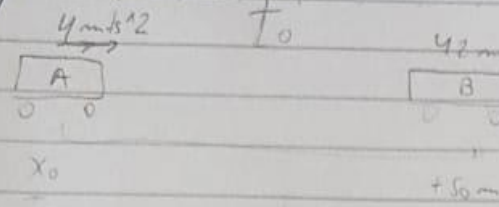
CASAS

Ejercicios Física — CASAS 6°C

1)



$x_A = 0 + \frac{1}{2} \cdot 4 \times (t-0)^2$, $v_0 = 0$ → $x_A = x_B$

$x_B = 50 + 42 \times (t-0)$, $a = 0$

$x_A = 2t^2$

$x_B = 50 + 42t$ → $2t^2 = 50 + 42t$

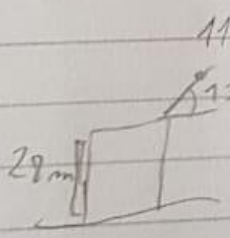
$0 = 50 + 42t - 2t^2$

$t = \begin{cases} 22.129 \end{cases}$

$x = 50 + 42 \times t$

$x = 979.42\ m$

2)



$v_{0y} = 2.71737\ m/s$

$v_{0x} = (\cos 13.2) \times 11.9$

$v_{0x} = 11.58558\ m/s$

$y = 28 + 2.7174t - 4.905t^2$

$0 = 28 + 2.7174t - 4.905t^2$

$t = 2.682242$

$x = 11.58558 \times 2.682242$

$x = 31.1\ m$

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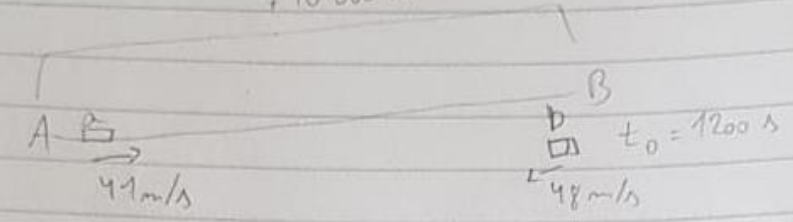
4.34 s

(3) $0 = 21.3t - 4.905t^2$

$t = 4.34$ s

(4)



$X_a = 0 + 41 \times t + 0$

$X_b = 790\,000 - 48(t - 1200) \Rightarrow X_b = 847\,600 - 48t$

$X_a = X_b$

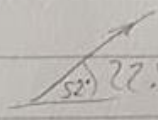
$41t = 847.600 - 48t$

$89t = 847\,600$

$t = 9523.59$ s

$t = 2.65$ hs

(5)



$V_{0y} = 17.73024$

$V_{0x} = 13.85238$

$V = 0 \rightarrow 0 = 17.73024 - 9.81t$

$t = 1.80736$

$y = 0 + 17.73024 \times 1.80936 - 4905 \times 1.80936^2$

$y = 16.02$ m

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