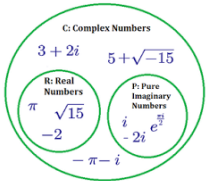
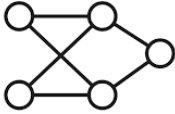


# Further Maths Bridging Unit

Some of the content covered in Further Maths A-level is very different from anything you will have encountered before, both at GCSE and in your Maths A-level. For this bridging unit, we would like you to research some of the areas of the Further Maths syllabus and present some notes on each of the topic areas. There is no need to actually learn any of the specifics of the mathematics involved! A brief overview of what the area involves, the history of the mathematics and where it's useful will suffice. Completion of the whole task is 100pts in your bridging unit. (Hint: each of the five areas below have their own Wikipedia page!)

Complex Numbers	 <p>A Venn diagram illustrating the relationship between different types of numbers. A large green circle labeled 'C: Complex Numbers' contains two smaller green circles: 'R: Real Numbers' on the left and 'P: Pure Imaginary Numbers' on the right. The 'R' circle contains the numbers <math>\pi</math>, <math>\sqrt{15}</math>, and <math>-2</math>. The 'P' circle contains <math>i</math>, <math>-2i</math>, and <math>e^{\frac{\pi}{2}}</math>. The intersection of the two circles contains the numbers <math>3 + 2i</math> and <math>5 + \sqrt{-15}</math>. Below the circles, the expression <math>-\pi - i</math> is written.</p>	
Matrices	$A = \begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix}$	

<p>Graph Theory</p>		
<p>Euler's Identity</p>	$e^{i\infty} = \cos \infty + i \sin \infty$ $e^{i\pi} = \cos \pi + i \sin \pi$ $e^{i\pi} = (-1) + (0)$ <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <math display="block">e^{i\pi} + 1 = 0</math> </div>	
<p>Conic Sections</p>	