

## Division

Division is the opposite of multiplication.

Example :  $3 \times 2 = 6$      $2 \times 3 = 6$      $6 \div 2 = 3$      $6 \div 3 = 2$ .

There are a few ways to show division:

- Using the words “divided by”
- Using a symbol. ( $\div$ ).
- Using a “drawing” ( $\overline{\hspace{1cm}}$ ).

## Definitions of the parts of a division problem

**Divisor:** The number you are trying to divide into a number.

**Dividend:** The number the divisor is being divided into.

**Quotient:** The answer to a division question.

$$\begin{array}{r} \text{quotient} \\ \text{divisor} \overline{) \text{dividend}} \end{array}$$

## Long Division

Long division is division showing all your steps. There are 4 steps which are repeated until you cannot divide any longer and you have an answer comprised of either just a whole number, or a whole number and a remainder/decimal.

The steps are: Divide (D)  
Multiply (M)  
Subtract (S)  
Bring Down (BD)


You can write the letters and check them off as you perform the steps.

eg 1)

$$\begin{array}{r}
 621 \\
 4 \overline{) 2484} \\
 \underline{-24} \phantom{0} \\
 08 \phantom{0} \\
 \underline{-8} \phantom{0} \\
 04 \phantom{0} \\
 \underline{-4} \\
 0
 \end{array}$$

D ✓ ~~✓~~ ✓  
 M ✓ ✓ ✓  
 S ✓ ✓ ✓  
 BD ✓ ✓ X

- double check by multiplying your divisor and quotient to see if you get the same dividend.

$$\begin{array}{r}
 621 \\
 \times 4 \\
 \hline
 2484
 \end{array}$$


eg 2)

$$\begin{array}{r}
 2407 R3 \\
 4 \overline{) 9631} \uparrow \\
 \underline{-8} \phantom{00} \\
 16 \phantom{00} \\
 \underline{-16} \phantom{00} \\
 03 \phantom{00} \\
 \underline{-0} \phantom{00} \\
 281 \\
 \underline{-28} \\
 3
 \end{array}$$

Okay  
 but  
 better →

$$\begin{array}{r}
 2407.75 \\
 4 \overline{) 9631.00} \\
 \underline{-8} \phantom{00} \\
 16 \phantom{00} \\
 \underline{-16} \phantom{00} \\
 03 \phantom{00} \\
 \underline{-0} \phantom{00} \\
 281 \\
 \underline{-28} \phantom{00} \\
 30 \\
 \underline{-28} \phantom{00} \\
 20 \\
 \underline{-20} \\
 0
 \end{array}$$