(1) $h=|\Delta y|=?$, $v_0=0\left[m/s\right]$, $a=g\left[m/s^2\right]$, $\Delta t=10[sec]$

$$\Delta y_{(\Delta t)}=v_{0y}\cdot\Delta t-\frac{1}{2}g\cdot(\Delta t)^2 \Rightarrow \Delta y=-5\cdot 10^2=-500\,[m]$$

$h=500[m]$:נ"צ

(2) $v_{(15)}=?$, $v_{(2)}=?$, $v_0=0\left[\frac{m}{s}\right]$, $a=g\left[m/s^2\right]$

$$v_{(t)}=v_0-gt \Rightarrow \begin{cases} v_{(2)}=-10\cdot 2=-20\left[m/s\right] \\ v_{(15)}=-10\cdot 15=-150\left[m/s\right] \end{cases}$$

(2) $\Delta y=?$, $v_0=0\left[m/s\right]$, $v_i=v_{(2)}$, $a=g\left[m/s^2\right]$, $\Delta t=1[sec]$

$$\Delta y_{(\Delta t)}=v_i\cdot\Delta t-\frac{1}{2}g\cdot(\Delta t)^2 \qquad v_{(t)}=v_0-gt$$

$\Delta y_{(1)}=-20\cdot 1-5\cdot 1^2=-25\,[m]$ $v_{(2)}=-10\cdot 2=-20\left[m/s\right]$

המהירות בנתינה השניה השלילית

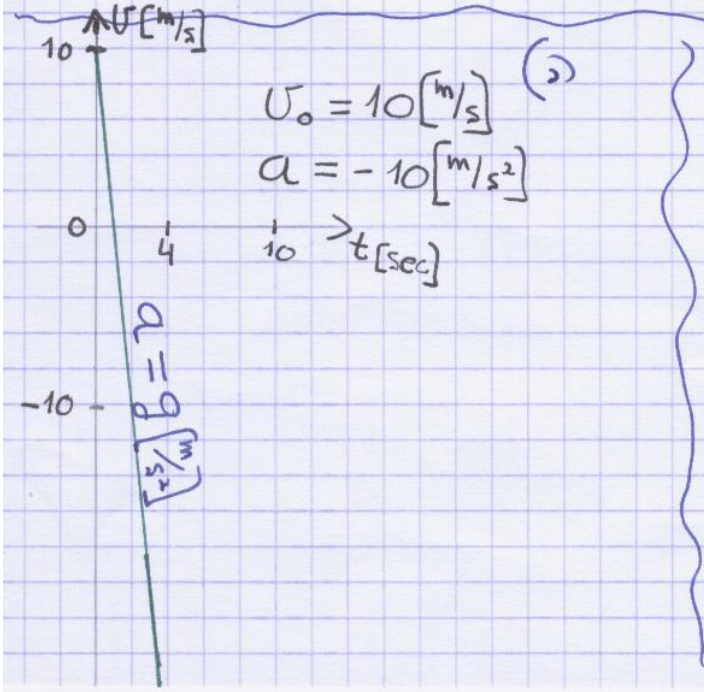
(3) $\Delta y=?$, $a=g\left[m/s^2\right]$, $v_f=-27.8\left[\frac{m}{s}\right]$, $v_0=0\left[m/s\right]$

$$v_{(\Delta y)}^2=v_0^2-2g\cdot\Delta y \Rightarrow 27.8^2=-2\cdot 10\cdot\Delta y$$

$$\Delta y=-38.58\,[m]$$

הגוף נפל מגובה של 38.58 מ'.

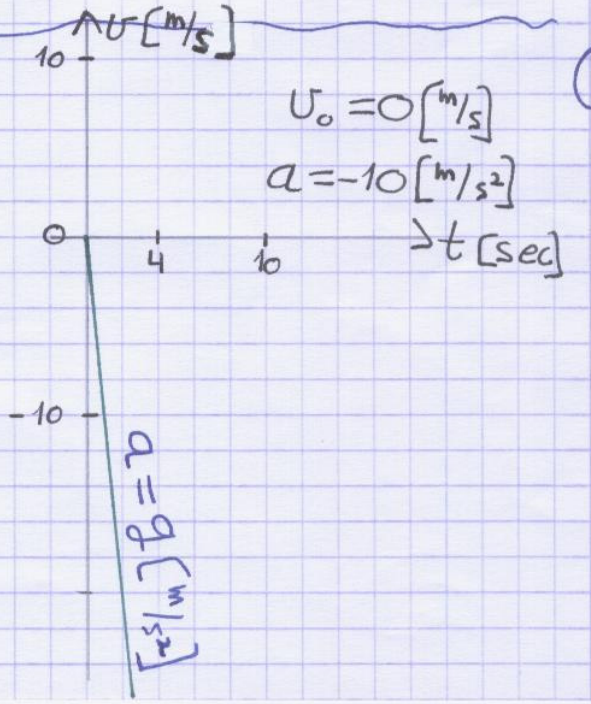
(2)



$v_0=10\left[m/s\right]$

$a=-10\left[m/s^2\right]$

(1)



$v_0=0\left[m/s\right]$

$a=-10\left[m/s^2\right]$