

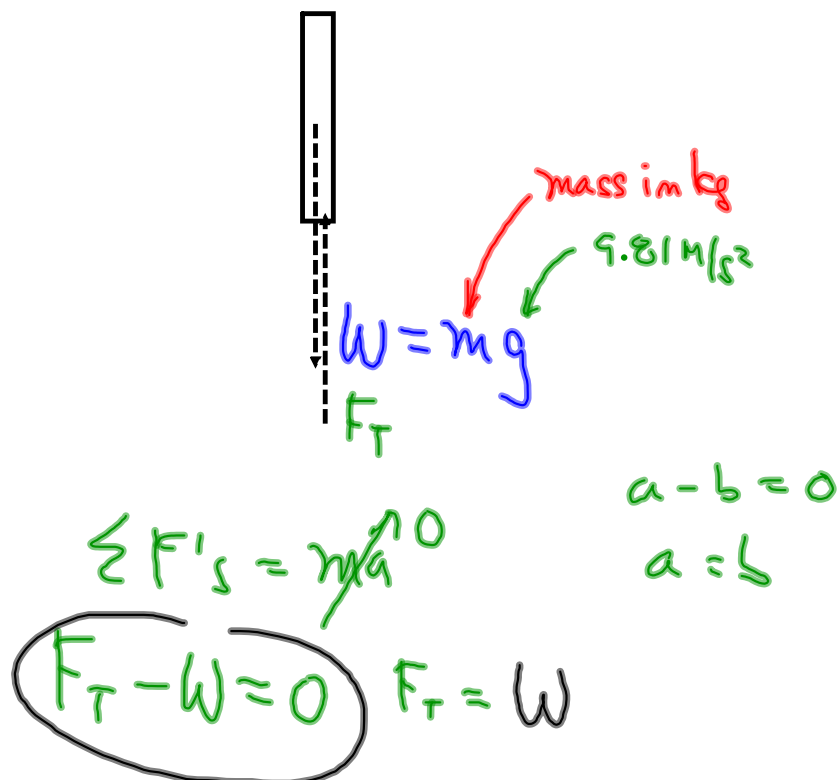
NEWTON'S LAWS OF MOTION

(1) LAW OF INERTIA — AN OBJECT IN MOTION AT A CONSTANT VELOCITY OR AT REST — WILL STAY THAT WAY UNLESS ACTED UPON BY AN OUTSIDE FORCE.

INERTIA \rightarrow MASS

(2) $\sum F = ma$ IMPLIES $a = \frac{F}{m}$
when $a = 0 \therefore \Delta v = 0 \therefore \sum F's = 0$

(3) FOR AERON THERE'S AN EQUAL & OPPOSITE REACTION



NEWTON'S LAWS OF MOTION

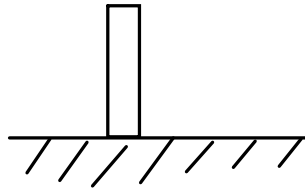
[1] AN OBJECT IN MOTION AT CONSTANT V OR AT REST WILL STAY AT THAT STATE OF MOTION - UNLESS ACTED UPON BY AN OUTSIDE FORCE. $\rightarrow = \text{LAW OF INERTIA}$
 \Downarrow MARS

$$[2] \sum F_s = ma \quad a = \frac{F}{m}$$

When $a = 0 \rightarrow \sum F_s = 0$

$\sum F_s =$ THE NET FORCE

[3] FOR EVERY ACTION FORCE THERE'S AN EQUAL & OPPOSITE REACTION FORCE.



F.B.D \Rightarrow FREE BODY DIAGRAM



$$\sum F'_s = m a_j \quad 0$$

$$-W + F_T = 0$$

$$F_T = W$$

$$-a + b = 0$$

$$b - a = 0$$

$$b = a$$

$$W = mg \quad 9.81 \text{ m/s}^2$$

↳ kilograms