Short Multiplication

Multiplying by a One-Digit Number

45 × 6

Write the numbers above each other in the correct columns.

Multiply the tens digit in the two-digit number by the one-digit number and add any regrouped tens.

Write the answer in the

× 6 2 7 0

Multiply the ones digit in the two-digit number by the one-digit number.

provided section.



Long Multiplication

Multiplying by a Two-Digit Number

154 × 26

Write the numbers above each other in the correct columns.

Next, multiply the tens in the threedigit numbers by the ones digits in the two-digit number and add any regrouped tens.

1 5 4 × 2 6

First, multiply the ones in the three-digit number by the ones in the two-digit number.

4 ones × 6 ones = 24 ones = 2 tens and 4 ones

Write 4 in the answer section and regroup the 2 tens by writing 2 above the tens column.

2

1 5 4

× 2 6

Write 2 in the answer section and regroup the 3 hundreds by writing 3 above the hundreds column.

 $5 \text{ tens} \times 6 = 30 \text{ tens} + 2 \text{ tens} = 32$

tens = 3 hundreds and 2 tens

Finally, multiply the hundreds in the three-digit numbers by the ones digits in the two-digit number and add any regrouped hundreds.

1 hundred × 6 = 6 hundreds + 3 hundreds = 9 hundreds

Write 9 in the answer section.

3 2 1 5 4 × 2 6 9 2 4



Long Multiplication

Multiplying by a Two-Digit Number

Cross out any previous regroupings.

In the next section, multiply the ones in the three-digit number by the tens in the two-digit number

Because the calculation involves multiplying by 20, a zero needs to be placed in the right-hand column as a place holder.

$$4 \text{ ones} \times 2 \text{ tens} = 8 \text{ tens}$$

Write 8 in the answer section.

Multiply the tens in the three-digit number by the tens in the two-digit number and add any regrouped hundreds.

Write 0 in the answer section and regroup the 1 thousands by writing a 1 above the thousands column.

Multiply the hundreds in the three-digit number by the tens in the two-digit number and add any regrouped thousands.

Write 3 in the answer section.



Short Division

Dividing by a One-Digit Number

$$84 \div 6$$

Partition 84 into tens and ones.

Work out how many 6s divide into 80 so that the answer is a multiple of 10.

In this case, the highest multiple of 10 divisible by 6 is 60.

Partition 84 into 60 and 24 then divide each number by 6.

Combine the totals.

Combine the totals.

This can be shortened to:



Short Division

Dividing by a Two-Digit Number

5284 ÷ 12

1 12 5 ⁵ 2 8 4

First we divide 5 (thousands) by 12. This gives a result of 0 with a remainder of 5. The remainder 5 (thousands) is exchanged for 50 hundreds and placed into the hundreds column. This is shown by a small 5 in front of the existing 2 hundreds to make 52 hundreds.

2 4 12 5 ⁵2 ⁴8 4

Next, we divide 52 (hundreds) by 12. This gives a result of 4 (hundreds) remainder 4. The remainder 4 (hundreds) is exchanged for 40 tens and placed into the tens column. This is shown by a small 4 in front of the existing 8 tens to make 48 tens. The 4 is written in the hundreds position of the answer above the line.

3 4 4 12 5 5 4 8 4

Next we divide 48 (tens) by 12. This gives a result of 4. The 4 is written in the tens position of the answer above the line.

4 4 0 12 5 2 8 4

Next, we divide 4 (ones) by 12. This cannot be done, so there are four remaining. A zero is placed in the ones answer section as well as remainder 4.

 $5284 \div 12 = 440 \text{ r4}$



Short Division

Dividing by a Two-Digit Number Resulting in a Decimal Answer

5286 ÷ 12

12 8

First, divide 5 (thousands) by 12. This gives a result of 0 with a remainder of 5. The remainder 5 (thousands) is exchanged for 50 hundreds and placed into the hundreds column. This is shown by a small 5 in front of the existing 2 hundreds to make 52 hundreds.

5

Next, divide 6 (ones) by 12. This cannot be done. This gives a result of 0 with a remainder of 6. Extend the number being divided to show the tenths place. The remainder 6 (ones) can now be exchanged for 60 tenths and placed into the tenths column. This is shown by a small 6 in front of 0 tenths to make 60 tenths. Remember to place the decimal point in your answer section.

