Year 09

Physics

Section 9Ia p. 130

**Forces and movement**

**Newton’s 1st Law**

* If there are no forces acting on a moving/still object, then this object will retain its condition of moving(at the same speed)/remaining still.
* An object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force.
* Why is this impossible here on Earth?

**Accelerating motorbike**

* In order to accelerate, this bike needs to have a forward force bigger and the drag and the friction. This extra force makes the overall forces unbalanced.
* When the forces are unbalanced we have acceleration (regardless if there was motion before).

**What is a resultant force?**

* An object may have several different forces acting on it, which can have different strengths (magnitudes) and directions. But they can be added together to give the resultant force. This is a single force (the net force) that has the same effect on the object as all the individual forces acting together.

