



# Mathematics Knowledge Organiser

## Y6: Fractions

### Proper Fractions

A fraction is a part of a whole.



**3** → numerator = number of parts referred to

**5** → fractions bar = divided by / out of

denominator = number of parts in whole

Fractions are divisions yet to be done...

$$\frac{1}{8} = 1 \div 8 = 0.125$$

### Improper Fractions and Mixed Numbers

Improper fractions and mixed numbers show fractions more than a whole.

$$\frac{11}{7} = 1 \frac{4}{7}$$

### Decimals

A decimal fraction is a part of a whole shown using decimal notation in columns to the right of the decimal point. Each column is 10 x smaller than the column to its left.

Ones	•	Tenths	Hundredths	Thousandths
1	•	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
3	•	4	5	6
“three	point	four	five	six”

Read, write and spell numbers to **three decimal places**.

321.**1** → One decimal place

20.**23** → Two decimal places

4217.**193** → Three decimal places

### Equivalent Fractions

Fractions	Decimals	Percentages
1/2	0.5	50%
1/4	0.25	25%
1/8	0.125	12.5%
3/4	0.75	75%
1/3	0.3	33.3%
2/3	0.6	66.6%
1/5	0.2	20%
1/10	0.1	10%
1/100	0.01	1%
1/1000	0.001	0.1%

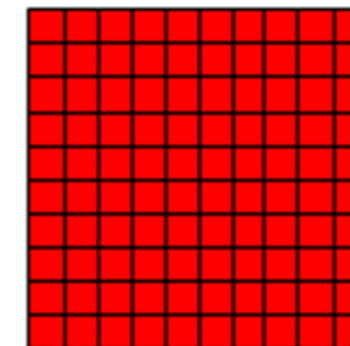
### Decimal Place Value

Multiply or divide any number by any multiple of ten up to 1000

n x 100	n x 10	n	n ÷ 10	n ÷ 100	n ÷ 1000
100	10	1	0.1	0.01	0.001
200	20	2	0.2	0.02	0.002
300	30	3	0.3	0.03	0.003
400	40	4	0.4	0.04	0.004
500	50	5	0.5	0.05	0.005
600	60	6	0.6	0.06	0.006
700	70	7	0.7	0.07	0.007
800	80	8	0.8	0.08	0.008
900	90	9	0.9	0.09	0.009

### Percentages

parts per hundred



100% = whole

1% = whole ÷ 100

10% = whole ÷ 10

50% = whole ÷ 2

25% = whole ÷ 4

### Key Concepts

**x = of**

$$\frac{1}{2} \times 600 = \text{half of } 600 = 300$$

$$0.25 \times 600 = \text{quarter of } 600 = 150$$

$$75\% \times 600 = 75\% \text{ of } 600 = 450$$