A - Level Further Maths 15 Minute Boost 4

$\sum_{r=1}^{n} r^3 =$	
For non-singular matrices $\mathbf{A}$ and $\mathbf{B}$ what is $(\mathbf{AB})^{-1} =$?	
Describe the loci $\lvert z - z_1 \rvert < r$ for complex numbers z and z_1	
$\sinh(2x) =$	
What is the auxiliary equation for the 2nd order DE $2y'' + 6y' + 4y = 0$?	

1 Find the equation of the plane containing the points $A(1,1,1)$, $B(3,1,2)$ and $C(1,4,1)$.

2 Find the eigenvalue - eigenvector pairs for the matrix $\mathbf{A} = \begin{pmatrix} 4 & 1 \\ -2 & 1 \end{pmatrix}$