

NUMBER

A quotient is the result obtained by dividing one quantity by another.

Dividing by $\frac{1}{2}$ is the same as multiplying by 2.

An improper fraction is one where the numerator is bigger than the denominator.

Percentage means out of 100.

$$\frac{1}{5} + \frac{1}{5} = \frac{2}{5}$$

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

$$\frac{3}{10} = 0.3 = 30\%$$

$$\frac{1}{100} = 0.01 = 1\%$$

$$\frac{9}{100} = 0.09 = 9\%$$

$$\frac{1}{3} = 0.\dot{3} = 33.\dot{3}\%$$

$$\frac{2}{3} = 0.\dot{6} = 66.\dot{6}\%$$

$$\frac{1}{5} = 0.2 = 20\%$$

$$\frac{2}{5} = 0.4 = 40\%$$

$$\frac{1}{8} = 0.125 = 12.5\%$$

Depreciate means to decrease.

The product is the answer to a multiplication problem.

When dividing fractions remember: KFC (keep the first fraction, flip the second over and change the sign to a multiply).

A mixed number is written as a whole number and a fraction.

A proper fraction is one where the numerator is smaller than the denominator.

An integer is a positive or negative whole number.

To find 38% of a number multiply by 0.38.

To work out the percentage change between two numbers:

$$\frac{\text{Difference}}{\text{Original Amount}} \times 100$$

Simple interest is interest paid only on the original amount of money.

Compound interest is interest paid both on the original amount of money and on the interest it has already earned.

ALGEBRA

An inequality says that two values are not equal.

An index is another name for a power.

Dividing law for indices

$$x^a \div x^b = x^{a-b}$$

Something to power zero = 1

When representing an inequality on a number line: \circ means $<$ or $>$

$$1 \text{ litre} = 1000\text{cm}^3$$

$$1\text{m}^2 = 100 \times 100 = 10000\text{cm}^2$$

The volume of a 3D shape is the amount an object can hold eg in cm^3

The plan view or plan elevation of a 3D shape is the view seen from above.

Surface area is the total area of all faces of a 3D shape.

Expand means to multiply out brackets in an expression.

Factorise means to put an expression into brackets.

Multiplying law for indices

$$x^a \times x^b = x^{a+b}$$

Bracket law for indices

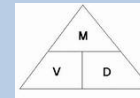
$$(x^a)^b = x^{ab}$$

When representing an inequality on a number line:
 \bullet means \leq or \geq

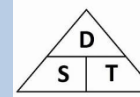
Volume of a cuboid = length x width x height

Volume of a prism = area of cross section x length

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$



$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$



GEOMETRY + MEASURE

An arc of a circle is part of the circumference.



A segment is an area of a circle enclosed by a chord and an arc.

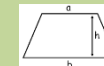


A tangent to a circle is a straight line which touches it at just one point.



Area of a trapezium =

$$\frac{(a + b) \times h}{2}$$



Area of a circle = πr^2

Compound Units are units that require two different types of measurement eg speed or density.

A chord is a straight line drawn from one point on the edge of a circle to



A sector is the area between two radii and the arc of a circle (a pizza slice).



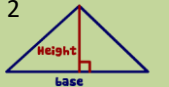
Area of a parallelogram = Base x Perpendicular Height.



Area of a triangle =

Base x Perpendicular Height

2



Circumference of a circle:

$$C = \pi d \text{ or}$$

$$C = 2\pi r$$

YEAR 8 CORE KNOWLEDGE

Don't forget you will also need to know the Core Knowledge from Year 7, so make sure you go back over it from time to time.