Next, divide 52 (hundreds) by 12. This gives a result of 4 (hundreds) remainder 4. The remainder 4 (hundreds) is exchanged for 40 tens and placed into the tens column. This is shown by a small 4 in front of the existing 8 tens to make 48 tens. The 4 is written in the hundreds position of the answer above the line.

Next, divide 60 (tenths) by 12. This gives a result of 5. The 5 is written in the tenths position of the answer above the line.



4

Next, divide 48 (tens) by 12. This gives a result of 4. The 4 is written in the tens position of the answer above the line.

$$5286 \div 12 = 440.5$$

Long Division

Dividing by a Two-Digit Number Resulting in a Decimal Answer

591 ÷ 12

answer section

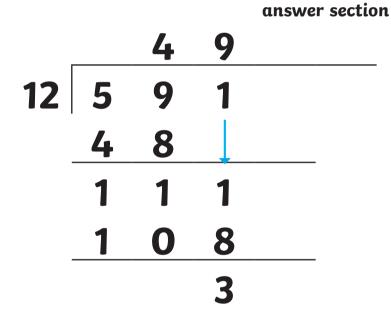
Work out the answer to two decimal places.

1

_		4		
12	5	9	1	
_	4	8		
	1	1	1	

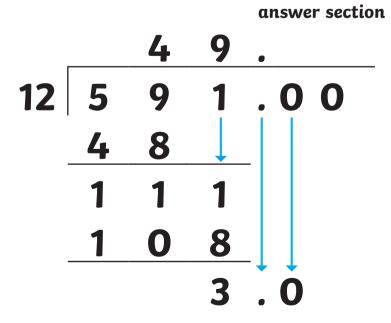
First, work out how many 12s there are in 59. The answer to this question is 4, which is written above the 9. We then write the product of 4 and 12 (48) under 59 and subtract giving 11. The 1 is then brought down and written next to 11 to make 111.

2



Next, work out how many 12s there are in 111. The answer to this question is 9, which is written above the 1. Then, write the product of 9 and 12 (108) under 111 and subtract it, giving 3.

3



Extend 591 into decimals to continue the process of long division.

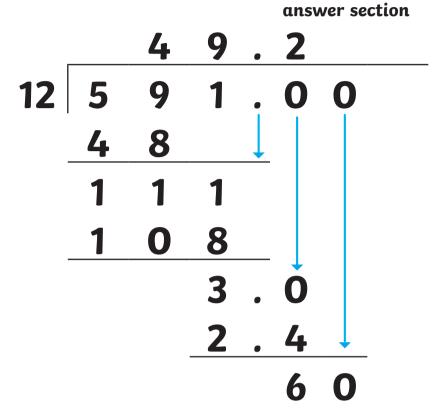
The O in the tenths place is then brought down and written next to 3 to make 30.



Long Division

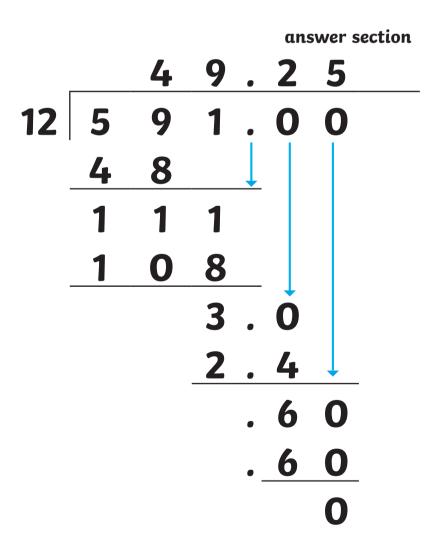
Dividing by a Two-Digit Number Resulting in a Decimal Answer

4



Next, work out how many 12s there are in 30. The answer to this question is 2, which is written above the 0 in the tenths place. Then, write the product of 2 and 12 (24) under 30 and subtract it, giving 6. The 0 is then brought down and written next to 6 to make 60.

5



Next, find out how many 12s there are in 60. The answer to this question is 5, which is written above the 0 in the hundredths place. Then, write the product of 5 and 12 (60) under 60 and subtract it, giving zero.

$$591 \div 12 = 49.25$$