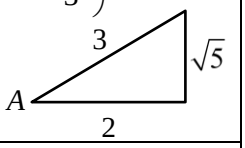
Question	Answer	Marks	Guidance
9(a)	$\frac{1}{2}(\sqrt{5}-1)(\sqrt{5}+1)\sin A = \frac{2\sqrt{5}}{3}$	**M1**	OR $\frac{1}{2}\times(\sqrt{5}+1)\times \text{height} = \frac{2\sqrt{5}}{3}$ **and** $\sin A = (\textit{their}\ \text{height}) \div (\sqrt{5}-1)$
	Simplifies to $\frac{1}{2}\times(5-1)\times\sin A = \frac{2\sqrt{5}}{3}$ oe	**A1**	OR $\sin A = \frac{4\sqrt{5}}{3(\sqrt{5}+1)} \div (\sqrt{5}-1)$ or $\sin A = \frac{5-\sqrt{5}}{3} \div (\sqrt{5}-1)$
	$\frac{\sqrt{5}}{3}$ isw	**A1**	
9(b)	$\cos A = \frac{2}{3}$ or exact equivalent	**B2**	**B1** for $\cos A = \sqrt{1-\textit{their}\left(\frac{\sqrt{5}}{3}\right)^2}$ or for $\cos A = \cos\left(\sin^{-1}\frac{\sqrt{5}}{3}\right)$ or for a sketch 
	$(\sqrt{5}-1)^2 + (\sqrt{5}+1)^2$ $-2(\sqrt{5}-1)(\sqrt{5}+1)\times\cos A$ soi	**M1**	
	$(\sqrt{5}-1)^2 + (\sqrt{5}+1)^2$ $-2(\sqrt{5}-1)(\sqrt{5}+1)\times\frac{2}{3}$ soi	**A1**	
	$x = \sqrt{\frac{20}{3}}$ or $\frac{2}{3}\sqrt{15}$ or $2\sqrt{\frac{5}{3}}$ oe, isw	**A1**	

Question	Answer	Marks	Guidance
9(c)	$\frac{\textit{their } x}{\textit{their}\sin A} = \frac{\sqrt{5}+1}{\sin B}$ oe, soi or $\frac{1}{2}\times(\sqrt{5}-1)\times \textit{their } x\times\sin B = \frac{2\sqrt{5}}{3}$ oe, soi	**M1**	**FT** *their x* and *their* sin*A*
	Correct expression $\frac{\sqrt{\frac{20}{3}}}{\frac{\sqrt{5}}{3}} = \frac{\sqrt{5}+1}{\sin B}$ oe or $\frac{1}{2}\times(\sqrt{5}-1)\times\sqrt{\frac{20}{3}}\times\sin B = \frac{2\sqrt{5}}{3}$ oe	**A1**	
	$\frac{\sqrt{15}+\sqrt{3}}{6}$ or $\frac{\sqrt{3}}{6}(\sqrt{5}+1)$ or $\frac{\sqrt{5}+1}{2\sqrt{3}}$ oe, isw	**A1**	
10(a)	$ar^2 = 4.5$ and $ar^5 = 15.1875$ soi	**B1**	
	Correctly eliminates one unknown using correct equations e.g $\left(\frac{4.5}{r^2}\right)r^5 = 15.1875$ or $\sqrt{\frac{4.5}{a}} = \sqrt[5]{\frac{15.1875}{a}}$ oe, soi	**M1**	
	$r = 1.5$, $a = 2$	**A2**	**A1** for either
10(b)	$S_{15} = \frac{2(1-1.5^{15})}{1-1.5}$ and $S_{25} = \frac{2(1-1.5^{25})}{1-1.5}$ oe	**B2**	**M1 FT** *their a* and *r* for $S_{15} = \frac{2(1-1.5^{15})}{1-1.5}$ or $S_{25} = \frac{2(1-1.5^{25})}{1-1.5}$ oe
	Correct plan: $S_{25} - S_{15}$ oe attempted	**M1**	**FT** *their a* and *r*
	99 253	**A1**	