Short Division

Dividing by a One-Digit Number

$$84 \div 6$$

1 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.

2 Combine the totals.

$$\begin{array}{c} 1 \quad 0 \;+\; 4 \\ \hline 6 \,\big|\; 6 \quad 0 \;+\; 2 \quad 4 \end{array}$$

3 This can be shortened to:

$$\begin{array}{c} 1 \quad 4 \\ \hline 6 \,\big|\; 8 \;^{2}4 \end{array}$$

Short Division

Dividing by a Two-Digit Number

5284 ÷ 12

1

$$12 \mid 5 \,^{5}2 \; 8 \; 4$$

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

$$4$$
$$12 \mid 5 \,^{5}2 \,^{4}8 \; 4$$

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 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

$$4 \quad 4$$
$$12 \mid 5 \,^{5}2 \,^{4}8 \; 4$$

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

$$4 \quad 4 \quad 0$$
$$12 \mid 5 \; 2 \; 8 \; 4$$

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 ÷ 12 = 440 r4

Short Division

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

5286 ÷ 12

1

12) 5 ⁵2 8 6

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.

2

4
12) 5 ⁵2 ⁴8 6

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.

3

4 4
12) 5 ⁵2 ⁴8 6

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.

4

4 4 0
12) 5 ⁵2 ⁴8 6. ⁶0

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.

5

4 4 0. 5
12) 5 ⁵2 ⁴8 6. ⁶0

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.

6

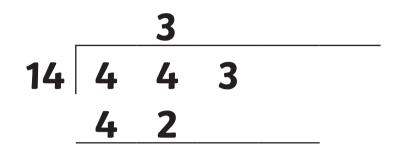### 5286 ÷ 12 = 440.5

Long Division

Dividing by a Two-Digit Number Resulting in a Remainder

443 ÷ 14

1

answer section

```
            3
    14 | 4  4  3
         4  2
```
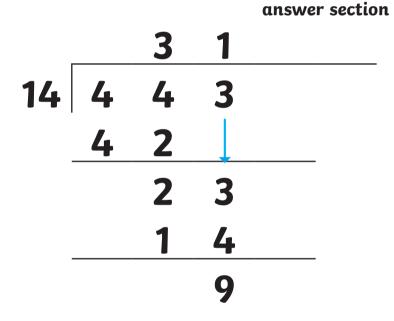
First, work out how many 14s there are in 44. The answer to this question is 3, which is written above the 4 Tens. We then write the product of 3 and 14 (42) under 44 and subtract giving 2. The 3 Ones are then brought down and written next to 2 to make 23.

2

answer section

```
            3  1
    14 | 4  4  3
         4  2
            2  3
            1  4
               9
```

Next, work out how many 14s there are in 23. The answer is 1, which is written above the 3 Tens. Then, write the product of 1 and 14 (14) under 23 and subtract it, giving 9. These are your remainders.

443 ÷ 14 = 31 r9

Long Division

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

591 ÷ 12

Work out the answer to two decimal places.

1

answer section

```
           4
      _____
12 | 5   9   1
     4   8
    _____
     1   1   1
```
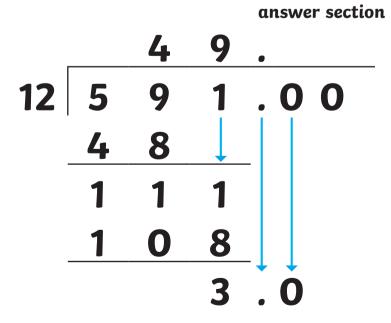
First, work out how many 12s there are in 59. The answer to this question is 4, which is written above the 9. We then write the product of 4 and 12 (48) under 59 and subtract giving 11. The 1 is then brought down and written next to 11 to make 111.

2

answer section

```
           4   9
      _____
12 | 5   9   1
     4   8
    _____
     1   1   1
     1   0   8
    _____
             3
```

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

```
           4   9  .
      _____
12 | 5   9   1  . 0   0
     4   8
    _____
     1   1   1
     1   0   8
    _____
             3  . 0
```

Extend 591 into decimals to continue the process of long division.
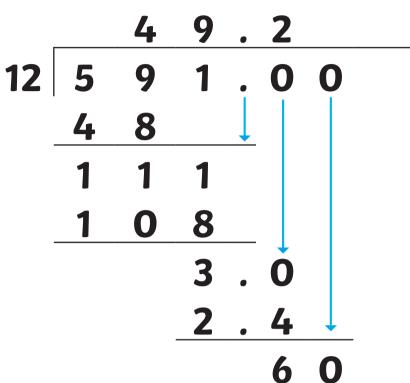The 0 in the tenths place is then brought down and written next to 3 to make 30.

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

4

answer section

```
            4  9 . 2
  12 | 5  9  1 . 0  0
       4  8
       1  1  1
       1  0  8
                3 . 0
                2 . 4
                   6  0
```
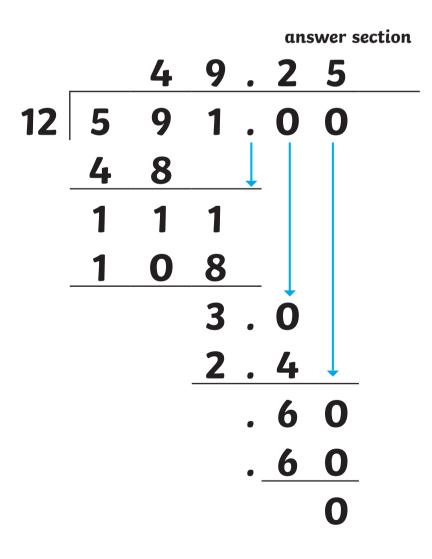
Next, work out how many 12s there are in 30. The answer to this question is 2, which is written above the 0 in the tenths place. Then, write the product of 2 and 12 (24) under 30 and subtract it, giving 6. The 0 is then brought down and written next to 6 to make 60.

5

answer section

```
            4  9 . 2  5
  12 | 5  9  1 . 0  0
       4  8
       1  1  1
       1  0  8
                3 . 0
                2 . 4
                  . 6  0
                  . 6  0
                      0
```

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 ÷ 12 = 49.25