

Resistance

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Georg Simon Ohm
1789-1854

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$$\text{Resistance (in } \Omega \text{)} = \frac{\text{Voltage (in V)}}{\text{Current (in A)}}$$

Resistance

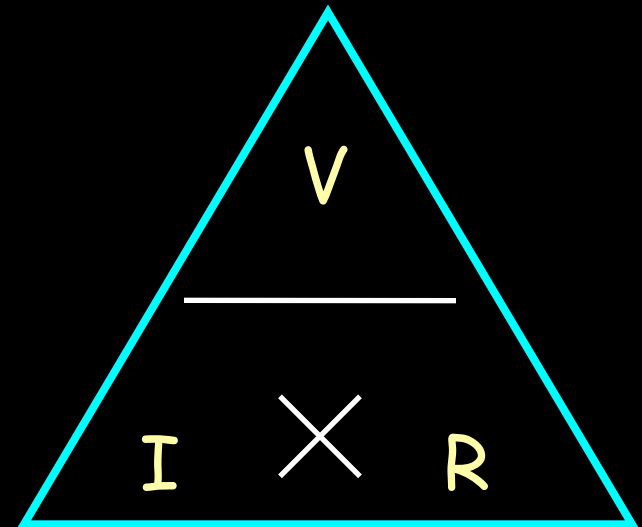
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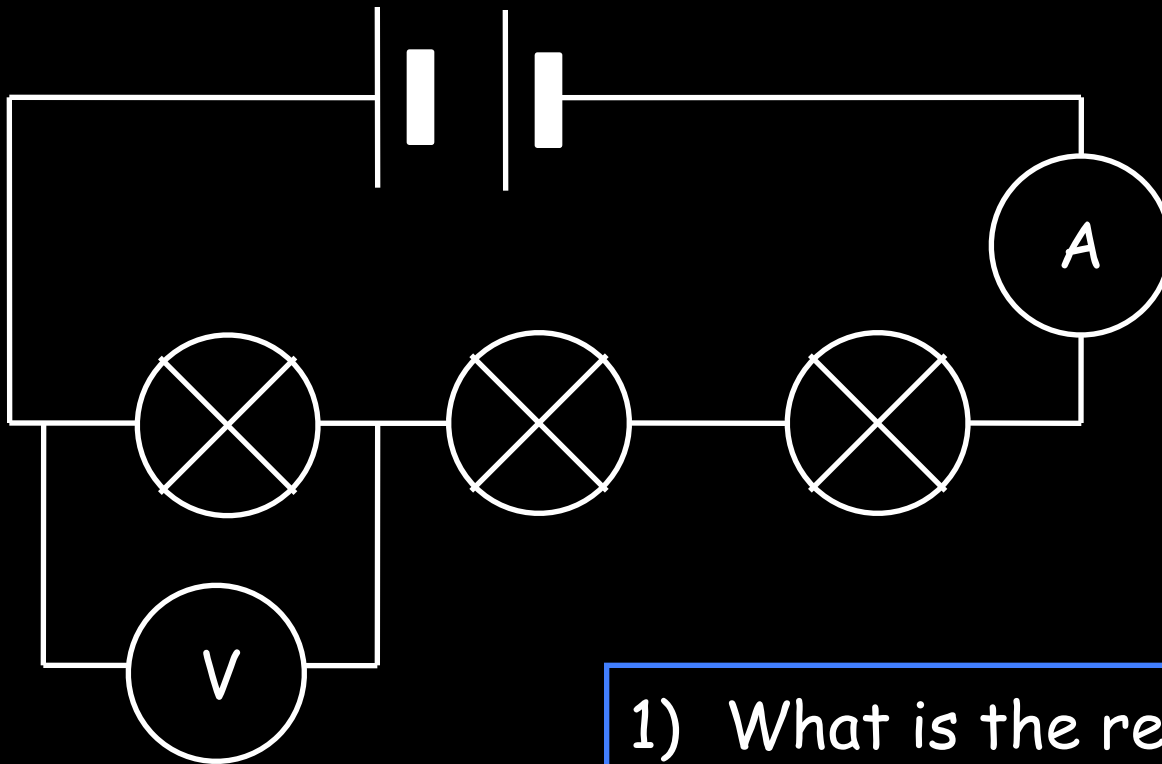
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An example question:

