

# SUBJECT: Maths

UNIT:

Year 7 Number



## Key Concept

Mixed numbers  
These are made up  
of a whole number  
and a fraction.

$$4\frac{3}{5}$$

$$= \frac{4 \times 5 + 3}{5}$$

$$= \frac{23}{5}$$

## Key Concept FDP Equivalence

F	D	P
$\frac{1}{100}$	0.01	1%
$\frac{1}{10}$	0.1	10%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%

## Key Concept

$$\frac{1}{4}$$

$$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16}$$

= 0.25

## Examples

Make the denominators the same

$$\frac{3}{5} + \frac{2}{7} = \frac{21}{35} + \frac{10}{35} = \frac{31}{35}$$

4 Rules Fractions

Just multiply the tops and bottoms

$$\frac{3}{5} \times \frac{2}{7} = \frac{3 \times 2}{5 \times 7} = \frac{6}{35}$$

Flip the second fraction and change to a times

$$\frac{3}{5} \times \frac{2}{7} = \frac{21}{10}$$

## Key Words

**Equivalence:** Two fractions are equivalent if one is a multiple of the other.

**Simplify:** Cancel a fraction down to give the smallest numbers possible.

## Key Words

**Place Value:** The value a digit takes when placed in a particular position of a number.

Add Sum Total All Together Plus In all	Multiply Product Times Twice Total Multiplied by
Subtract Remain Difference Less than Fewer How many more Minus	Divide Quotient Goes into Split Equally Each

## Key Concept

Multiply/Divide by powers of 10

10 000	1000	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$

## Multiplying

X 10  
X 100  
X 1000

digits move LEFT 1 space  
digits move LEFT 2 spaces  
digits move LEFT 3 spaces



## Dividing

+ 10  
+ 100  
+ 1000

digits move RIGHT 1 space  
digits move RIGHT 2 spaces  
digits move RIGHT 3 spaces



## Key Concept

### Factors:

Find these in pairs

12

1, 12

2, 6

3, 4

### Multiples:

Start with the

number itself

7 - 7, 14, 21, 28, ...

# SUBJECT: Maths

UNIT:

Year 7 Algebra



## Key Concept

Inverse Operations

Operation	Inverse
+	-
-	+
X	÷
÷	X
$x^2$	$\sqrt{x}$

## Key Concept

Expanding Brackets

To multiply out brackets, we use  
the grid method.

$$5(x + 9)$$

x	x	+9
5	5x	+45

= 5x + 45

$$7x(3x - 2)$$

x	3x	-2
7x	35x	-14

= 35x - 14

## Key Concept

Collecting Like Terms

$$5x + 9 + 2x$$

$$5x + 2x = 7x$$

$$9 = 9$$

$$7x + 9$$

## Key Words

**Unknown:** A letter which represents a number we do not know the value of.

**Terms:** The numbers and letters in the expression or equation.

**Inverse:** The operation which will do the opposite.