Question number	Answer	Notes	Marks
11 (a) (i)	12 (V);		1
(ii)	voltage = current × resistance;	allow standard symbols and rearrangements e.g. R = V / I	1
(iii)	substitution; rearrangement; evaluation; e.g. 12 = 0.019 × R (R =) 12 / 0.019 (R =) 630 (Ω)	allow ecf from (i) -1 for POT error 0.631… scores 2 marks if 35mA used as the current (giving 342.8…) then award 2 marks max. allow 632, 631.6, 631.57…	3
(b) (i)	idea that current is conserved at a junction in a circuit;	e.g. current before and after junction must be the same, 16 + 19 = 35 etc. ignore "current is shared"	1
(ii)	use of voltage = current × resistance; calculation of total resistance of path (750 Ω); idea that resistances of two resistors in series adds up to total resistance; evaluation of resistance of Y; e.g. 12 = 0.016 × R_T R_T = 750 (Ω) 750 = 250 + R_Y R_Y = 500 (Ω)	must be more than just quoting the formula for the mark calculation of voltage across 250 Ω resistor (4.0 V) evaluation of voltage across R (8.0 V) evaluation of resistance of R (using V=IR) if mA not converted to A and 0.75 seen then award 2 marks max.	4
(c)	current decreases; with any one from: • (total) resistance of circuit has increased; • idea that there are now less paths for the current in the circuit;	 DOP	2

Total for Question 11 = 12 marks