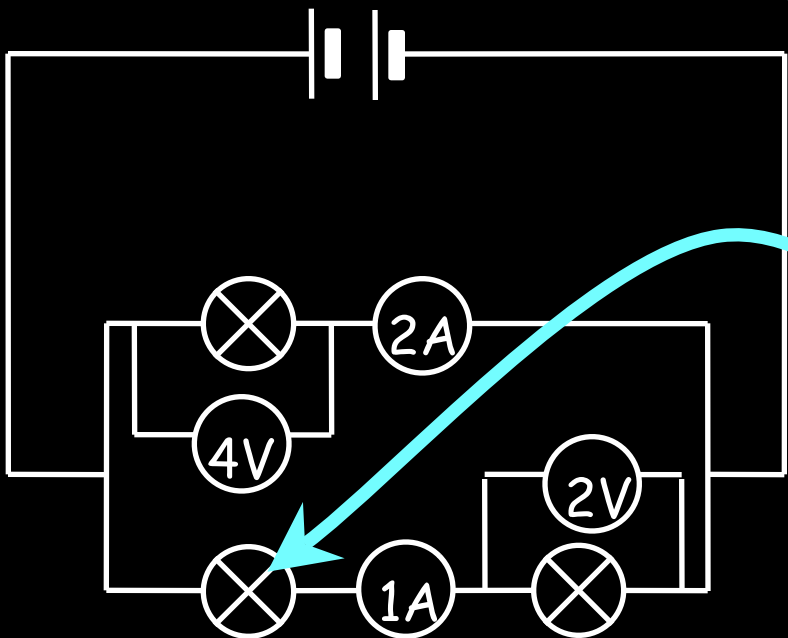
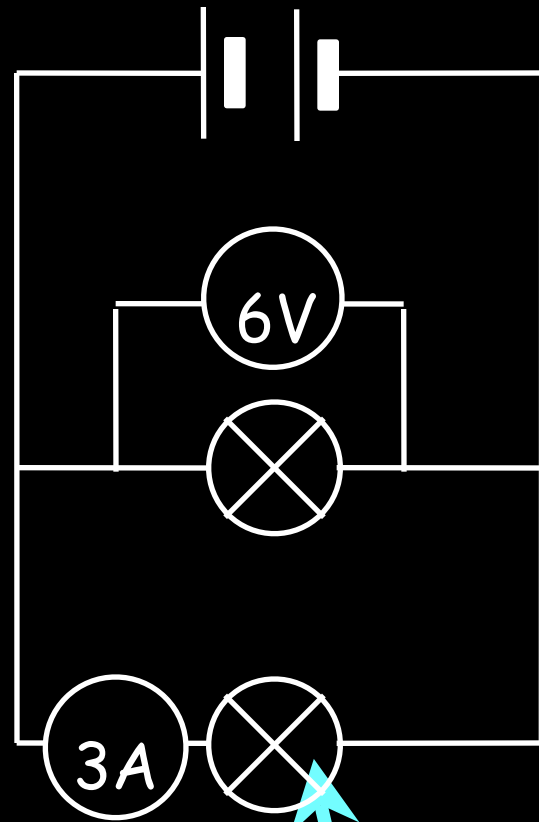
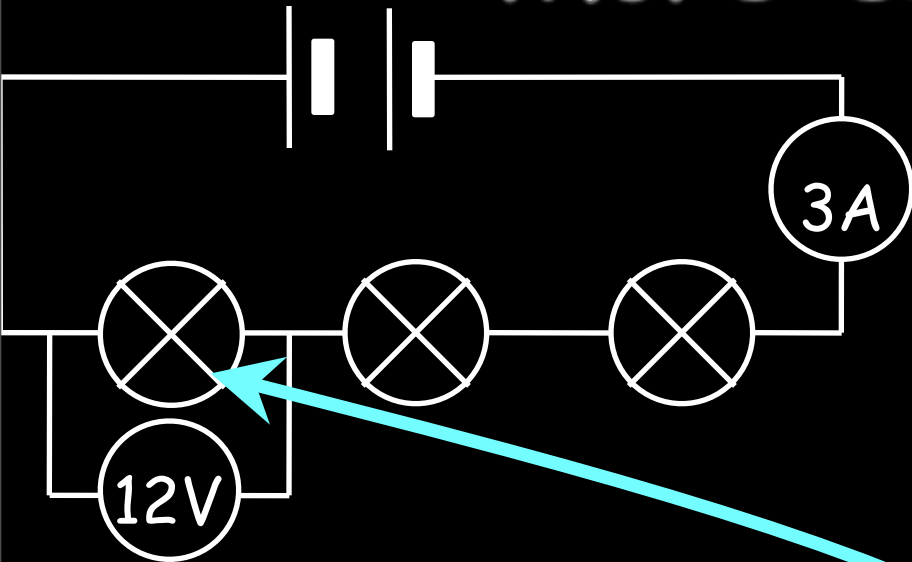


