

Projectile Motion

(constant acceleration)

$F_{\text{DRAG}} \Leftarrow$ "Air Resistance"



F_{GRAVITY}

$$\Sigma F_{\text{ON}} = ma_{\text{com}}$$

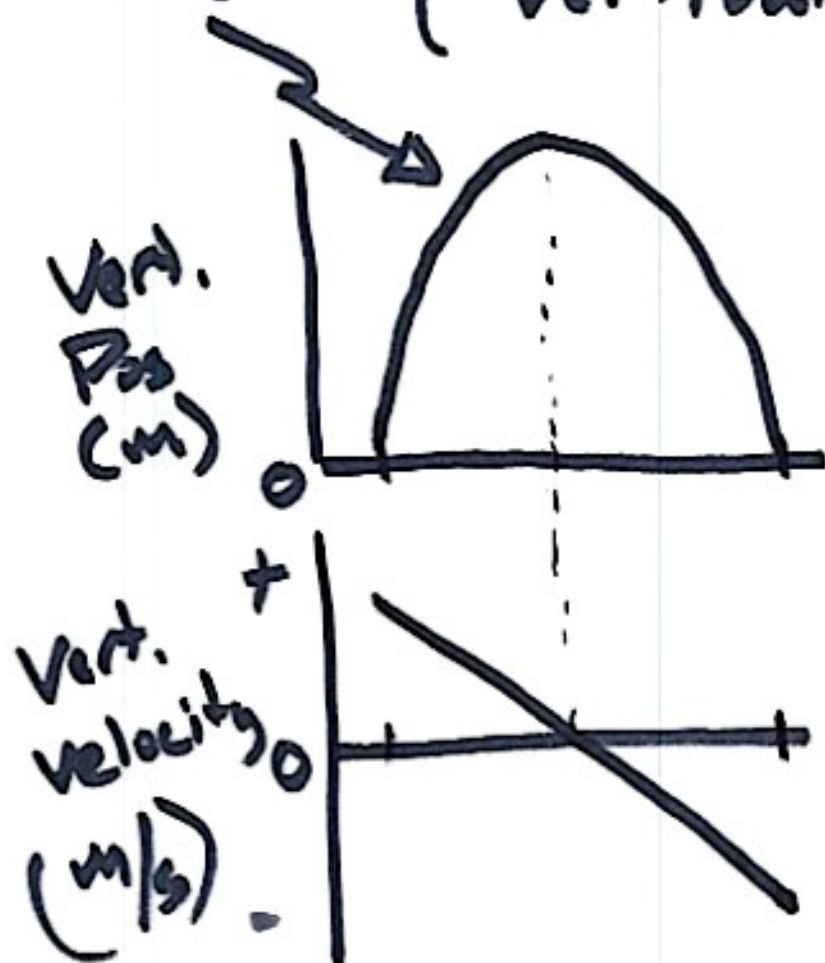
$$-F_G = ma_{\text{com}}$$

$\Downarrow$

$$\text{constant} = -9.8 \text{ m/s}^2$$

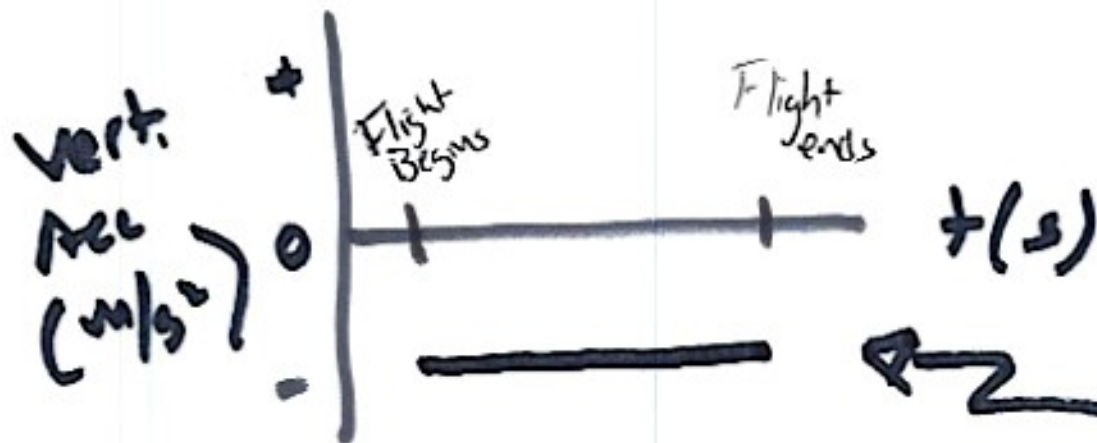
PVA - Projectile (Vertical)

Parabola



UP +
 $V_i =$

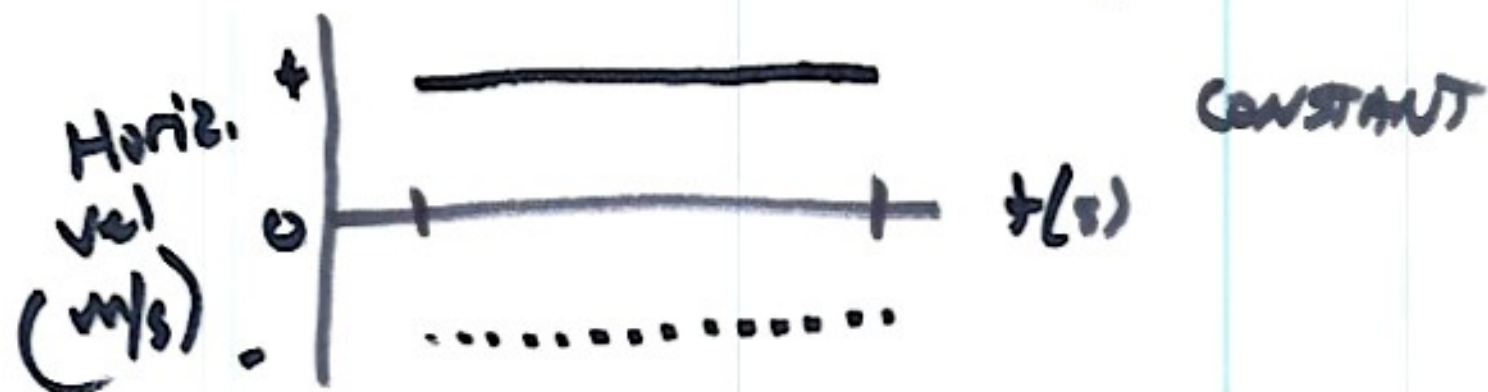
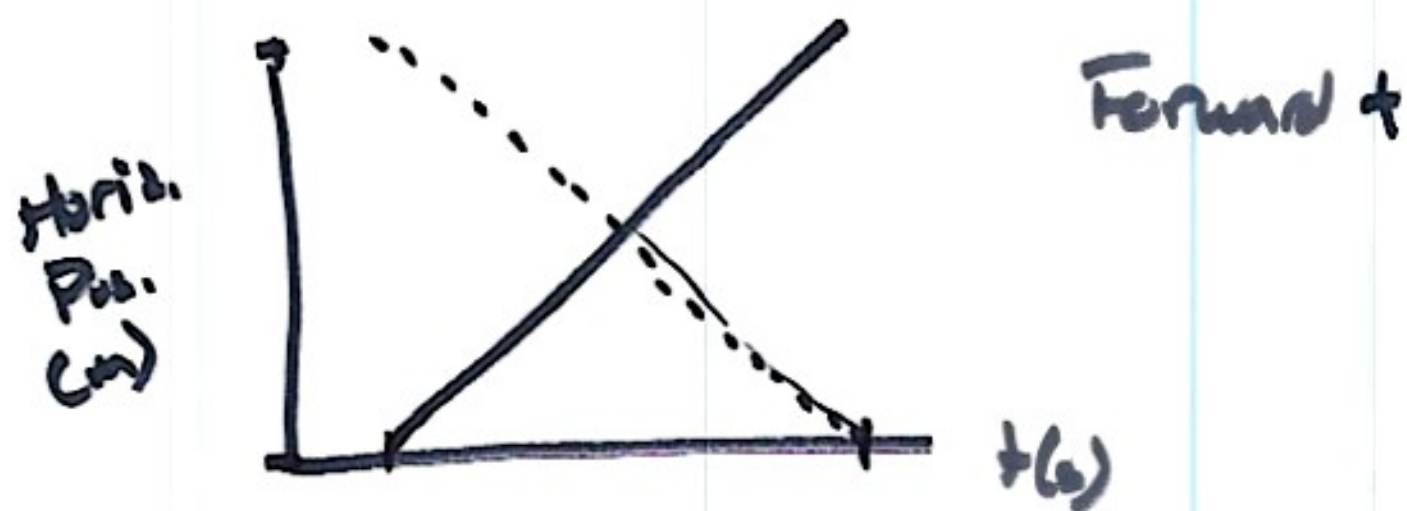
$t(s)$
 $\leftarrow$ Slope $= -9.8 \frac{m}{s^2}$
 $t(s)$



$$\Sigma F_{ov} : ma_{com} - F_G = ma_{com}$$

(2)

PVA - Projectile Horizontal



④

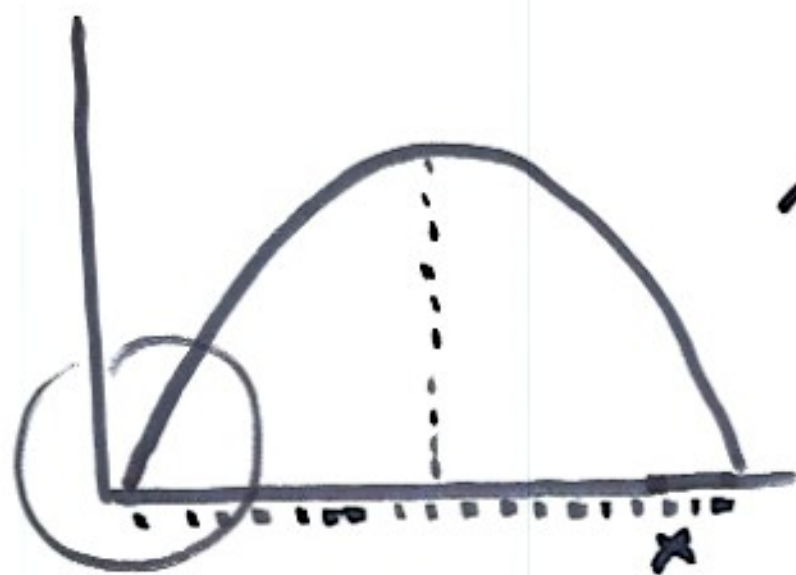
$$\sum F_{on\ H} = m a_{on\ H}$$

$$0\ N = m a_{on\ H}$$

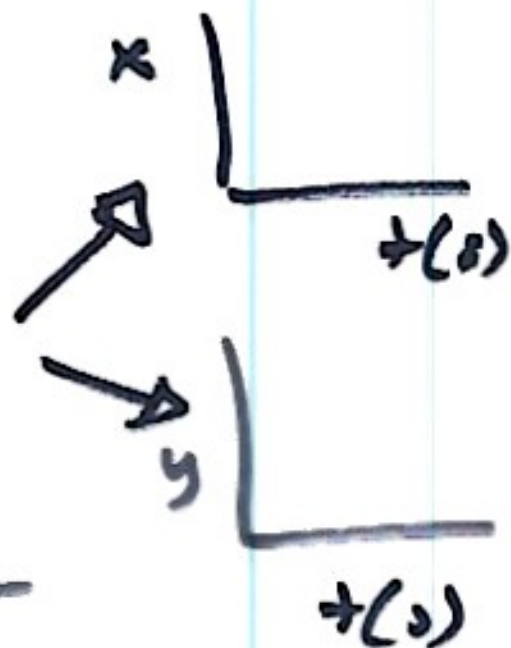
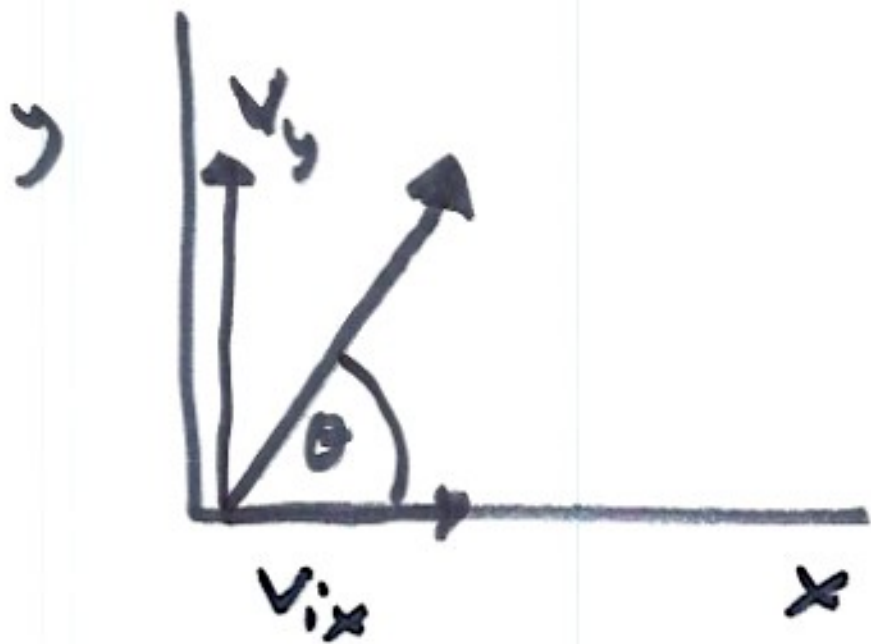
$$\therefore a_{on\ H} = 0\ m/s^2$$

⑤

y
(m)



(m)



(4)