M.R.U.V.

EXEMPLOS:

1) $a = 6\ cm/s^2$

$v_0 = 4\ cm/s$

$X_0 = 20\ cm$

a) $X = 0,20 + 0,04t + \frac{0,06t^2}{2}$

$$X = 0,20 + 0,04 + 0,03t^2$$

2) $S = t^2 + 4t + 10$

a) $v = 4\ \frac{cm}{s}$

b) $a_m = 2\ \frac{cm}{s^2}$

c) $5^2 + 4.5 + 10 = S$

$S = 25 + 20 + 10$

$S = 55\ cm$

d) $20 = t^2 + 4t + 10$

$20 - 10 = t^2 + 4t$

$30 = t^2 + 4t$

$t^2 + 4t - 30 = 0$

$t = \frac{-4 \pm \sqrt{4^2 - 2.1.(-30)}}{2a}$

$t = \frac{-4\sqrt{16 + 60}}{2}$

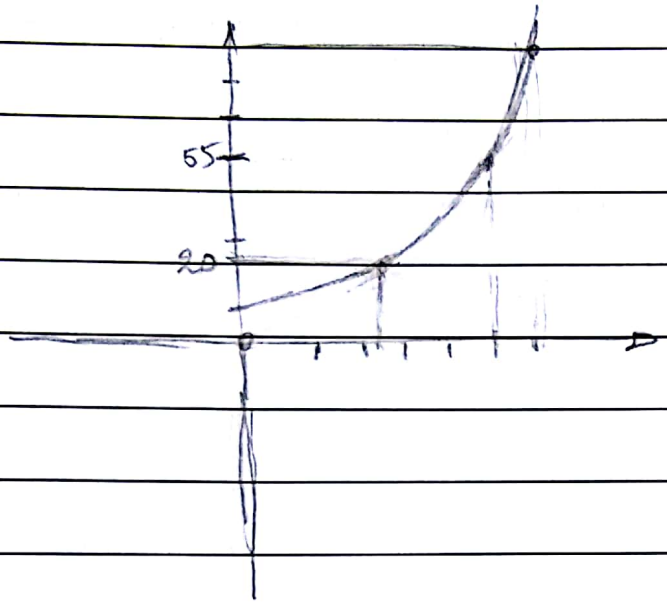
8,7

/ /

$t = \frac{-4 \pm 8,7}{2}$ → 2,35 s ; −6,35

$S = 0^2 + 0,4 + 10$

$S = 10\ m$



3) $V_0 = 54\ km/h$; $a = -2\ m/s^2$; $\Delta t = ?$; $V = 0$; $\Delta x = ?$

$V^2 = V_0^2 + 2a\Delta x$

$0^2 = 54 + 2(-2).\Delta x$

$0^2 = 54 - 4\Delta x$

$4\Delta x = 54$

$\Delta x = \frac{54}{4}$

$\Delta x = 13,5\ m$

$V = V_0 + at$

$0 = 54 - 2.t$

$-54 = -2t$ (x4)

$2t = 54$

$t = \frac{54}{2}$

$t = 27\ s$