

FORCE → PUSH or PULL

↳ COMPRESS

↳ TENSION

CONTACT or NON CONTACT (FIELD FORCES)

↳ GRAVITATIONAL - ATTRACTIVE

↳ MAGNETIC } ATTRACTIVE
REFULSIVE

[UNIT of FORCE
IN SI is
THE "NEWTON"]

NEWTON'S LAWS

THE LAW OF INERTIA — AN OBJECT IN MOTION WILL STAY IN MOTION UNLESS ACTED UPON BY AN OUTSIDE FORCE.

INERTIA \Rightarrow MASS \rightarrow RESISTANCE TO MOVEMENT

(I) $F = ma$

FORCE = MASS \times ACCELERATION

NEWTONS = kilograms \times m/s^2

$$\sum F's = ma$$

\uparrow GREEK letter Sigma \Rightarrow "SUM of"

$a \neq A$ $\left\{ \begin{array}{l} A = \text{amplitude} \\ = \text{amps} \\ = \text{amperes} \end{array} \right.$



NOT ACCELERATION

$$36N = ma$$

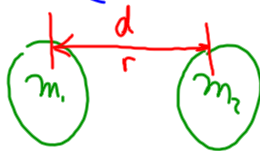
$$a = 4 \text{ m/s}^2$$

III For every action force there's an equal and opposite reaction force.

UNIVERSAL LAW OF GRAVITATION

$$F = G \frac{m_1 m_2}{r^2} = G \frac{m_1 m_2}{d^2}$$

$$\frac{r_{ab}}{c} = \frac{r_{ab}}{c} = r \left(\frac{ab}{c} \right) = \frac{r(ab)}{c}$$

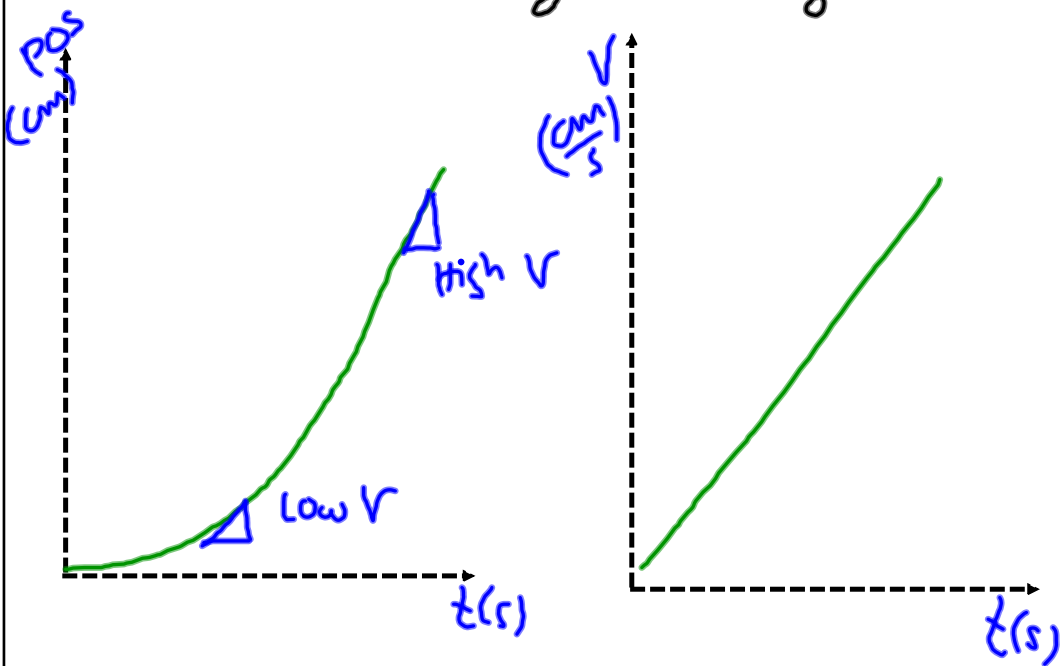


$$g = -9.8 \frac{m}{s^2}$$


$$G = 6.67 \times 10^{-11} \frac{N \cdot m^2}{kg^2}$$

$$F = G \frac{m_1 m_2}{r^2} \rightarrow \frac{N \cdot m^2}{kg \cdot kg} \cdot \frac{kg \cdot kg}{m^2}$$

$a =$ THE RATE OF CHANGE OF VELOCITY



NAME _____ SECTION _____ DATE _____
 / ✓ ✓

 = $d = vt$

$d = 10(5)$

~~JOE~~

~~Joe Smith~~