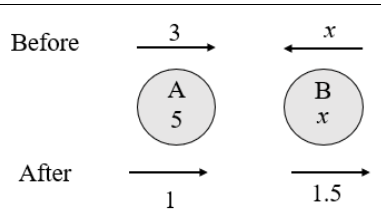
QUESTION NUMBER	SCHEME	MARKS
2		
2(a)	CLM $(5\times 3)-x^2=(5\times 1)+(x\times 1.5)$ **OR:** $5(-1--3)=x(1.5--x)$	M1A1
	$x=2.5$	A1
		(3)
2(b)	$I=\pm 5(1-3)$ or $I=\pm 2.5(1.5--2.5)$ $(I=\pm x(1.5--x))$	M1A1
	$\lvert I\rvert=10$ (Ns)	A1
		(3)
		(6)
	Notes for question 2	
(a) **M1** **A1** **A1**	 Forms CLM equation OR equates impulses, condone sign errors and extra *g*'s and any correct cancellation, to give an equation in *x* only. Correct unsimplified equation Correct answer. If – 4 is seen, it must be rejected. (ignore units)	
(b) **M1** **A1** **A1**	 Impulse-momentum equation, dimensionally correct, correct no. of terms for *A* or *B*. Condone sign errors but must be *attempting* a difference of momenta e.g. allow if they first state $I=\pm m(v-u)$ but then make a sign error and end up with a sum. If they clearly add the momenta, and there is no formula stated, M0. *x* does not need to be substituted. M0 if *g* is included. Correct numerical expression. cao must be positive. Ignore missing or wrong units. A0 if both 10 and another answer are given.	