Ammeter
reads 2A

Voltmeter
reads 10V

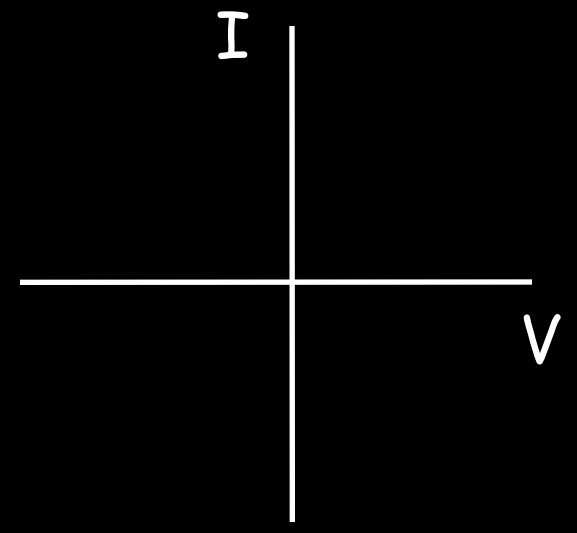
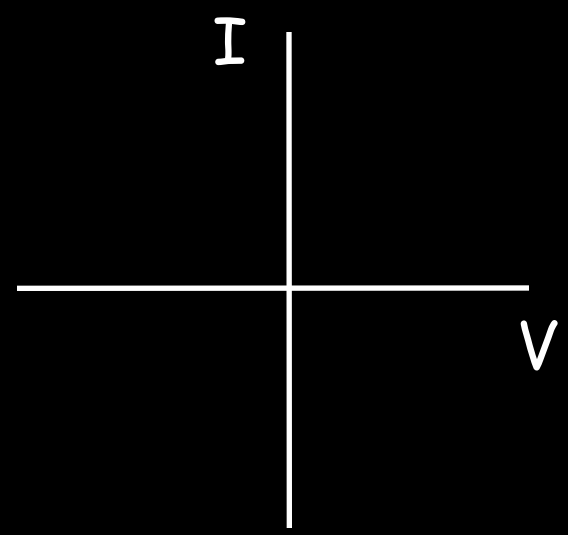
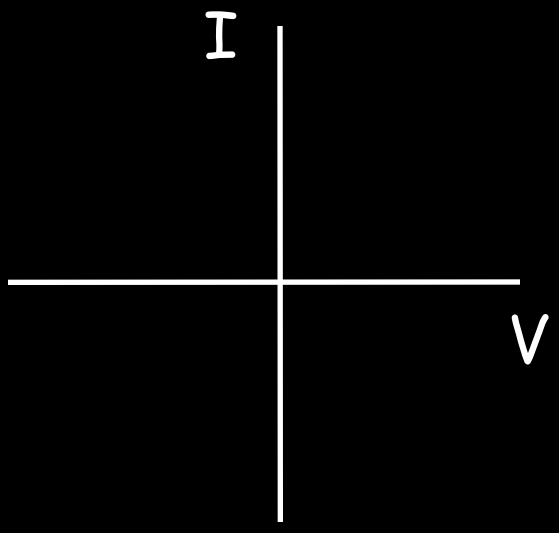
- 1) What is the resistance of this bulb?
- 2) Assuming all the bulbs are the same what is the total resistance in this circuit?

More examples...

