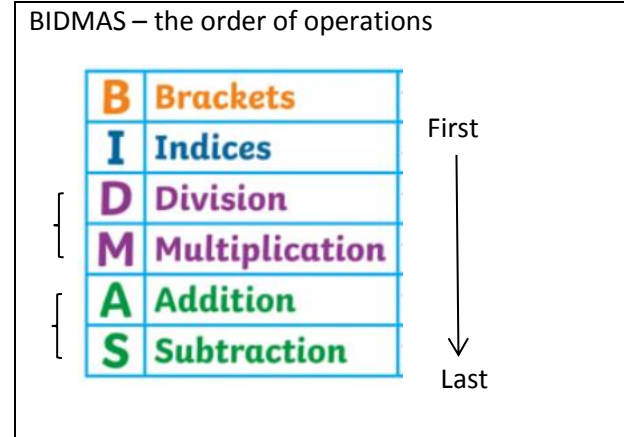
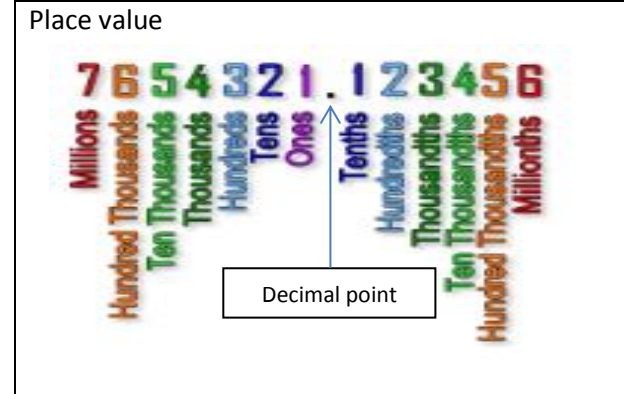


Key Vocabulary

Place value 582 is made up of 500, 80, 2	Place value is the value of each digit in a number
Operations	There are four main mathematical operations Addition + Subtraction - Multiplication x Division ÷
Indices, powers, index/power $7^4 = 7 \times 7 \times 7 \times 7$	The number times itself that many times is the index/power
BIDMAS	The order of you MUST follow when applying mathematical operations
Long multiplication	An efficient method for multiplying two large numbers
Short division	An efficient method for dividing a large number by another number
Inverse operation	The opposite operation; the opposite to add is subtract, the opposite to multiply is divide

Key facts / Diagrams



You must have an efficient method for long multiplication and division. It does not need to be the methods demonstrated under the worked examples, but you must ensure you can do these sorts of sums accurately!!!

Common misconceptions

- The use of BIDMAS can imply that division takes priority over multiplication, and that addition takes priority over subtraction. This can result in incorrect calculations.
- Pupils may incorrectly apply place value when dividing by a decimal for example by making the answer 10 times bigger when it should be 10 times smaller.
- Some pupils may have inefficient methods for multiplying and dividing numbers.

Worked examples

1. Work out 153×4.2
Remove decimal point and do the multiplication

$$\begin{array}{r}
 153 \\
 \times 42 \\
 \hline
 306 \\
 6120 \\
 \hline
 6426
 \end{array}$$

Put the point back in at the relevant place
= 642.6

2. Work out $782 \div 8$
= 97.75

$$\begin{array}{r}
 097.75 \\
 8 \overline{) 782.000} \\
 \underline{72} \\
 62 \\
 \underline{64} \\
 120 \\
 \underline{112} \\
 800 \\
 \underline{800} \\
 000
 \end{array}$$

3. Work out $20 - 12 \div 3$
 $20 - 4 = \underline{16}$