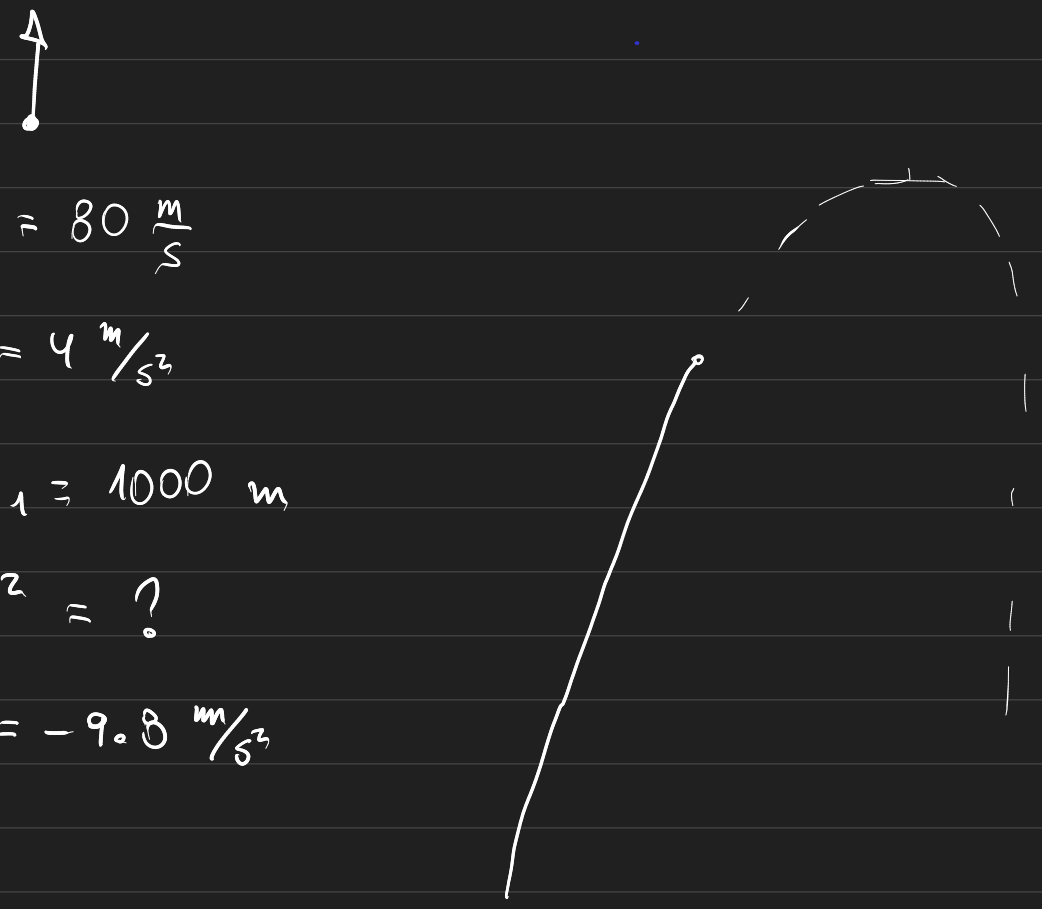

$V_i = 80 \frac{m}{s}$

$a_1 = 4\ m/s^2$

$\Delta x_1 = 1000\ m$

$\Delta x^2 = ?$

$a_2 = -9.8\ m/s^2$

$t_f$

$$Y(t) = 0 + 80 \frac{m}{s} \cdot t + \frac{1}{2} \cdot a \cdot t^2$$

$$1000_m = 80 \frac{m}{s} \cdot t + \frac{1}{2} \cdot 4\ m/s^2 \cdot t^2$$

$V_f = V_0 + at$

$$2t^2 + 80t - 1000\ m = 0$$

$$t^2 + 40t - 500\ m = 0$$

$10 \cdot 6$ $\quad 100 \cdot 36$

$$\frac{-40 \pm \sqrt{1600 - 4 \cdot 800}}{2} \qquad \frac{-40 \pm \sqrt{3600}}{2}$$

$$-20 \pm 30 \qquad \frac{-40 \pm 60}{2}$$

$V_f$ ? ? ? ? $x_1 = -800$

$x_2 = 10$

$t = 10\,s$ $\qquad V_f = V_0 + at$

$\Delta x_2 = ?$ $\qquad t = 10\,s$

$a = -9.8\,m/s^2$ $\qquad a = 4\,m/s^2$

$V_0 = 80\,m/s$

$t = ?$

$$Y_2(t) = 1000\,m + 120\,\frac{m}{s} \cdot t - \frac{1}{2} \cdot 9.8 \cdot t^2$$

$$\frac{120}{9.8} = 12.24t \qquad 120^2 - 0^2 = 2 \cdot a \cdot \Delta x$$

$$\frac{-120}{-9.8}$$

$$-4.9t^2 + 120t + 1000 = 0$$

$$\frac{-b}{2a} \qquad Y_2\left(\frac{-b}{2a}\right)$$

$x_2 = 31.06\,s$

$x_1 = -6.57$

$V_f^2 - V_0$

$120$

$Y(t)$

$t_f = 41.06\,s$

1734.6

$\frac{9.8 \cdot 2}{19.6}$

$120^2 - 0^2 = 2 \cdot -9.8$

$14400 = 19.6 \cdot \Delta x$

$\frac{14400}{19.6}$

$$v_f = v_i + at$$

$$-31.06 \cdot -9.8$$

$$120 + 31.06 \cdot -9.8$$