A-Level Equations

ID	Questions	Question Image
1	When the mass is doubled and the velocity is halved, the kinetic energy will change by a factor of________________ A. 1/4 B. 1/2 C. 2 D. 4	$E_k = \frac{1}{2}mv^2$
2	When the velocity is doubled and the mass is halved the kinetic energy will change by a factor of________________ A. 1/4 B. 1/2 C. 2 D. 4	$E_k = \frac{1}{2}mv^2$
3	The potential difference is doubled and the resistance is halved. The power will change by a factor of________________ A. 1 B. 2 C. 4 D. 8	$P = \frac{V^2}{R}$

4	When the potential difference is halved and the resistance is halved, the power will change by a factor of________________ A. 1/8 B. 1/4 C. 1/2 D. 1	$P = \frac{V^2}{R}$
5	Two wires made from the same metal have identical lengths. Wire X has half the diameter as wire Y. The ratio of the resistance of wire X to the resistance of wire Y will be________________ A. 1:4 B. 1:2 C. 1:1 D. 4:1	$R = \frac{\rho L}{A}$
6	A wire X has twice the cross-sectional area and twice the length as wire Y made of the same metal. The ratio of the resistance of wire X to the resistance of wire Y________________ A. 1:4 B. 1:2 C. 1:1 D. 2:1	$R = \frac{\rho L}{A}$

7

An object is dropped from rest and falls freely under gravity. Neglecting the effect of air resistance and other forces, the final velocity will depend on _________________

A. h and m

B. m and g

C. g and h

D. g , h and m

$$E_k = \frac{1}{2}mv^2$$

$$E_p = mgh$$

8

The resistance is halved and the current is halved. The power will change by a factor of_________________

A. 1/8

B. 1/4

C. 1/2

D. 1

$$P = I^2R$$

9

A spring has its extension doubled . The energy stored in the spring will change by a factor of _________________

A. 1/4

B. 1/2

C. 2

D. 4

$$E = \frac{1}{2}kx^2$$

10	The current is changed a factor of 1/4 and the resistance is increased by a factor of 4. The change in the power dissipated will be a factor of ________________ A. 1/16 B. 1/8 C. 1/4 D. 1	$P = I^2R$