02/06/2018

CHeck List

HiPoTHESis: "PROPOSITION TENTATIVELY ASSUMED IN ORDER TO DRAW OUT ITS logical OR EMPIRICAL CONSEQUENCES AND TO TEST ITS ACCORD WITH FACTS THAT KNOWN OR MAY BE DETERMINED." – WEBSTER

L "THE SOURCE CAN BE AN ACT OF IMAGINATIVE THINKING, AN EDUCATED GUESS, OR A CAREFULLY CONSTRUCTED WORKING HYPOTHESIS BASED ON HUNDREDS OF PRECISE EXPERIMENTS – THE NEXT STEP IS TO TEST IT."

THEORY: "WHEN A HYPOTHESIS LEADS TO THE DESIGN OF EXPERIMENTS WHICH would EARLIER HAVE BEEN MEANINGLESS OR NEVER THOUGHT OF, AND WHEN THESE EXPERIMENTS IN TURN LEAD TO A NEW HYPOTHESIS WHICH CAN SIMILARLY BE TESTED, THEN WE MAY SPEAK OF A "THEORY".

"ALL SCIENTIFIC "PRINCIPLES" ARE REALLY THEORIES, FOR THE SCIENTIST IS ALWAYS READY TO MODIFY HIS CHERISHED CONCEPTS IF NEW EXPERIMENTAL EVIDENCE TURNS UP, OR EVEN IF ANOTHER CONCEPT WILL EXPLAIN THE EVIDENCE EQUALLY WELL."

LAW: WIDELY ACCEPTED THEORY, WHICH HAS BEEN PROVED THUS FAR TO BE TRUE, PASSING THUS RESISTING SEVERAL TESTS.

DIMENSIONAL QUANTITIES: [L] = LENGHT; [M] = MASS; [T] = TIME.

SYSTEMS: MKS: METER - KILO - SECOND
FPS: FOOT - POUND - SECOND
CGS: CENTIMETER - GRAM - SECOND.

} [L] - [M] - [T]

L ABSOLUTE (MKS - FPS): DEFINED IN A WAY THAT HAS NOTHING TO DO WITH LOCAL VARIATIONS IN EARTH'S GRAVITATIONAL FIEL. IT IS MASS (INERTIA), NOT WEIGHT, THAT IS USED.

Questions:

1-1

1-2 $x = \frac{\text{METERS}}{\text{MM}}$ (UNITS)

WHERE x RELATES HOW MUCH METER FITS IN 1 MM.

WE COULD USE THE SAME KIND OF EQUATION TO FIND THE MASS:

$x = \frac{\text{METERS KG}}{\text{KG}}$ (MOON MASS UNIT) / (EARTH MASS UNIT)

1-3 $h^2 = c^2 + c^2$ $\quad [h] = [L^2] + [L^2]$

1-4 $s = \frac{1}{2}(a+b+c)$ $\quad \frac{\sqrt{\frac{1}{2}[L]\left(\frac{1}{2}[L]+[L]\right)\left(\frac{1}{2}[L]+[L]\right)\left(\frac{1}{2}[L]-[L]\right)}}{[L]}$

$= \frac{\sqrt{\frac{1}{2}[L]\left(\frac{3}{2}[L]\right)\left(\frac{3}{2}[L]\right)\left(\frac{1}{2}[L]\right)}}{[L]} = \frac{\sqrt{\frac{1}{2}[L]\frac{9}{4}[L]}}{[L]} = \frac{\sqrt{[L][L]}}{[L]}$

$= \frac{\sqrt{[0.19792]}}{[L]} = \frac{[0.4330127202L]}{[L]} = \frac{[L]}{[L]} < 1$

→ THE EQUATION IS STRANGE, POSSIBLY WRONG (NEEDS FURTHER STUDIES).

Pg 10

– NOTES PG 1: 28/08/2018

L EQUATION: RELATIONSHIP BETWEEN VARIABLES, CONSTANTS, LAWS, AND THEIR FORMULAS.

L FORMULA: EQUATION FOR CASES OR SPECIAL USES USUALLY DERIVED FROM LAWS.

– A LAW IS GENERALLY REVERED FOR SOMETHING OF GENERAL IMPORTANCE.

– 28/08/2018

→ EX: $x = \frac{\text{METER}}{2\,\text{M}} = 5\ \text{P/M}$

→ 6x2: $x = \frac{20\,\text{kg}}{4\,\text{kg}} = 5\ \frac{\text{kg}}{\text{kg}}$

2020/01/13