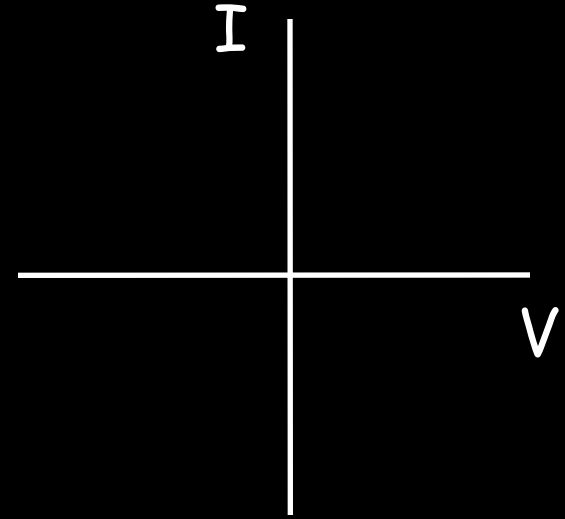
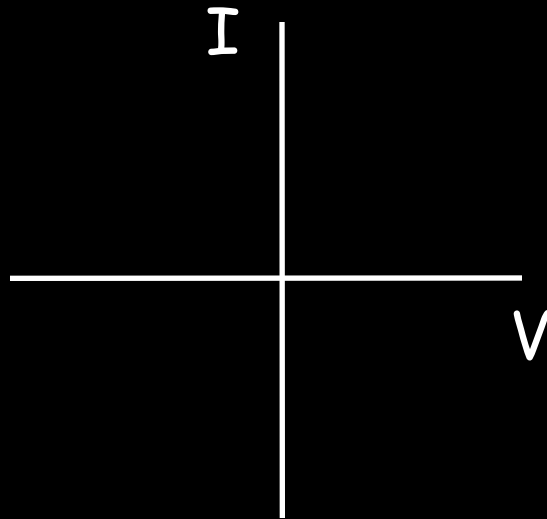
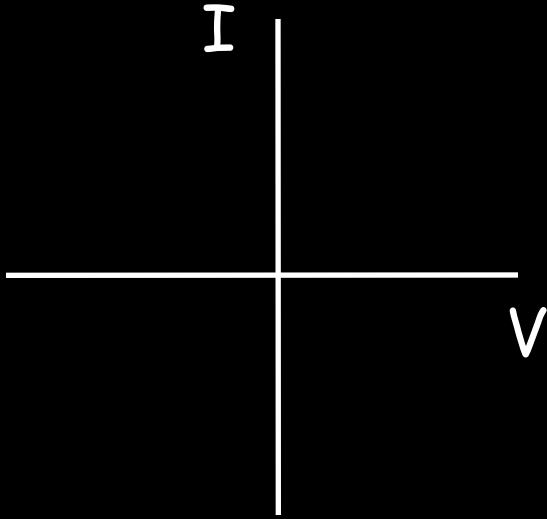


What is the resistance of these bulbs?

Current-voltage graphs

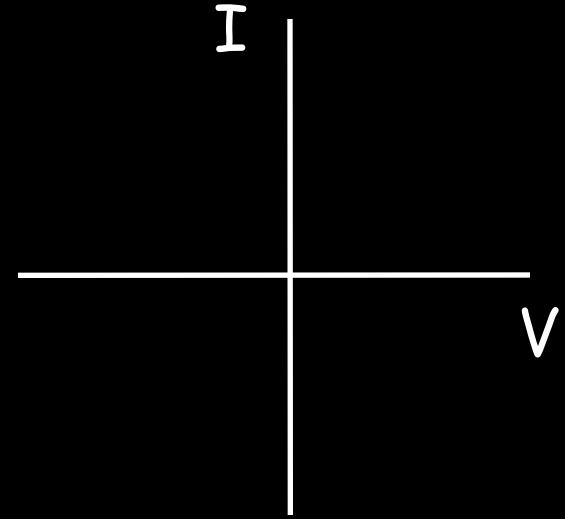
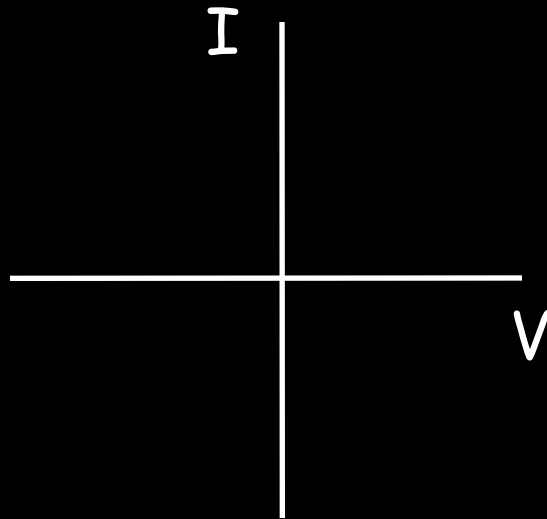
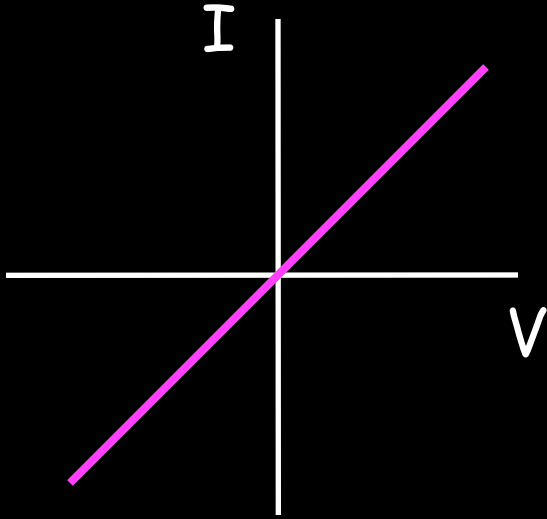


