

Year 8 Aspiring Foundation (Set (7-5) 7(5))



**CHESTERTON
COMMUNITY COLLEGE**

Assessment 1a - End of half term 1

This assessment is on fraction arithmetic and percentages

The assessment reviews the fraction arithmetic covered in Year 7, extending to look at division of fractions and mixed number arithmetic. It also looks at the equivalence of fractions, decimals and percentages.

Students take an in depth look at percentages and how amounts can be expressed as a percentage, as well as increasing and decreasing by a percentage using both calculator and non-calculator methods.

	😊	😐	☹️	Maths Watch
Fractions				
I can find equivalent fractions				N23b
I can simplify fractions				N23c
I can convert between mixed numbers and top heavy fractions				N35
I can add and subtract fractions with the same denominator				N36
I can add and subtract fractions with different denominators (including cases with more than 2 fractions)				N36
I can multiply fractions				N42a
I can divide fractions				N42b
I can multiply or divide a whole number by a fraction				N37a/b
I can add, subtract, multiply and divide mixed numbers				N41,N42a/b
Percentages				
I can convert a number between fractions, decimals and percentages				N32
I can describe/write an amount as a percentage				N39a
I can recognise when a fraction will produce a recurring decimal when written in that form				
I can find a percentage of an amount without a calculator by using 1%, 10% etc				87
I can find a percentage of an amount with a calculator using a calculator				86
I can increase or decrease an amount by a percentage without a calculator				R9a
I can use a decimal multiplier to increase or decrease an amount by a percentage				R9b

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Assessment 1b - Middle of half term 2

This assessment is on geometry.

Students are assessed on the properties of polygons, including their names and symmetries. Students are assessed on finding missing angles in triangles and quadrilaterals using reasoning based on these properties.

Students are also introduced to transformations informally and will need a compass to construct triangles.

	😊	😐	😞	Maths Watch
Angle Properties of Shapes				
I can name all the polygons up to 10 sides				G11
I can define when a polygon is regular or irregular				G11
I can describe triangles as being either equilateral, isosceles or scalene				G16
I can describe quadrilaterals as being either a: square, rectangle, parallelogram, trapezium, rhombus or dart				G14
I can draw in lines of symmetry in a 2d shape				G3
I can the order of rotational symmetry of a shape				G7
I can identify parallel lines				G18
I can identify perpendicular lines				
I know and can use fact the total of the angles around a point add up to 360°				G13
I know and can use fact the total of the angles around a point on a straight line add up to 180°				G13
I know and can use fact the total of the angles in a triangle always add up to 180°				G13,G16,G17
I know and can use fact the total of the angles in a quadrilateral always add up to 360°				G14
Transformations and Constructions				
I can reflect a shape informally				G4a,G4b
I can translate a shape informally				G5
Can tessellate combinations of polygons				GCSE 12a
I can recognise congruent shapes				12b
I can recognise when two shapes are similar				R10
I can construct a triangle given three sides				147

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Assessment 2a - Middle of half term 3

This assessment is on algebra, probability and representing data

Students recap their algebra skills from last year: Collecting like terms, simplifying terms using index algebra, and expanding single brackets and solving linear equations. They then extend this knowledge to expanding and more complex expressions, factorising a single bracket and solving more complex linear equations.

Students then look at how two way tables and frequency trees can be used to organise data, linking this to the work from last year on probability.

	😊	😐	☹️	Maths Watch
Expressions and Equations				
I can simplify linear expressions by collecting like terms Eg Simplify: $2a + 3 - 3b + 4a + b + 2$				A6
I can multiply together two simple expressions: Eg Simplify: $2a \times 3b$				A7a
I can use indices to simplify expressions involving repeated multiplication Eg Simplify: $a \times a \times a \times a$				
I can divide two simple expressions: Eg Simplify: $6a^3 \div 2a^2$				A7b
I can expand single brackets				A8
I can expand and simplify an expression containing several single brackets				A8
I can factorise an expression into a single bracket				A9
I can solve linear equations where the unknown appears on only one side of the equation				A12
I can solve linear equations where the unknown appears on both sides of the equations				A19b
I can solve linear equations that have brackets in them				A19a
Probability and Data				
I understand that probabilities are always given as a fraction, decimal or percentage				P1
I can calculate the probability of a single or combined event happening by listing equally likely events				P2a
I can calculate the probability of a single event happening by interpreting a frequency table				P2a
I can use the fact that probabilities sum to 1				P4,P5
I can draw and interpret a two way table to solve problems				P4
I can use a two way table to calculate probabilities				P5
I can draw a frequency tree to solve problems				57

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Assessment 2b - End of half term 4

This assessment is on geometry and direct and inverse proportion.

