Question Number	Answer		Mark
14(a)	Horizontal line drawn at 19 mJ	**(1)**	**1**
14(b)	Elastic potential energy at 1.0 cm read from graph [accept values in range 4.0 (mJ) – 5.0 (m J)] Use of energy conservation [e.g. kinetic energy = total energy – elastic potential energy] Use of $E_k = \frac{1}{2}mv^2$ $v = 0.44$ m s^{-1} [A response in which the kinetic energy curve is drawn **and** the value of kinetic energy read off directly can score MP1 and MP2] Example of calculation At 1.0 cm $E_{elas} = 4.5$ mJ $\therefore E_k = (19 - 4.5) \times 10^{-3}\ \text{J} = 1.45 \times 10^{-2}\ \text{J}$ $1.45 \times 10^{-2}\ \text{J} = \frac{1}{2} \times 0.15\ \text{kg} \times v^2$ $\therefore v = \sqrt{\frac{2 \times 1.45 \times 10^{-2}\ \text{J}}{0.15\ \text{kg}}} = 0.440\ \text{m s}^{-1}$	**(1)** **(1)** **(1)** **(1)**	**4**
	Total for question 14		**5**