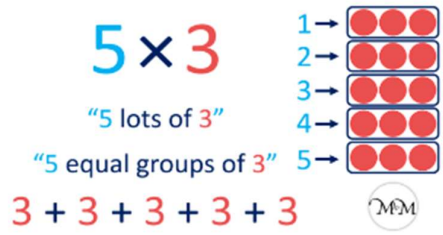
Year 5 Maths Knowledge Organiser – Spring Term 1 – Raiders or Traders?

Section 1 – Multiplication

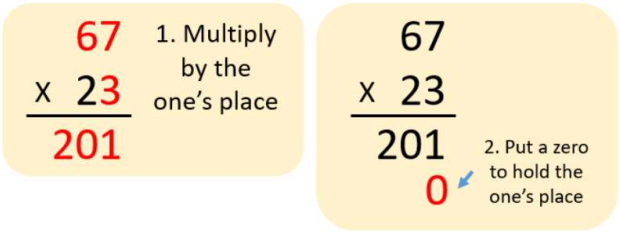
Multiplication

Multiplication is when you take one number and add it together a number of times (repeated addition).



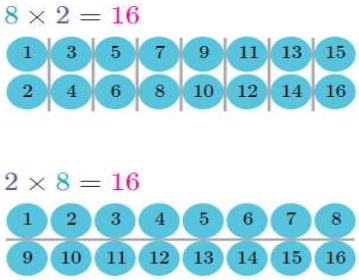
Place holder zero (0)

Multiplying a whole number by 10 always gives an answer which ends in zero.
When multiplying by the tens we must add a zero as a place holder to hold the ones place (see step 2 below).



Multiplication is commutative

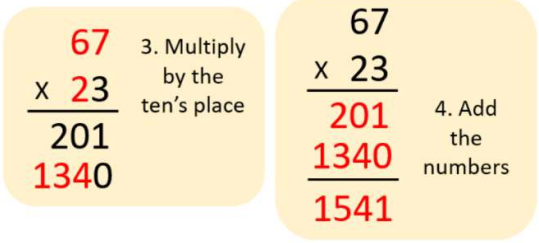
Commutative is a maths rule that says that the order in which we multiply numbers does not change the answer (product).



Formal written method of Multiplication

Set calculation out clearly with 1 digit per square

1. Multiply by the ones digit
2. Put a zero in one's column as a place holder
3. Multiply by the tens digit
4. Add the two answers together to get the final total



Section 2 – Division

Division

Division is breaking a number up into an equal number of parts.

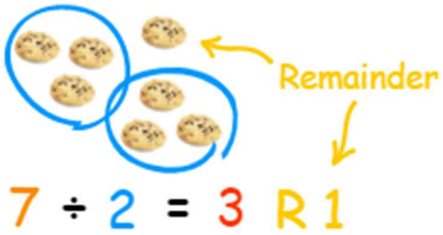
The **dividend** is the number we are going to divide.

The **divisor** is the number that we divide by.

The **quotient** is the answer when dividing one number by another number.

If a number cannot divide equally by the **divisor,** then the amount left over is called the **remainder.**

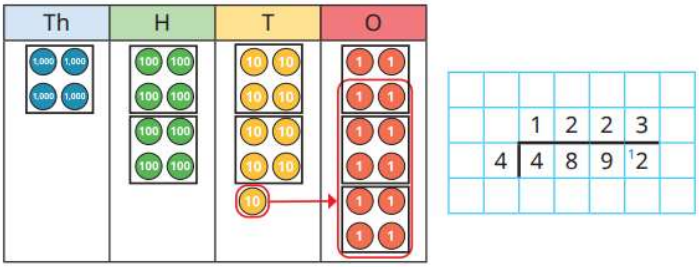
Example: 7 ÷ 2 = 3 remainder 1



Formal written method of short division

Set calculation out clearly with 1 digit per square

1. Start with the left-hand column
2. Divide each column in turn by the divisor
3. Record the answer above the line
4. Remember to exchange if needed e.g. in the example, 1 ten is exchanged for 10 ones.

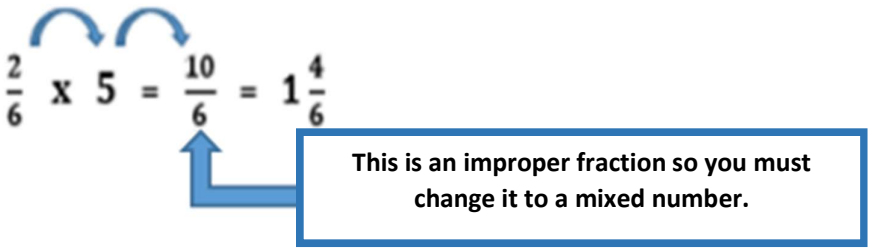


Section 3 – Multiply fractions by an integer

Unit fractions have 1 as the numerator e.g. $\frac{1}{2}$

Non-unit fractions have any other number as the numerator e.g. $\frac{3}{4}$

When multiplying a fraction, multiply the numerator only. The denominator stays the same.



Section 4 – Fractions of an amount

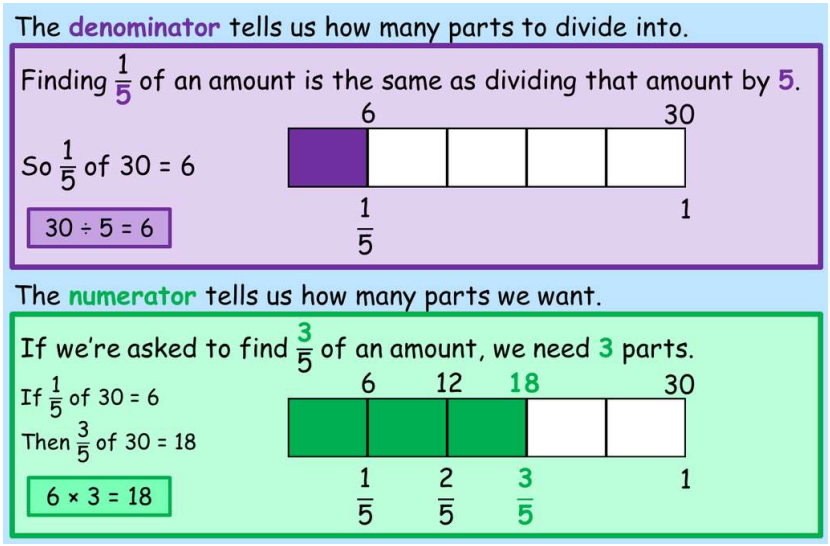
To calculate a fraction of an amount

1. **Divide by the denominator**
2. **Multiply by the numerator**

$\frac{2}{3}$ *of* 24 = 24 ÷ 3 × 2

= 8 × 2

= 16



To find the whole (when given a fraction)

1. **Divide by the numerator**
2. **Multiply by the denominator**

$\frac{3}{4}$ of _____ = 24

24 ÷ 3 = 8

8 x 4 = 32