Current-voltage graphs



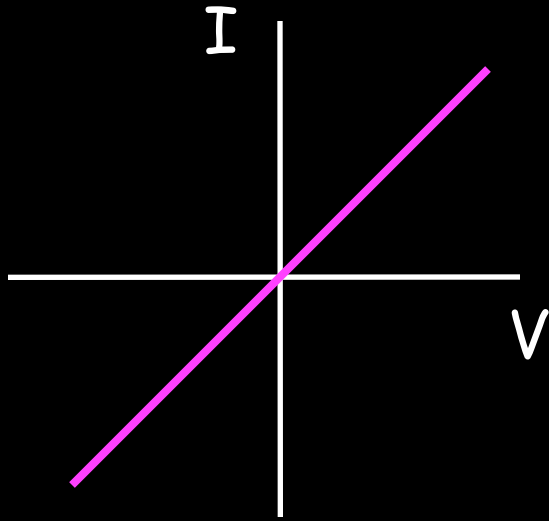
Explain the shape of each graph

Current-voltage graphs

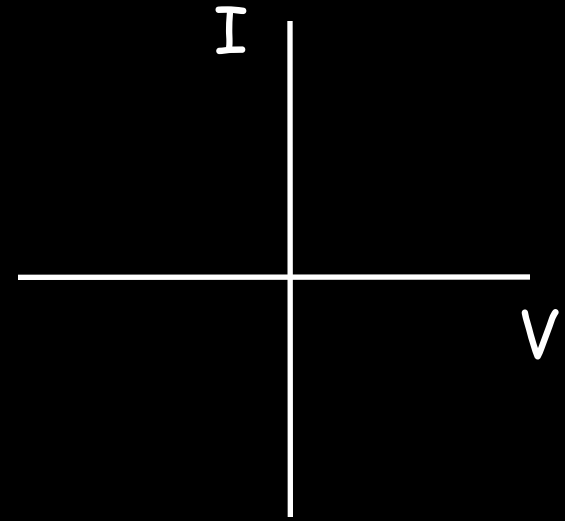
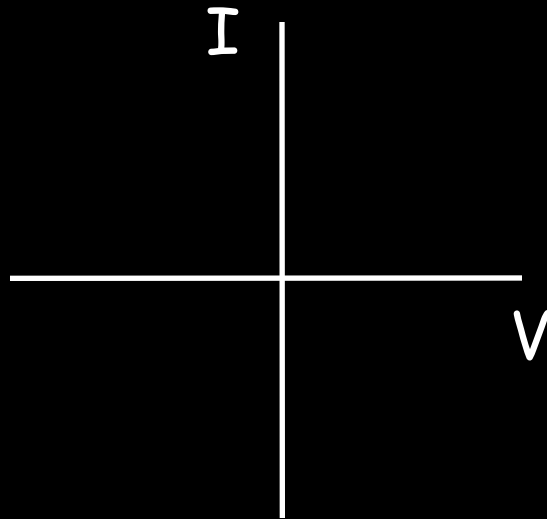


