
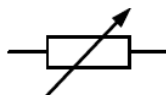




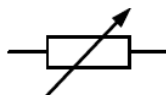





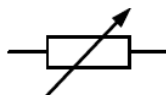



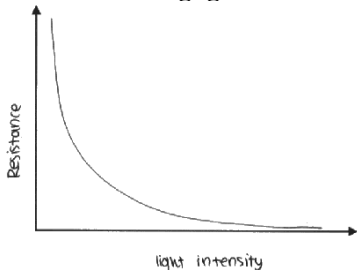


Question number	Answer	Notes	Marks												
4 (a)	<p>1 mark for each correct line; ; ; ;</p> <table><tr><th>Name of component</th><th>Circuit symbol</th></tr><tr><td>fixed resistor</td><td></td></tr><tr><td>variable resistor</td><td></td></tr><tr><td>cell</td><td></td></tr><tr><td>lamp</td><td></td></tr><tr><td>fuse / circuit breaker</td><td></td></tr></table>	Name of component	Circuit symbol	fixed resistor		variable resistor		cell		lamp		fuse / circuit breaker		<p>symbols do not need to have connecting wires shown at each side</p> <p><u>arrow</u> can be any direction but must be diagonal only</p> <p>ignore 'battery'</p> <p>allow filament lamp symbol </p>	4
Name of component	Circuit symbol														
fixed resistor															
variable resistor															
cell															
lamp															
fuse / circuit breaker															
(b) (i)	voltage = current x resistance;	allow in standard symbols or in words e.g. $V = I \times R$	1												
(ii)	<p>substitution OR rearrangement; evaluation;</p> <p>e.g. $R = V/I = 8.0/0.50$ $R = 16 \text{ (ohms)}$</p>	either seen	2												
(c)	<p>axes labelled with resistance and { light intensity / light / intensity / brightness};</p> <p>resistance decreasing as light intensity increases; curve of decreasing gradient; e.g.</p> 	<p>ignore units and orientation</p> <p>allow 'dark' and 'light' labels</p> <p>DOP</p> <p>DOP</p>	3												

Total for question 4 = 10 marks