Paper 1 and Paper 2: Core Pure Mathematics

To support the co-teaching of this qualification with the AS Mathematics qualification, common content has been highlighted in bold.

Торіс	What students need to learn:		
	Content		Guidance
1	1.1	Construct proofs	To include induction proofs for
Proof		using mathematical induction. Contexts include sums of series, divisibility and	(i) summation of series
			e.g. show $\sum_{r=1}^{n} r^3 = \frac{1}{4} n^2 (n+1)^2$
			or
		powers of matrices.	show $\sum_{r=1}^{n} r(r+1) = \frac{n(n+1)(n+2)}{3}$
			(ii) divisibility e.g. show 3^{2n} +11 is divisible by 4
			(iii) matrix products e.g. show
			$\begin{pmatrix} 3 & -4 \\ 1 & -1 \end{pmatrix}^n = \begin{pmatrix} 2n+1 & -4n \\ n & 1-2n \end{pmatrix}$