Expected mathematical knowledge for entrants to the 5L

Number sets	Definitions of the sets $\mathbb{R}$, $\mathbb{Q}$, $\mathbb{Z}$ and $\mathbb{N}$. Definition of the set of Irrational numbers. The relationship between the sets. Representing numbers on number lines, as sets etc.
Arithmetic	The rules governing the four operators $+$, $-$, x and $\div$. Square numbers, cube numbers, square roots of square numbers. Calculations with fractions.
Percentages	Calculating compound and simple interest. Calculating price reductions. Borrowing and repayment rates.
Geometry	Right angled triangles: Pythagoras' theorem. Plane shapes: triangles, squares, rectangles, polygons and circles. Calculating the areas and perimeters of plane shapes. Definitions: sector, segment and ring. Solid shapes: Prisms and pyramids, cylinders, cones and spheres. Drawing the nets of 3D shapes. Volumes and surface areas.
Algebra	Calculations with expressions and equations containing unknown terms. The binomial expansion to degree 3. Algebraic fractions, including fractions in the denominator. Linear equations in one variable. Rearranging formulae and evaluating by substituting values. Linear equations in two variables: solving graphically or algebraically.
Functions	Definition. Linear functions: direct proportionality. Exponential functions: growth and decay. Simple rational functions: indirect proportionality.
Statistics	Representing data: plots, charts and graphs. Mean, median, mode, maximum, minimum and range.