## A - Level Further Maths 15 Minute Boost 3

Define $\tanh (x)$ in terms of exponentials.

State the modulusargument form for a complex number.

What is the 3 by 3 identity matrix?

Find the scalar product of

1 Find the matrix representing a rotation, centre the origin of $270^{\circ}$ counter clockwise, followed by a reflection in the line $y=-x$.

2 Prove by induction $\sum_{r=1}^{n} r^{2}=\frac{1}{6} n(n+1)(2 n+1)$

