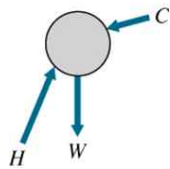● particle(질점) - is a body whose <u>size does not influence</u> its response to the forces acting on it.
 - Rotational motion of the body can be ignored.
 - Simplest mechanical system is a single particle.
 - The body may be modeled as a point.
 - If the size or rotation of a body cannot be ignored, the body cannot be treated as a particle

● rigid body(강체) - is a body that does not deform under the action of forces.

1.2 Newton's law of motion

● First law(관성의 법칙) - In the absence of applied forces, a particle originally at rest or moving with constant speed in a straight line will remain at rest or continue to move with constant speed in a straight line -> "special case of the second law"
정지=>정지, 운동=>운동

● Second law(가속도의 법칙) = If a particle is subjected to a force, the particle will be accelerated in the direction of the force, and the magnitude of the **acceleration** will be **proportional to** the magnitude of the **force**.
  mathematical form => F = ma
    where, **F**: force, m: mass, **a**: acceleration

● Third law(작용과 반작용의 법칙) - Every force (or action) is accompanied by an equal and opposite force (reaction).
-> This law can be extended to a system of two or more particles acted on by a system of forces.
-> But second law assumes that a single force acts on a single particle