



What equations do I need to know for the Edexcel IGCSE physics exam for the Electricity topic?

In the list below the equations are grouped into the ones that need learning for IGCSE Edexcel double award (4SD0) and Physics only specification (8463). The bold type equations are Paper 2 only.

Some of the equations at the end do not need to be learnt but will be given on an insert in the paper. These equations are at the end of the list. The equation list required for OCR, CIE, AQA trilogy and combined science are almost if not identical for this topic. There is an equation highlighted in red that is not in the IGCSE Edexcel specification but knowledge of it helps to understand some important concepts.

Equations to Learn	
voltage = current \times resistance	$V = I \times R$
charge = current \times time	$Q = I \times t$
energy transferred = charge \times current \times resistance	$E = Q \times I \times R$
power = current \times voltage	$P = I \times V$
power = current ² \times resistance (This equation is not in the specification but is a useful equation to know to explain power losses)	$P = I^2 \times R$
energy = charge \times voltage	$E = Q \times V$
Equations given in exam	
energy transferred = current \times time \times voltage	$E = I \times t \times V$