Question Number	Answer	Mark
1(a)	Moments equation	M1
	$2m(4\lambda)+3m(2)+7m(4)=12m\,\overline{x}$	A1
	$\overline{x}=\dfrac{4\lambda+17}{6}$ *	A1*
		(3)
1(b)	Moments equation to find $\overline{y}$	M1
	$2m\lambda+3m(4)+7m(-3)=12m\,\overline{y}$	A1
	Use of straight line equation to form an equation in λ only: $\dfrac{4\lambda+17}{6}-6\times\dfrac{(2\lambda-9)}{12}=6$	M1
	$(\lambda=)4$	A1
		(4)
		(7)
	Notes for question	
(a)		
M1	Moments about *y*-axis (or a parallel axis). All terms required. Dimensionally consistent. Condone sign errors.	
A1	Correct equation	
A1*	Obtain given answer from complete and correct working. Allow terms reversed. **N.B**. Must see $\overline{x}$ = .. somewhere.	
(b)		
M1	Moments about *x*-axis (or a parallel axis). All terms required. Dimensionally consistent. Condone sign errors.	
A1	Correct equation	
M1	Use of straight line equation to form an equation in λ only **N.B.** Must use the given answer for $\overline{x}$ and have found a $\overline{y}$	
A1	Correct answer.	