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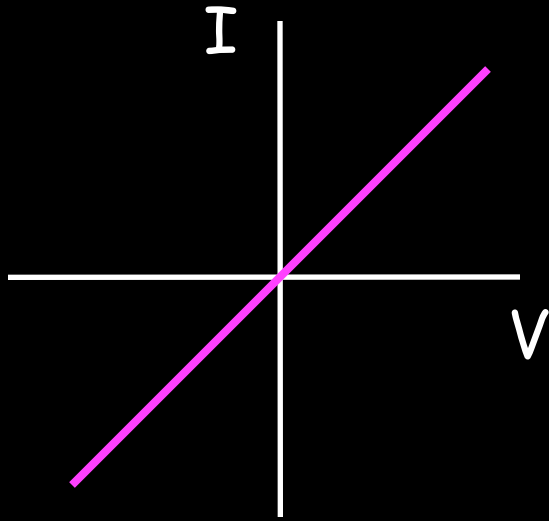


1. Resistor

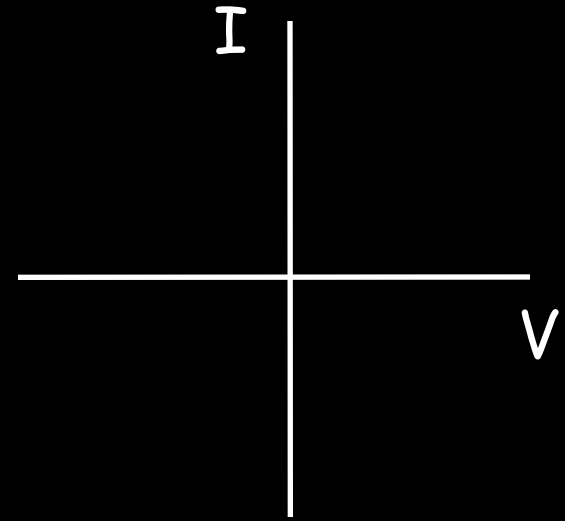
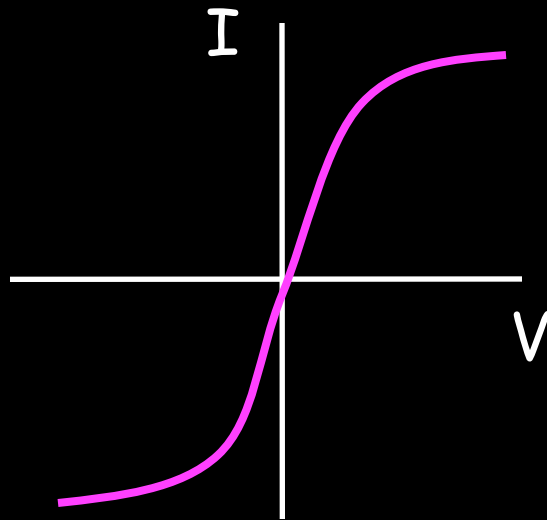


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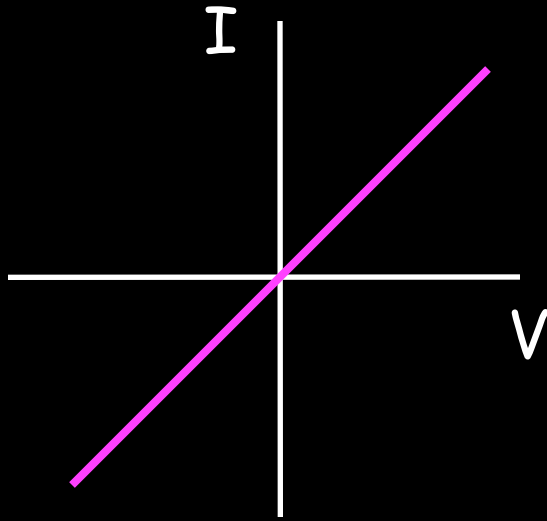


