

Maths Key Facts for SATs

Multiplication Facts

- ✓ Be able to recall all the times tables up to 12
- ✓ To be able to recall multiplication related facts. For example 6 goes into 36 6 times and that 40 is a multiple of 10.
- ✓ To know all the squared numbers up to 12 x 12. A squared number is when you multiply a number by itself.

$$2 \times 2 = 4 \quad 3 \times 3 = 9 \quad 4 \times 4 = 16 \quad 5 \times 5 = 25 \quad 6 \times 6 = 36 \quad 7 \times 7 = 49$$

$$8 \times 8 = 64 \quad 9 \times 9 = 81 \quad 10 \times 10 = 100 \quad 11 \times 11 = 121 \quad 12 \times 12 = 144$$

Measurement

Length

- ✓ 5mm = $\frac{1}{2}$ cm
- ✓ 10mm = 1cm
- ✓ 25cm = $\frac{1}{4}$ m
- ✓ 50cm = $\frac{1}{2}$ m
- ✓ 75cm = $\frac{3}{4}$ m
- ✓ 100cm = 1m

To write measurements in different units. For example: 20cm is 0.2m and 9.7m is 970cm.

- ✓ 250m = $\frac{1}{4}$ km
- ✓ 500m = $\frac{1}{2}$ km
- ✓ 750m = $\frac{3}{4}$ km
- ✓ 1000m = 1km

To write measurements in different units. For example: 900g is 0.9kg and 3.4kg is 3400g.

Mass

- ✓ 250g = $\frac{1}{4}$ kg
- ✓ 500g = $\frac{1}{2}$ kg
- ✓ 750g = $\frac{3}{4}$ kg
- ✓ 1000g = 1kg
- ✓ 250kg = $\frac{1}{4}$ tonne
- ✓ 500kg = $\frac{1}{2}$ tonne
- ✓ 750kg = $\frac{3}{4}$ tonne
- ✓ 1000kg = 1 tonne

To write measurements in different units. For example: 1800ml is 1.8 litres

Capacity

- ✓ 250ml = $\frac{1}{4}$ litre
- ✓ 500ml = $\frac{1}{2}$ litre
- ✓ 750ml = $\frac{3}{4}$ litre
- ✓ 1000ml = 1 litre

Fractions, Decimals & Percentages

1 tenth = $\frac{1}{10}$ = 0.1 = 10%

A quarter = $\frac{1}{4}$ = 0.25 = 25%

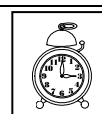
A half = $\frac{1}{2}$ = 0.5 = 50%

Three quarters = $\frac{3}{4}$ = 0.75 = 75%

- ✓ To be able to work out a tenth or 10% of numbers and amounts, including money by dividing the number or amount by 10: 10% of £6.90 is £0.69
- ✓ To be able to work out $\frac{1}{2}$ or 50% of numbers and amounts, including money: $\frac{1}{2}$ of £9.40 is £4.70
- ✓ To be able to work out a $\frac{1}{4}$ or 25% of numbers and amounts, including money by halving and halving again: $\frac{1}{4}$ of £10.40 is £2.60
- ✓ To be able to work out 5% of amounts by working out 10% and halving the answer: 5% of £5.60 is £0.28

Time

- ✓ Read the time on a digital and 12 hour clock
- ✓ Read the time on a 24 hour clock and convert it into am or pm
- ✓ Know that 10.50am is read out as 'ten fifty am' and 'ten to eleven in the morning'



Multiplication Facts

To multiply whole and decimal numbers by ten and a hundred.

Multiplying by 10 the digits move one place to the left. For example: $34.5 \times 10 = 345$

hundreds	tens	units	•	tenths
	3	4	•	5
3	4	5	•	

Multiplying by 100 the digits move two places to the left. For example: $9.9 \times 100 = 990$

hundreds	tens	units	•	tenths
		9	•	9
9	9	0	•	

Number Facts

- ✓ Know different words for subtraction – minus, take away, decrease, difference between, less than
- ✓ Know different words for addition - add, plus, sum, total, altogether, more than
- ✓ Know different words for multiplication – times, lots of, product, multiplied by
- ✓ To be able to double and half whole and decimal numbers
- ✓ List multiples of numbers. Like multiples of 6 are: 12, 60, 66, 600
- ✓ List factors of numbers. A factor is a whole number which goes into another number equally. The factors of 12 are: 1, 2, 3, 4, 6, and 12. The factors of 21 are: 1, 3, 7, and 21.

Division facts

To divide whole and decimal numbers by ten and a hundred.

Dividing by 10 the digits move one place to the right. For example: $123 \div 10 = 12.3$

hundreds	tens	units	•	tenths
1	2	3	•	
	1	2	•	3

Dividing by 100 the digits move two places to the right. For example: $712 \div 100 = 7.12$

hundreds	tens	units	•	tenths	hundredths
7	1	1	•		
		7	•	1	1


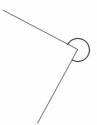
Data Handling

- ✓ **Mode** - Is the number which appears most frequently in a collection of data.
- ✓ **Median** - When the data is arranged in order of size the median is the one in the middle.
- ✓ **Range** – The difference between the smallest and largest values.
- ✓ **Mean** - To find the mean you must have a set of results. You then need to find the total of the results and divide it by the number of results you have.

Money

- ✓ To know different coins that can be used to make a pound. For example 50p and five 10p
- ✓ To know how many of each coins make a whole pound like £1 you can use 5x20p and for £5 you can use 10x50p
- ✓ Work out mentally change from £1 and £2

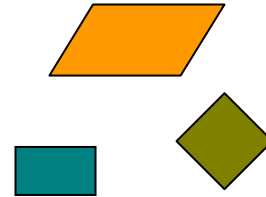
Angles

- ✓ Acute – less than 90° 
- ✓ Right angle - 90°
- ✓ Obtuse – more than 90° but less than 180°
- ✓ Straight line - 180°
- ✓ Reflex – more than 180° but less than 360° 

Full turn = 360°	Three quarters of a turn = 270°	Half a turn = 180°
Quarter of a turn = 90°	Right angle = 90°	Angles inside a triangle total 180°

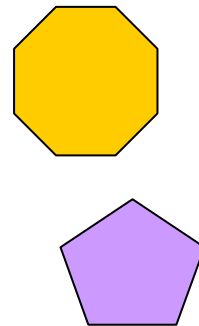
Quadrilaterals - 2D shapes with four sides

- Square
- Rectangle
- Rhombus
- Parallelogram
- Kite
- Trapezium



Other 2D Shapes

- Triangle – 3 sides
- Pentagon – 5 sides
- Hexagon – 6 sides
- Heptagon – 7 sides
- Octagon – 8 sides
- Nonagon – 9 sides
- Decagon – 10 sides



3D Shapes

A solid shape with faces.

- Cube
- Cuboids
- Sphere
- Cylinder
- Cone
- Tetrahedron
- Triangular prism
- Triangular prism

