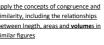
Stage 6		Stage 7		Stage 8/Foundation		Stage 9/FH		Stage 1	.0/1
solve problems involving the calculation and conver- sion of units of measure, using decimal notation up to three decimal places where appropriate use, read, write and convert between standard units, converting meas- urements of length, mass, volume and time from a smaller unit of meas- ure to a larger unit, and vice versa, using decimal notation to up to three decimal places convert between miles and kilometres		use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money, etc.) change freely between related standard units (e.g. time, length, area, volume/capacity, mass) in numeri- cal contexts measure line segments and angles in geometric figures		change freely between compound units (e.g. speed, rates of pay, prices) in numerical contexts use compound units such as speed, rates of pay, unit pricing) measure line segments and angles in geometric fig- ures, including interpreting maps and scale drawings and use of bearings		change freely between compound units(e.g. density, pressure) in numerical and algebraic contextsuse compound units such as density and pressure			
recognise that shapes with the same areas can have different perimeters and vice versa recognise when it is possi- ble to use formulae for area and volume of shapes	calculate the area of parallelograms and triangles calculate, estimate and com- pare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units	calculate perimeters of 2D shapes know and apply formu- lae to calculate volume of cuboids	know and apply formu- lae to calculate area of triangles, parallelo- grams, trapezia calculate surface area of cuboids	know the formulae: cir- cumference of a circle = $2\pi r = \pi d$, know the formulae: area of a circle = πr^2 know and apply formulae to prisms (including cylinders)	<u>calculate perimeters of</u> <u>2D shapes, including</u> <u>circles</u> <u>calculate areas of circles</u> <u>and composite shapes</u> to calculate volume of right	calculate arc lengths, angles and areas of sectors of circles apply the concepts of congru- ence and similarity, including the relationships between lengths in similar figures	calculate surface area of right prisms (including cylinders) know the formulae for: Py- thagoras' theorem, $a^2 + b^2 =$ $\frac{c^2}{c^2}$, and apply it to find lengths in right-angled triangles in two dimensional figures	calculate surface area and volume of spheres, pyra- mids, cones know the formulae for: Pythagoras' theorem, a ² + b ² = c ² , and apply it to fin lengths in right-angled triangles and, where possible, general triangles and i three dimensional figures apply it to find angles and length in right-angled triangles in two dimensional figures	simila betwe simila know sin0 : = adj. oppo
describe positions on the full coordinate grid (all four quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes		solve geometrical problems on coordinate axes identify, describe and construct congruent shapes, including on coordinate axes, by considering rotation, reflection and translation describe translations as 2D vectors		identify, describe and construct similar shapes, including on coordinate axes, by considering enlargement				identify, describe and co ing on coordinate axes, b (including fractional scale describe the changes an combinations of rotation tions apply addition and subtra tion of vectors by a scala umn representations of vectors by a scala	e factors d invari ns, refle action o ar, and d

Geometry—Measures, mensuration, position and direction

/Higher

Stage 11/Higher+

Units of measure



now the trigonometric ratios, inθ = opposite/hypotenuse, cosθ : adjacent/hypotenuse, tanθ = pposite/adjacent

know the exact values of sin θ and cos θ for $\theta = 0^{\circ}$, 30°, 45°, 60° and 90°; know the exact value of tan θ for $\theta = 0^{\circ}$, 30°, 45° and 60°

uct similar shapes, includonsidering enlargement <u>ctors)</u>

variance achieved by eflections and transla-

on of vectors, multiplicand diagrammatic and colors