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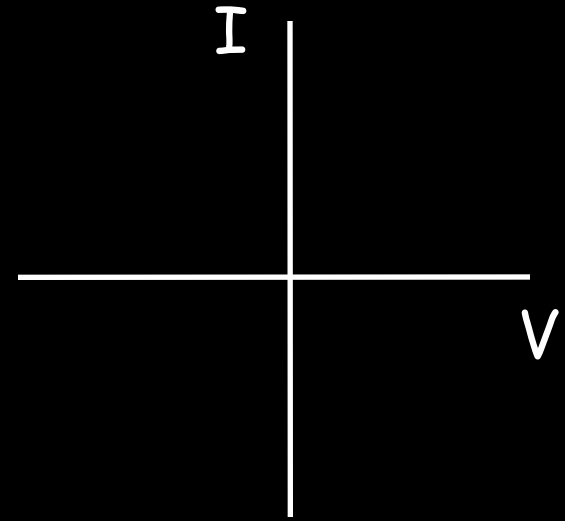
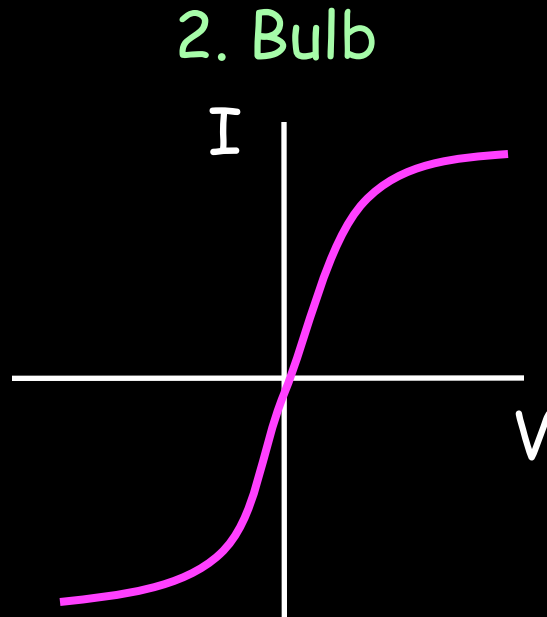


Explain the shape of each graph

Current-voltage graphs

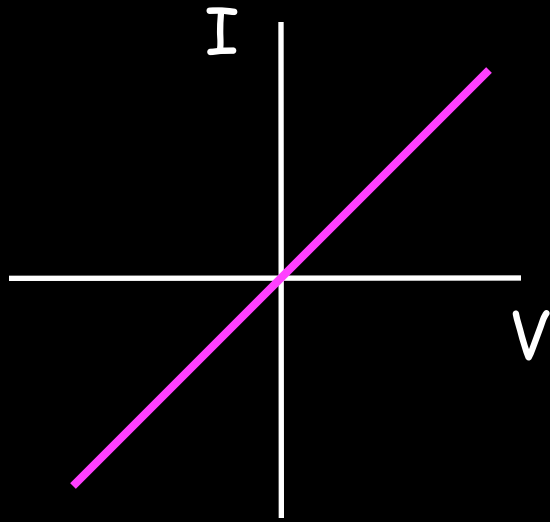


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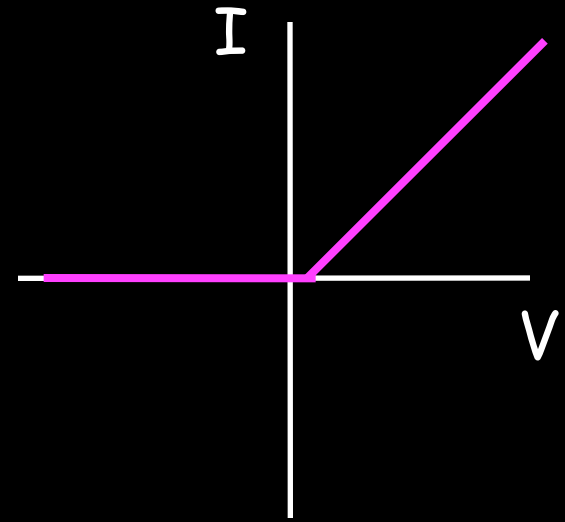
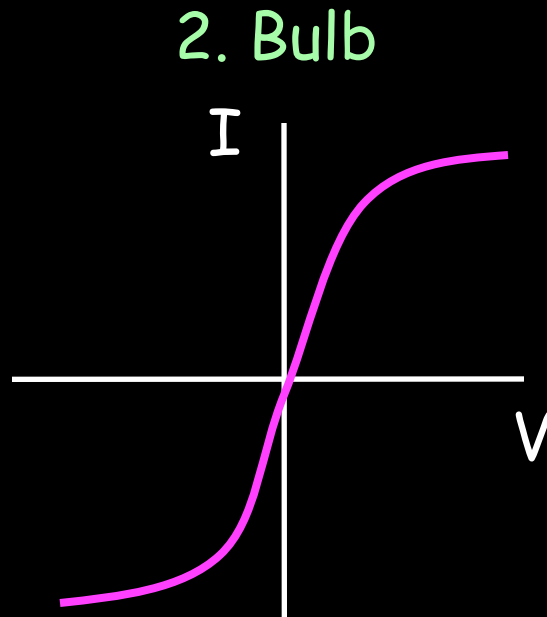


