

## Year 8 Aspiring Higher (Set (9-8) (9-7), 9-6)

Approximate date for assessments: second week of October

Theme	Detail	Revised?
<b>Fraction Arithmetic</b>	Simplify fractions by cancelling all common factors Begin to add and subtract simple fractions and those with simple common denominators Add and subtract simple fractions with denominators of any size Add and subtract up to 3 fractions mixing both addition and subtraction into the calculation, with denominators less than or equal to 12 and using the LCM denominator in the calculation - the answer can be a mixed number Add mixed number fractions without common denominators, where the fraction parts add up to more than 1 Add and subtract fractions (proper and improper) -positive and negative Add and subtract fractions (mixed) -positive and negative Multiply a fraction by an integer Multiply an integer by a fraction Divide an integer by a fraction Multiply and divide simple fractions ( proper and improper) - positive and negative	



<p>Indices, Surds and Fractional / Negative powers</p>	<p>Find the reciprocal of simple numbers/fractions mentally, e.g. 10 and <math>1/10</math>, <math>1/3</math> and 3 etc. Know that a number multiplied by its reciprocal is 1 Know that the reciprocal of a reciprocal is the original number Apply systematic listing strategies Be able to simplify expressions containing powers to complete the calculation Use the square, cube and power keys on a calculator Use the index laws to include negative power answers and understand that these answers are smaller than 1 Use the laws of indices to multiply and divide numbers written in index notation Recall that <math>n^0 = 1</math> and <math>n^{-1} = 1/n</math> for positive integers <math>n</math> as well as <math>n^{1/2} = \sqrt{n}</math> and <math>n^{1/3} = \sqrt[3]{n}</math> for any positive number <math>n</math> Find the value of calculations using indices including fractional and negative indices Calculate with roots (surds - exact values)</p>	
<p><b>Single and Double Brackets</b></p>	<p>Substitute positive and negative integers into linear expressions and expressions involving powers Expand two or more brackets Multiply out brackets involving positive terms such as <math>(a + b)(c + d)</math> and collect like terms Expand double brackets <math>(ax \pm b)(cx \pm d)</math> Simplify simple expressions involving index notation Simplify expressions involving brackets and powers e.g. <math>x(x^2+x+4)</math>, <math>3(a + 2b) - 2(a + b)</math> Square a linear expression and collect like terms</p>	