

Year 7 Maths Vocabulary List

(Tier 2 and Tier 3)



Area - A measure of the size of any plane surface. Area is usually measured in square units e.g. square centimetres (cm²), square metres (m²).

Brackets - Symbols used to group numbers in arithmetic or letters and numbers in algebra and indicating certain operations as having priority.

Directed number - A number having a direction as well as a size e.g. -7, +10, etc. Such numbers can be usefully represented on a number line extending in both directions from zero.

Equation - A mathematical statement showing that two expressions are equal. The expressions are linked with the symbol =

Examples: $7 - 2 = 4 + 1$ $4x = 3x^2 - 2x + 1 = 0$

Equivalent fraction - Fractions with the same value as another.

Example: $\frac{4}{8}$, $\frac{5}{10}$, $\frac{8}{16}$ are all equivalent fractions and all are equal to $\frac{1}{2}$.

Expression - A mathematical form expressed symbolically.

Example: $7 + 3$; $a^2 + b^2$.

Factor - When a number, or polynomial in algebra, can be expressed as the product of two numbers or polynomials, these are factors of the first.

Example: 1, 2, 3, 4, 6 and 12 are all factors of 12 because $12 = 1 \times 12 = 2 \times 6 = 3 \times 4$

Factorise - To write an expressions as the product of its factors, placing into brackets.

Example: Factorise $3x + 12$, which is $3(x + 4)$.

Improper fraction - An improper fraction has a numerator that is greater than its denominator.

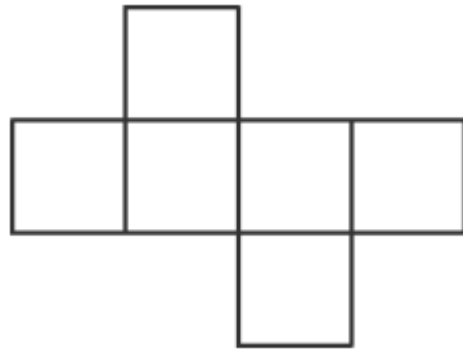
Example: $\frac{9}{4}$ is improper and could be expressed as the mixed number $2\frac{1}{4}$

Inequality - When one number, or quantity, is not equal to another. Statements such as $a \neq b$, $a < b$ or $a \geq b$ are inequalities. The inequality signs in use are: \neq means 'not equal to'; $A \neq B$ means 'A is not equal to B' $<$ means 'less than'; $A < B$ means 'A is less than B' $>$ means 'greater than'; $A > B$ means 'A is greater than B' \leq means 'less than or equal to'; $A \leq B$ means 'A is less than or equal to B' \geq means 'greater than or equal to'; $A \geq B$ means 'A is greater than or equal to B'

Mixed number - A whole number and a fractional part expressed as a common fraction.

Example: $1\frac{1}{3}$ is a mixed fraction. Also known as a mixed number.

Net - A plane figure composed of polygons which by folding and joining can form a polyhedron.



A net of a cube.

Perimeter - The length of the boundary of a closed figure.

Place value - The value of a digit that relates to its position or place in a number.

Example: in 1482 the digits represent 1 thousand, 4 hundreds, 8 tens and 2 ones respectively; in 12.34 the digits represent 1 ten, 2 ones, 3 tenths and 4 hundredths respectively.

Product - The result of multiplying one number by another.

Example: The product of 2 and 3 is 6 since $2 \times 3 = 6$.

Proportion - A part to whole comparison.

Example: Where £20 is shared between two people in the ratio 3 : 5, the first receives £7.50 which is $\frac{3}{8}$ of the whole £20. This is his proportion of the whole.

Ratio - A part to part comparison. The ratio of a to b is usually written a : b.

Example: In a recipe for pastry fat and flour are mixed in the ratio 1 : 2 which means that the fat used has half the mass of the flour, that is amount of fat/amount of flour = $\frac{1}{2}$. Thus ratios are equivalent to particular fractional parts.

Substitution - Numbers can be substituted into an algebraic expression in x to get a value for that expression for a given value of x.

For example, when $x = -2$, the value of the expression $5x^2 - 4x + 7$ is $5(-2)^2 - 4(-2) + 7 = 5(4) + 8 + 7 = 35$.