

# Short Division

Dividing by a Two-Digit Number

$$5284 \div 12$$

**1**

$$12 \overline{) 5^5 2 8 4}$$

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 regrouped into the hundreds column. This is shown by a small 5 in front of the existing 2 hundreds to make 52 hundreds.

**2**

$$12 \overline{) 5^5 2^4 8 4}$$

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 regrouped 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**

$$12 \overline{) 5^5 2^4 8 4}$$

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**

$$12 \overline{) 5^5 2^4 8 4}$$

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.

$$5284 \div 12 = 440 \text{ r}4$$

# Long Division

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

$$591 \div 12$$

Work out the answer to two decimal places.

1

answer section

$$\begin{array}{r} 4 \\ 12 \overline{) 591} \\ \underline{48} \phantom{00} \\ 111 \phantom{00} \end{array}$$

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

answer section

$$\begin{array}{r} 49 \\ 12 \overline{) 591} \\ \underline{48} \phantom{00} \downarrow \\ 111 \phantom{00} \\ \underline{108} \phantom{00} \\ 3 \phantom{00} \end{array}$$

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

answer section

$$\begin{array}{r} 49.0 \\ 12 \overline{) 591.00} \\ \underline{48} \phantom{00} \downarrow \phantom{00} \downarrow \phantom{00} \downarrow \\ 111 \phantom{00} \phantom{00} \phantom{00} \phantom{00} \\ \underline{108} \phantom{00} \phantom{00} \phantom{00} \phantom{00} \\ 3.0 \phantom{00} \end{array}$$

Extend 591 into decimals to continue the process of long division. The 0 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

answer section

$$\begin{array}{r}
 49.2 \\
 \hline
 12 \overline{) 591.00} \\
 \underline{48} \phantom{00} \\
 111 \phantom{00} \\
 \underline{108} \phantom{00} \\
 30 \phantom{00} \\
 \underline{24} \phantom{00} \\
 60
 \end{array}$$

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

answer section

$$\begin{array}{r}
 49.25 \\
 \hline
 12 \overline{) 591.00} \\
 \underline{48} \phantom{00} \\
 111 \phantom{00} \\
 \underline{108} \phantom{00} \\
 30 \phantom{00} \\
 \underline{24} \phantom{00} \\
 .60 \\
 \underline{.60} \\
 0
 \end{array}$$

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.

$$591 \div 12 = 49.25$$