



# Long Division



The number to be divided into is called the **dividend**

The number which divides the other number is called the **divisor**

$\begin{array}{r} 25 \overline{)425} \end{array}$	$4 \div 25 = 0 \text{ remainder } 4$	The first digit of the <b>dividend</b> (4) is divided by the <b>divisor</b> .
$\begin{array}{r} 0 \\ 25 \overline{)425} \end{array}$		The whole number result is placed at the top. Any remainders are ignored at this point.
$\begin{array}{r} 0 \\ 25 \overline{)425} \\ 0 \end{array}$	$25 \times 0 = 0$	The answer from the first operation is <b>multiplied</b> by the <b>divisor</b> . The result is placed under the number divided into.
$\begin{array}{r} 0 \\ 25 \overline{)425} \\ 0 \\ \hline 4 \end{array}$	$4 - 0 = 4$	Now we <b>subtract</b> the bottom number from the top number.
$\begin{array}{r} 0 \\ 25 \overline{)425} \\ 0 \downarrow \\ \hline 42 \end{array}$		Bring down the next digit of the dividend.
$\begin{array}{r} 0 \\ 25 \overline{)425} \\ 0 \downarrow \\ \hline 42 \end{array}$	$42 \div 25 = 1 \text{ remainder } 17$	<b>Divide</b> this number by the divisor.
$\begin{array}{r} 01 \\ 25 \overline{)425} \\ 0 \downarrow \\ \hline 42 \end{array}$		The whole number result is placed at the top. Any remainders are ignored at this point.
$\begin{array}{r} 01 \\ 25 \overline{)425} \\ 0 \downarrow \\ 42 \\ \hline 25 \end{array}$	$25 \times 1 = 25$	The answer from the above operation is <b>multiplied</b> by the divisor. The result is placed under the last number divided into.

$\begin{array}{r} 01 \\ 25 \overline{) 425} \\ \underline{0} \phantom{0} \\ 42 \phantom{0} \\ \underline{25} \phantom{0} \\ 17 \phantom{0} \end{array}$	$42 - 25 = 17$	<p>Now we <b>subtract</b> the bottom number from the top number.</p>
$\begin{array}{r} 01 \\ 25 \overline{) 425} \\ \underline{0} \phantom{0} \\ 42 \phantom{0} \\ \underline{25} \phantom{0} \\ 175 \end{array}$		<p>Bring down the next digit of the dividend.</p>
$\begin{array}{r} 01 \\ 25 \overline{) 425} \\ \underline{0} \phantom{0} \\ 42 \phantom{0} \\ \underline{25} \phantom{0} \\ 175 \end{array}$	$175 \div 25 = 7 \text{ remainder } 0$	<p><b>Divide</b> this number by the divisor.</p>
$\begin{array}{r} 017 \\ 25 \overline{) 425} \\ \underline{0} \phantom{0} \\ 42 \phantom{0} \\ \underline{25} \phantom{0} \\ 175 \end{array}$		<p>The whole number result is placed at the top. Any remainders are ignored at this point.</p>
$\begin{array}{r} 017 \\ 25 \overline{) 425} \\ \underline{0} \phantom{0} \\ 42 \phantom{0} \\ \underline{25} \phantom{0} \\ 175 \\ \underline{175} \\ 0 \end{array}$	$25 \times 7 = 175$	<p>The answer from the above operation is <b>multiplied</b> by the divisor. The result is placed under the number divided into.</p>
$\begin{array}{r} 017 \\ 25 \overline{) 425} \\ \underline{0} \phantom{0} \\ 42 \phantom{0} \\ \underline{25} \phantom{0} \\ 175 \\ \underline{175} \\ 000 \end{array}$	$175 - 175 = 0$	<p>Now we <b>subtract</b> the bottom number from the top number.</p>
		<p><b>There are no more digits to bring down. The answer must be 17</b></p>