



Steps to Success

Date	19.01.21
Subject/s	Maths
Learning Objective 	To multiply decimals by integers

SA 	TA 
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Success Criteria ✓! 	I know multiplication is repeated addition		
	I can represent using partitioning or place value counters		
	I can line up place value columns		
	I can use my knowledge of short and long multiplication		
Support	Independent	Adult Support ()	Group Work

Lockdown learning: DC

Pre-task

1) What calculation does this represent?

Tens	Ones	Tenths	Hundredths	Thousandths
	1	0.1 0.1	0.01	0.001 0.001
	1	0.1 0.1	0.01	0.001 0.001
	1	0.1 0.1	0.01	0.001 0.001

2) Solve and show your working

89.65×6

Teacher led

Fluency

1) $3.231 \times 6 =$

10s	1s	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
	3	2	3	1
	3	2	3	1
	3	2	3	1
	3	2	3	1
	3	2	3	1

We could use repeated addition. But this can take a long time and we might make mistakes!

Short multiplication

- Multiplying by 1 digit.

$$\begin{array}{r} 1) \quad 3.62 \\ \times \quad \quad 4 \\ \hline 14.48 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 2) \quad 6.29 \\ \times \quad \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 7.35 \\ \times \quad \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 32.91 \\ \times \quad \quad 3 \\ \hline \end{array}$$

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144



① Start on the right and multiply the digits.

② Go to the next column and repeat.

$$\begin{array}{r} 5) \quad 4.068 \\ \times \quad \quad 5 \\ \hline \end{array}$$

Long multiplication

- Multiplying by 2 digits.

$$\begin{array}{r} 1) \quad 627 \\ \times \quad 25 \\ \hline \end{array}$$

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

$$\begin{array}{r} 2) \quad 2280 \\ \times \quad \quad 13 \\ \hline \end{array}$$

① Multiply each digit by the ones digit.

② Add a place holder.

$$\begin{array}{r} 3) \quad 6175 \\ \times \quad \quad 21 \\ \hline \end{array}$$

③ Multiply each digit with the tens column.

Fluency A

$$\begin{array}{r} 1) \quad 0.34 \\ \times \quad \quad 2 \\ \hline \end{array}$$

1s	•	$\frac{1}{10}$	$\frac{1}{100}$
	•		
	•		

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

$$\begin{array}{r} 2) \quad 1.23 \\ \times \quad \quad 3 \\ \hline \end{array}$$

1s	•	$\frac{1}{10}$	$\frac{1}{100}$
	•		
	•		
	•		

$$\begin{array}{r} 3) \quad 3.2 \\ \times \quad \quad 3 \\ \hline \quad \quad \cdot \\ \hline \end{array}$$

1s	•	$\frac{1}{10}$	$\frac{1}{100}$
	•		
	•		
	•		

5)

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

.

10s	1s	•	$\frac{1}{10}$
		•	
		•	
		•	
		•	
		•	
		•	

6)

$$\begin{array}{r} 2 \ 3 . 4 \\ \times \quad \quad 5 \\ \hline \end{array}$$

10s	1s	•	$\frac{1}{10}$
		•	
		•	
		•	
		•	
		•	
		•	

7)

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

1s	•	$\frac{1}{10}$	$\frac{1}{100}$
	•		
	•		
	•		

8)

$$\begin{array}{r} 6 \ 3 . 8 \ 2 \\ \times \quad \quad 2 \\ \hline \end{array}$$

10s	1s	•	$\frac{1}{10}$	$\frac{1}{100}$
		•		
		•		
		•		

Fluency B

$$\begin{array}{r} 1) \quad 23.6 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 5.29 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 3.662 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 53.99 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 7.48 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 3.09 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7) \quad 2.605 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8) \quad 39.99 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9) \quad 6.3 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10) \quad 3.99 \\ \times \quad 15 \\ \hline \end{array}$$

$$\begin{array}{r} 11) \quad 15.49 \\ \times \quad 22 \\ \hline \end{array}$$

$$\begin{array}{r} 12) \quad 5.97 \\ \times \quad 30 \\ \hline \end{array}$$

Problem Solving and Reasoning

Use it!



Jess is saving her pocket money. Her mum says,

"Whatever you save, I will give you five times the amount."

If Jess saves £2.23, how much will her mum give her?

If Jess saves £7.76, how much will her mum give her?

Use it!

Fill in the blanks



$$\begin{array}{r} \begin{array}{ccc} \boxed{3} & \cdot & \boxed{4} & \boxed{5} \\ \times & & & \boxed{} \end{array} \\ \hline \begin{array}{ccc} \boxed{0} & \cdot & \boxed{3} & \boxed{0} \\ \boxed{} & \cdot & \boxed{4} & \boxed{0} \\ \boxed{1} & \boxed{} & \cdot & \boxed{0} & \boxed{0} \\ \hline \boxed{} & \boxed{} & \cdot & \boxed{} & \boxed{} \end{array} \end{array}$$

Explain it!

Amy says,



When you multiply a number with 2 decimal places by an integer, the answer will always have more than 2 decimal places.

Do you agree?
Explain why.