Question Number	Scheme		Marks
1.(a)	$ae=6,\quad a^2\left(e^2-1\right)=9$	Both correct equations needed but need not be shown explicitly	B1
	$e=\frac{6}{a}\Rightarrow 36-a^2=9\Rightarrow a=...$ Or $a=\frac{6}{e}\Rightarrow 36-\frac{36}{e^2}=9\Rightarrow e=\frac{2\sqrt{3}}{3}$ $\Rightarrow a=\frac{6}{e}=...$	Eliminates e from their 2 equations to obtain an equation in a and solves for a or a^2 **or** Eliminates a from their 2 equations to find e and then finds a	M1
	$a=\sqrt{27}$ or $3\sqrt{3}$	Correct exact value. $a=\pm\sqrt{27}$ is A0 unless $-\sqrt{27}$ is rejected.	A1
			(3)
(b)	$e^2-1=\frac{9}{27}\quad e^2=\frac{36}{27}\quad e=\frac{2}{\sqrt{3}}$ or $\frac{2\sqrt{3}}{3}$ Finds a numerical value for e **<u>using a correct identity</u>**. This mark can be awarded if e has been found in part (a) or may be seen as part of their calculation to find $\frac{a}{e}$		M1
	$\left(x=\right)\left(\pm\right)\frac{a}{e}=...$	Obtains a numerical value for x using a correct equation for at least one directrix with their a and e (signs can be ignored)	M1
	$x=\pm\frac{9}{2}$	**Two** correct **equations**. Allow equivalents but must be **simplified**. So allow $x=\pm\frac{9}{2}$, $x=\pm4.5$	A1
			(3)
			[Total 6]

Note: Use of $b^2=a^2\left(1-e^2\right)$ can score (a) B0 M1 A0 and (b) M0 (if used again) M1 A0