Newton's Second Law: Net Forces

Important Points:

When considering Newton's 2nd Law it is the _____ or _____ that causes the acceleration of an object.

If the forces acting on it are balanced (i.e. net force of zero) the object will **not** accelerate and will, therefore…

Mathematically:

Newton's 2nd Law is A Vector Equation:

The acceleration _____ of the Net force (or unbalanced force).

Determining the Net Force (Unbalanced Force)

To determine the net unbalanced force you simply add up the *force vectors* acting on the object. **Be sure to choose a direction to be positive before adding up the forces**. The sum of the forces always equals the mass times the acceleration.

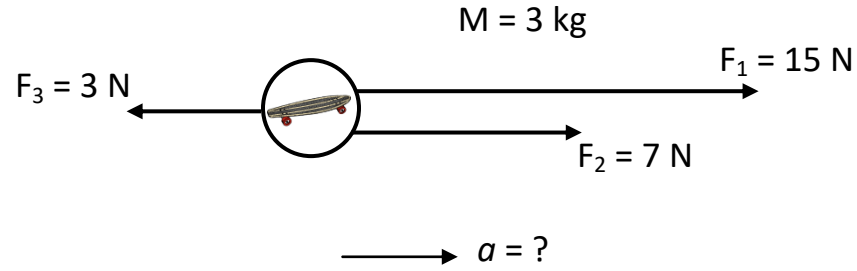
Mathematically:

Sum of the forces = mass *times* acceleration

Example:

Always **choose a direction** to be positive (usually in the direction of acceleration)

1. Analyse the following situation. Note: all solutions must follow the format given below. Show all work and include units.



2. Analyse the following situation: