Question	Answer	Marks	Guidance
6	$\dfrac{\frac{10(1-r^8)}{1-r}}{\frac{10(1-r^4)}{1-r}}=\dfrac{17}{16}$ [$a\dfrac{(1-r^8)}{(1-r)}=\dfrac{17}{16}\times a\dfrac{(1-r^4)}{(1-r)}$]	**M1***	OE, i.e. substituting p and q expressions into ratio $\dfrac{17}{16}$. $16=a\dfrac{(1-r^4)}{(1-r)}$, $17=a\dfrac{(1-r^8)}{(1-r)}$ gets M0 unless recovered later.
	Simplifying to $16r^8-17r^4+1\,[=0]$ (or equivalent form)	**DM1**	Or $\dfrac{(1-r^8)}{(1-r^4)}=(1+r^4)=\dfrac{17}{16}$.
	$\left[(16r^4-1)(r^4-1)=0\right]\Rightarrow r=\pm\dfrac{1}{2}$	**A1**	Or $r^4=\dfrac{1}{16}\;\Rightarrow\; r=\pm\dfrac{1}{2}$ (condone extra $r=\pm1$ solution).
	$S_\infty=\dfrac{10}{1-\left([\pm]\frac{1}{2}\right)}$	**DM1**	Use of correct sum to infinity formula with either of *their* r values providing $\lvert r\rvert<1$.
	$S_\infty=20$ and $\dfrac{20}{3}$	**A1**	Allow 6.67 or better. A0 if there is only one or more than two S_∞ values.
		5	