Students recap the work on area and conversion of metric units from last year before finding the area of more complex shapes and learning their formulae (trapezium and parallelogram).

Students also build on the work on ratio from Year 7 to explore situations that use direct proportion: Conversion rates between currencies and imperial units, the unitary method for recipes and best buys. Students are expected to be able to convert between all metric units from memory. They are also expected to be able to convert and compare other units where the conversion rate is given in the question, this includes currency conversions and imperial measures.

	😊	😐	😞	Maths Watch
I can multiply and divide by powers of 10 without a calculator				N17a/b
I can convert between standard metric units for length, weight and capacity				N7a
I can calculate the area of a square and a rectangle				G20a
I can calculate the area of a triangle				G20c
I can calculate the area of shapes made from several rectangles/triangles				G24
I can calculate the area of a parallelogram				G20b
I can calculate the area of a trapezium				G20d
I can find the perimeter of shapes				G8a/b
I understand that shapes with a large perimeter may not always have a large area				
Ratio and Direct Proportion				
I can recognise when two quantities are in direct proportion				R8
I can use direct proportion to solve problems involving scaling in recipes				39
I can use direct proportion to convert currencies or imperial units when given the conversion rate. Eg £ to \$ or kg to lbs etc				105
I can use a conversion graph				
I can use the unitary method to scale prices or compare 'best buys' Eg 3 boxes cost 90p, how much will 5 boxes cost?				
I can describe the relationship between two or more parts of a whole as a ratio				R1a,R1b
I can find equivalent ratios and simplify ratios including different units or ratios written as decimals				R5a
I can write a ratio in the form 1:m or m:1				R6
I understand the relationship between writing amounts as a ratio and a fraction				103
I can share an amount into two or three parts in a given ratio				R5b
I can use a ratio to find the value of one part when another part is known				R5a,R5b

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Assessment 3a - End of half term 5

This assessment is on arithmetic, sequences and graphs.

Students are assessed on arithmetic with whole numbers, with an emphasis on negative number arithmetic and substitution of values into formulae.

Students then build on the work of sequences from Year 7 to review the finding the formulae for an arithmetic sequence and to look at formal methods for plotting straight line graphs from their equations.

	😊	😐	😞	Maths Watch
Arithmetic				
Multiply and divide by powers of 10				N17a,N17b
Ordering negative and positive numbers				N2a
Multiply two digit number by a two digit number (long multiplication)				N28a
Related calculations – inverse operations and place value				N1a,92
Dividing by a single digit number				N16
Adding and subtracting negative numbers				N19a
Multiplying and dividing negative numbers				N19a
Substitution into a formula using BIDMAS with positive numbers				A10
Sequences and Graphs				
I can read and plot coordinates in the positive quadrant				A1a
I can read and plot coordinates in all four quadrants				A1b
I can complete a table of values for a linear equation and plot its graph				A14a
I can use a number machine to find outputs				
I can use a pattern to create a sequence of numbers				37
I can find the next term in a sequence by recognising the pattern so far				A11a
I can recognise Arithmetic sequences				A11a
I can use the correct notation to describe the term-to-term rule for a sequence				
I can describe the term-to-term sequence rule for a sequence				A11a
I can use the position-to-term ('n'th term rule) to find a particular term or terms in a sequence				A11b
I can find the position to term rule ('n'th term) rule for an Arithmetic sequence				A11c
I can recognise an Arithmetic sequence in a real life problem				A11c
I can plot a straight line graph using a table of values				A14a
I can recognise and plot vertical and horizontal lines on a coordinate axis				A5

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Assessment 3b - Middle of half term 6

This assessment is on statistics.

This unit reviews the work on statistics from year 7. It extends the work with a greater focus on comparing data using and average and the range. It also extends the use of graphs to look at stem-and-leaf diagrams and scatter graphs. There is also a look at different sampling techniques.



	😊	😐	😞	Maths Watch
Statistics				
I can find the mean, mode and median for a list of data				62
I can find the range for a list of data				62
I can compare two sets of data using averages and the range				
I can draw an ordered stem-and-leaf diagram				128b
I can draw an ordered back to back stem-and-leaf diagram to compare two distributions				128b
I can find the median and range of a set of data from a stem-and-leaf diagram				128b
I understand the difference between primary and secondary sources of data				152
I understand how sources of data might be biased				152
I understand the concept of sampling and why it is sometimes necessary				152
I understand the difference between a sample and a population				152
I can draw scatter graphs of experimental data				129
I can draw a line of best fit on a scatter graph and use it to make predictions				129
I can identify positive, negative and absence of correlation				129