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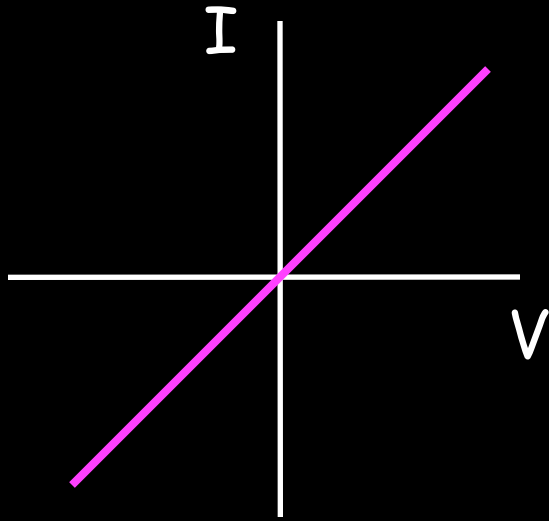


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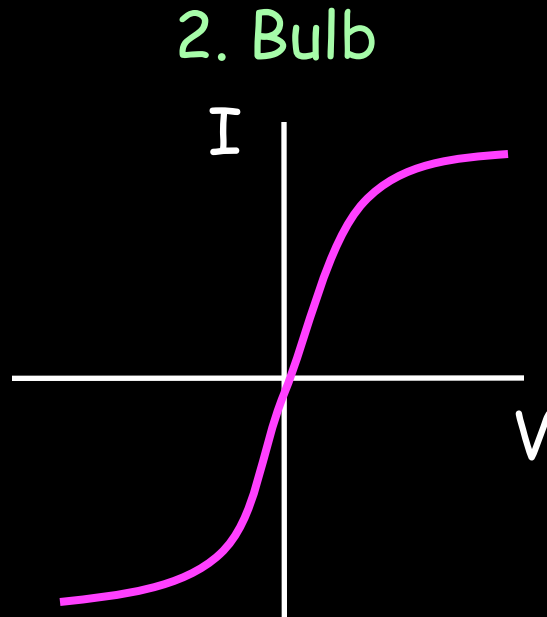


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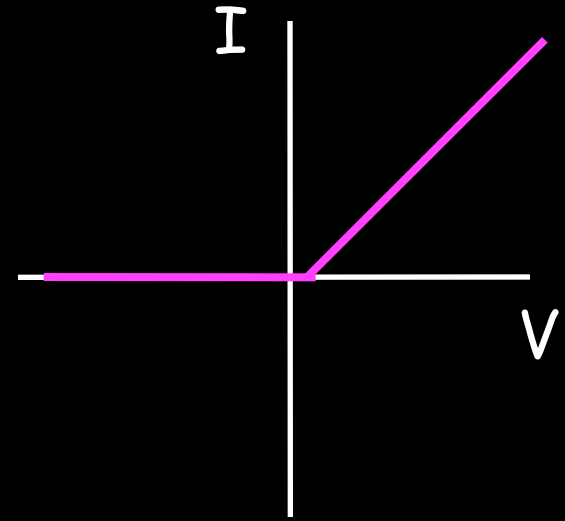
Current-voltage graphs



1. Resistor



3. Diode



Explain the shape of each graph

Three simple components:

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- 2) Light dependant resistor - resistance DECREASES when light intensity INCREASES

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- 1) Diode - only lets current flow in one direction
- 2) Light dependant resistor - resistance DECREASES when light intensity INCREASES
- 3) Thermistor - resistance DECREASES when temperature INCREASES