s fit into 439? 6 — write it on top. $6 \times 65 = 390$, and $439 - 390$ leaves 49.

Nothing is left to bring down, and 49 is too small to divide again — so that is the remainder. $5639 \div 65 = 86$ remainder 49.

Solutions (4 of 4)

Long Division with Remainders (continued)

Long division with remainders (continued)

2.

$$\begin{array}{r} 36 \\ 91 \overline{) 3319} \\ \underline{273} \\ 589 \\ \underline{546} \\ 43 \end{array}$$

3319 shared into groups of 91. Long division starts at the LEFT — the other way round from adding.

Start at the left. How many 91s fit into 331? 3 of them — write the 3 on top. $3 \times 91 = 273$, and $331 - 273$ leaves 58. Bring down the 9, which makes 589.

How many 91s fit into 589? 6 — write it on top. $6 \times 91 = 546$, and $589 - 546$ leaves 43.

Nothing is left to bring down, and 43 is too small to divide again — so that is the remainder. $3319 \div 91 = 36$ remainder 43.

Multiply and divide decimals

11. $7.48 \times 12 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 7.48 \times 12 \\ 748 \times 12 = 8976 \\ 7.48 \rightarrow 2 \text{ figures} \\ 12 \rightarrow 0 \text{ figures} \\ 8976 \quad 2 \text{ from the right} \\ 7.48 \times 12 = 89.76 \end{array}$$

Do NOT line the points up — that is for adding. For a multiply, take the points off and do it as whole numbers first.

$748 \times 12 = 8976$. Ordinary times-tables, nothing decimal about it.

Now count the figures after the points in the QUESTION: 2 figures in 7.48 and 0 figures in 12 — 2 altogether.

So the answer gets 2 too. Count 2 in from the right of 8976 and put the point there: 89.76.

12. $5.5 \times 7 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 5.5 \times 7 \\ 55 \times 7 = 385 \\ 5.5 \rightarrow 1 \text{ figure} \\ 7 \rightarrow 0 \text{ figures} \\ 385 \quad 1 \text{ from the right} \\ 5.5 \times 7 = 38.5 \end{array}$$

Do NOT line the points up — that is for adding. For a multiply, take the points off and do it as whole numbers first.

$55 \times 7 = 385$. Ordinary times-tables, nothing decimal about it.

Now count the figures after the points in the QUESTION: 1 figure in 5.5 and 0 figures in 7 — 1 altogether.

So the answer gets 1 too. Count 1 in from the right of 385 and put the point there: 38.5.