

Question number	Answer	Notes	Marks
12 (a) (i)	correct symbol for resistor; correct symbol for cell; correct symbol for ammeter; circuit is complete series circuit;	reject extra components allow ECF for missing/incorrect symbols	4
(ii)	voltmeter symbol is correct and in parallel with any component; voltmeter is in parallel with variable resistor;		2
(b)	any FOUR from: stretchy resistor increases in resistance (when mass increased); total resistance increases; $I = V/R$; current in circuit less; voltage across fixed resistor decreases; so voltage across stretchy resistor increases; as total voltage is constant/voltage of cell constant;	reject $V=IR$ or $I=V/R$ with assumption of constant current	4
(c) (i)	voltage;	allow 'V'	1
(ii)	suitable linear scale chosen (>50% of grid used); axes labelled with quantities and unit; <u>all</u> plotting correct to nearest half square;	ignore orientation	3
(iii)	correct best fit line judged by eye;		1

(Total for Question 12 = 15 marks)