Chapter 8 Resistance. (Revision Questions page 242). Multiple Choice Answers

Q	Ans	Explanation
1	B	R=V/I = 12.0/2.0 = 6.0 Ω. The answer of 6 Ω is correct even though it has just the one significant figure. I should change the option to 6.0 Ω to keep out of trouble with your teacher.
2	C	This is based on Ohm's law: I = V/R, that is, potential difference (V) and resistance (R) provided temperature and the type of wire doesn't change).
3	C	Ohm's law: I = V/R relates potential difference (V) and current (I)
4	C	In general, metals are 'ohmic' which means they obey Ohm's law I = V/R. On pages 234-235 I describe different types of resistors. Just learn that nichrome and copper are ohmic, diodes are not. One thing people get confused about is when a plot of V/I doesn't give a straight line going through the origin (directly proportional that is). If you look at the graph for a torch bulb it has a curve and it is tempting to say it is 'non-ohmic'. This is not necessarily true as Ohm's law can only be tested when conditions such as temperature remain constant. A light bulb heats up as more current flows, so the line is not linear.
5	D	R = ρL/A where ρ 'rho' is the resistivity and varies with the type of material; L is length, and A is cross-sectional area. So Option (D) is correct as it captures all three variables.