Question Number	Scheme	Marks
4(a)	Focus is (2, 0)	B1
	$y-0=\frac{8}{15}(x-2)$ or $y=\frac{8}{15}x+c\Rightarrow c=-\frac{8}{15}\times 2=...$	M1
	$y=\frac{8}{15}x-\frac{16}{15},\quad y^2=8x$ $\Rightarrow y^2=15y+16\Rightarrow y^2-15y-16=0$ or $\frac{64}{225}x^2-\frac{256}{225}x+\frac{256}{225}=8x\Rightarrow 8x^2-257x+32=0$	M1
	$(y+1)(y-16)=0\Rightarrow y=-1,\ 16$ or $(8x-1)(x-32)=0\Rightarrow x=\frac{1}{8},\ 32$	M1
	$\left(\frac{1}{8},-1\right)\qquad(32,16)$	A1 A1
		(6)
(b)	$\frac{"32"+"\frac{1}{8}"}{2}+2=...$	M1
	$\frac{289}{16}$	A1
		(2)
		Total 8

Notes

(a)

B1: Correct focus seen or used.

M1: Forms the equation of *l* correctly with their focus.

M1: Eliminates *x* or *y* to obtain a 3TQ in *y* or *x*.

Alt: you may see $y=(\pm)\sqrt{8}\sqrt{x}\Rightarrow\sqrt{8}\sqrt{x}=\frac{8}{15}x-\frac{16}{15}\Rightarrow 8t^2\pm 15\sqrt{8}t-16=0$ where $t=\sqrt{x}$, which is also fine for the M. Accept if only the positive root is considered, the correct points are recovered when *t* is squared.

M1: Solves their 3TQ (usual rules, and accept if just one correct root is given for their 3TQ if no working – you may need to check).

A1: One correct point, allow if not paired but at least one pair of coordinates are correct implicitly.

A1: Both correct points. Accept listed rather than as coordinates as long as they are correctly paired.

(b)

M1: Adds 2 to the mean of their positive and distinct *x* coordinates.

A1: $\frac{289}{16}$ or $18\frac{1}{16}$ or 18.0625 from correct *x* coordinates.