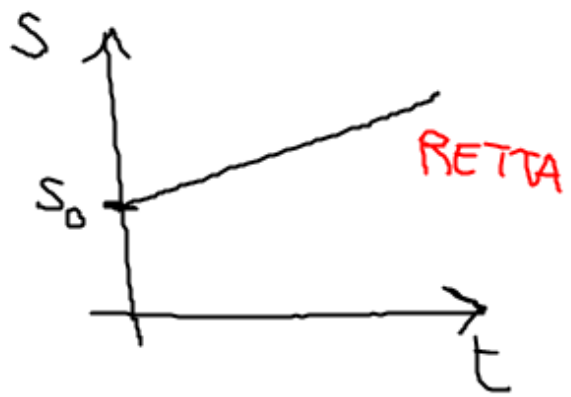
MOTO RETTILINEO UNIFORME

$a = 0$

$v = \text{COSTANTE}$

$S = S_0 + vt$

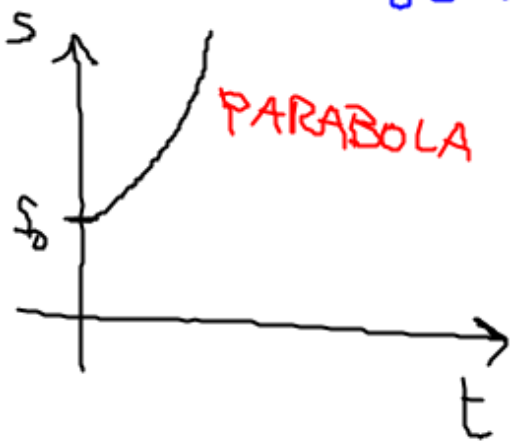


MOTO RETTILINEO UNIFORMEMENTE ACCELERATO

$a = \text{COSTANTE} \neq 0$

$v = v_0 + at$

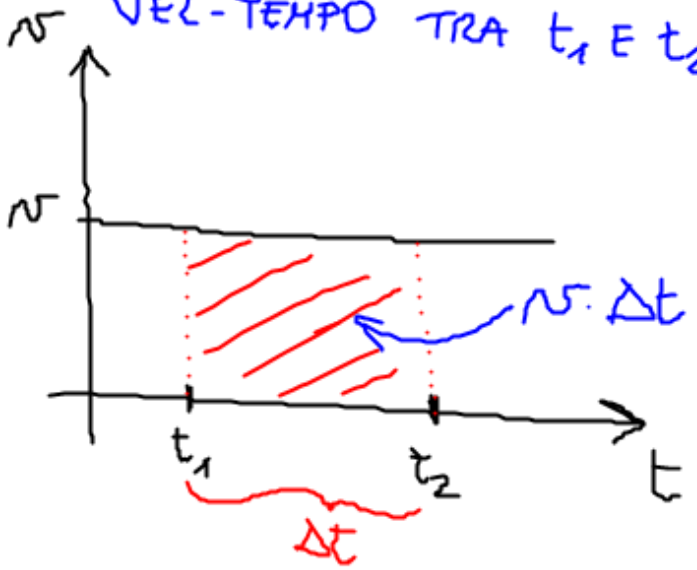
$S = S_0 + v_0 t + \frac{1}{2} a t^2$



MOTO R.U.

v = COSTANTE

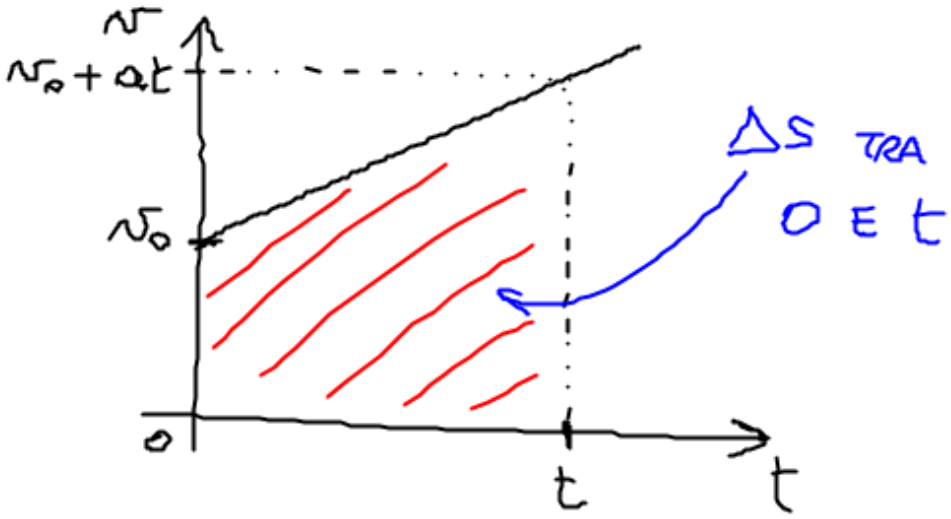
Δs TRA t_1 E t_2, NUMERICAMENTE È UGUALE ALL'AREA DEL SOTTOGRAFICO VEL-TEMPO TRA t_1 E t_2



$\Delta s = v\,\Delta t$

MOTO R.U.A.

$v = v_0 + at$



AREA /// $= \Delta s = \frac{1}{2}\left[v_0 + v_0 + at\right]t$

$s - s_0 = \frac{1}{2}t\left(2v_0 + at\right)$

$$s = s_0 + v_0 t + \frac{1}{2}at^2$$

LEGGE ORARIA DEL M.R.U.A.

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a = costante

$v_0 = 108 \frac{km}{h} = 30 \frac{m}{s}$

$v = v_0 + at$

$t = 6\,s \Longrightarrow v = 0$

$s = s_0 + v_0 t + \frac{1}{2} a t^2$

$a = ?$

$s - s_0 = v_0 t + \frac{1}{2} a t^2$

Δs

DA USARE È $v = v_0 + at$

$v - v_0 = at$

$$a = \frac{v - v_0}{t} = \frac{0 - 30 \frac{m}{s}}{6\,s} = -5 \frac{m}{s^2}$$

QUANTO SPAZIO PERCORRE DURANTE LA FRENATA?

$$\Delta s = v_0 t + \frac{1}{2} a t^2 = \left(30 \frac{m}{s}\right)(6\,s) + \frac{1}{2}\left(-5 \frac{m}{s^2}\right)(6\,s)^2 = 165\,m$$