Type 3: Matrix Proofs

Example

Prove by induction that $\left(\begin{matrix}1&-1\\0&2\end{matrix}\right)^{n}=\left(\begin{matrix}1&1-2^{n}\\0&2^{n}\end{matrix}\right)$ for all $n\in Z^{+}$.

Example

Prove by induction that $\left(\begin{matrix}-2&9\\-1&4\end{matrix}\right)^{n}=\left(\begin{matrix}-3n+1&9n\\-n&3n+1\end{matrix}\right)$ for all $n\in Z^{+}$.

Ex 8C Pages 164

Be the examiner!

How many marks does this deserve??



