**B = μonI**

* (1). Calculate the magnetic flux density 3cm away from a long straight wire carrying current of 2A in a vacuum.
* (2). Calculate the size of the current in a long straight wire that will produce a magnetic flux density of 3.2mT at a perpendicular distance of 1.6cm.
* (3). Calculate the magnetic flux density in the centre of a long solenoid 10cm long containing 200 turns when a current of 5A is flowing through it.
* (4). A long solenoid has a magnetic flux density of 0.6T at its centre. If the solenoid has 40 turns per cm length, calculate the current flowing through the solenoid.
* (5). A 20cm long solenoid has a 1.5A current flowing through it. If the magnetic flux density at the centre of the solenoid is 4.8mT , calculate the number of turns in the solenoid.

**F=BIL sin θ**

* (1). Calculate the size of the force on a 10cm long wire carrying a current of 4A when perpendicular to a uniform magnetic field of flux density 3T.
* (2). A 30cm long wire carrying a current of 2.5A is perpendicular to a magnetic field. If the force on the wire is 4mN, calculate the magnetic flux density of the field.
* (3). A wire carrying a 0.6A current is perpendicular to a uniform magnetic field of flux density 2mT. If the force on the wire is 8mN, calculate the length of the wire.