

Algebra 1
Simplify algebraic expressions
Solve two step equations
Solve equations with x on both sides
Set up and solve equations
MINI REVIEW
Expand unitary binomials
Expand non-unitary binomials
Expand trinomials
OPEN BOOK ASSESSMENT

DEFINITION Equations that are only true for certain values of the variable.

CHARACTERISTICS • Is an equation • Involves exactly one variable • The variable could appear multiple times.

Solvable
Equation

EXAMPLES $3x = 7$ $3x = 2x + 7$ $3p^2 = 2p + 7$ $x = 4$ $3 = 2(x + 7)$ $\frac{2y}{7} = 8$ $(x + 3)(x + 2) = 0$ $\frac{7}{2y} = 8$

NON-EXAMPLES $2x + 8 = y$ $2x + 8 = 3y - 1$ $2 + 8 = 13 - 3$ $2 + 8y = 13 - 3p$ $y = 13 - 3p$ $y = \frac{ab}{13x^2 - 3p}$
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DEFINITION The act of multiplying an expression by another expression using the distributive law to create the 'expanded form' of an expression.
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CHARACTERISTICS • The expression starts with at least one bracket and the result has no brackets

Expand
(an expression)

EXAMPLES $3(x + 2) = 3x + 6$ $5 \times (4 + 7) = 5 \times 4 + 5 \times 7$ $(x + 2)(2x - 5) = 2x^2 - x - 10$

NON-EXAMPLES $10x - 15 = 5(2x - 3)$ $3x + 5x = 8x$ $\frac{x + 4}{3} = \frac{x}{3} + \frac{4}{3}$
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Number & Sequences
Recognise different types of numbers
Find the nth term of a sequence
Find any term of a sequence
Is a number in a sequence
Simple Quadratic sequences
MINI REVIEW
Understand inequality notation
Solve linear inequalities
Represent inequalities on a number line
OPEN BOOK ASSESSMENT

DEFINITION A sequence where the difference between any two adjacent terms is equal.	CHARACTERISTICS • Also called arithmetic sequence. • Each term can be found by adding or subtracting the same number to a previous term. • Has position to term rule in the form $an + b$.	DEFINITION Latin: <i>in-</i> 'not' <i>aequus</i> 'even, level' Relationship between two expressions that are not exactly equal.	CHARACTERISTICS Expressions can be connected with the following signs: > Greater than ≥ Greater than or equal to < Less than ≤ Less than or equal to ≠ Not equals to
EXAMPLES 1, 2, 3, 4, 5, ... -10, -6, -2, 2, 6, ... 7, 2, -3, -8, ... 3.2, 3.8, 4.4, 5, 5.6, ...	NON-EXAMPLES 4, 5, 7, 10, 14, ... 1, 1, 2, 3, 5, 8, 13, ... 9, 6, 9, 6, 9, 6, ...	EXAMPLES $5 > -2$ $x \leq 12$ $-3 < y \leq 5$ $x < -1, x \geq 8$ $a \neq b$ $2x - 7 < x + 6$	NON-EXAMPLES $x = 5$ $4x = 2x + 5$ $-5 > -1$

Linear
Sequence

Inequality

Graphs
Draw a straight line graph
Understand $y = mx + c$
Calculate the equation of a line
Draw and interpret distance time graphs
Draw and interpret conversion graphs
Draw and interpret exchange rate graphs
Find the equation of a line through two points, or one given a gradient
MINI REVIEW
OPEN BOOK ASSESSMENT

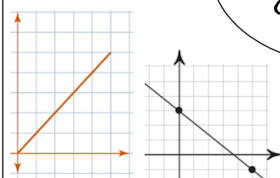
DEFINITION
A straight line graph, formed by plotting the graph of the relationship between two quantities.

CHARACTERISTICS

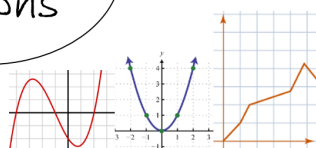
The equation will have 2 variables (letters). Neither will have powers. The graph will be a straight line with gradient (steepness) and intercept (where it crosses the y-axis).

Linear
Graphs

EXAMPLES



NON-EXAMPLES



DEFINITION

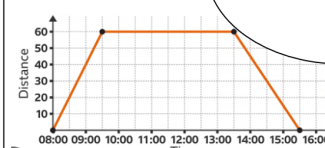
A distance-time graph visually represents a journey by plotting distance on the vertical, y-axis, against time on the horizontal, x-axis.

CHARACTERISTICS

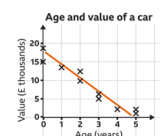
- **Gradient = Speed:** The slope of the line equals the speed. The steeper the line, the faster the object is travelling.
- **Straight, upward-sloping line:** Constant (steady) speed.
- **Horizontal (flat) line:** The object is stationary (stopped).
- **Sloping downwards line:** The object is returning towards the starting point.

Distance
time graph

EXAMPLES



NON-EXAMPLES



Polygons
Know what a polygon is and the names
Know how to find the external angle
Know how to find the internal angle
Know how to problem solve using properties of polygons
MINI REVIEW

DEFINITION

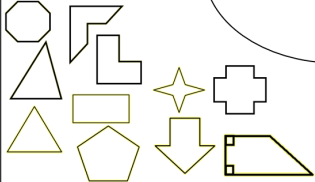
Literally translates to “many angles”; generally recognised as a 2-D shape made up of 3 or more connected straight lines.

CHARACTERISTICS

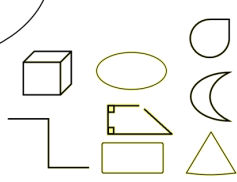
- Made of connected straight lines
- Flat shape

Polygon

EXAMPLES



NON-EXAMPLES



DEFINITION

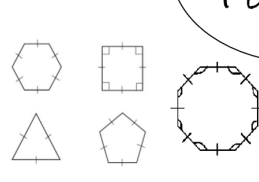
A polygon with all sides equal sized and all interior angles equal sized.

CHARACTERISTICS

- All connected straight sides
- All sides equal sized
- All angles equal sized

Regular Polygon

EXAMPLES



NON-EXAMPLES

