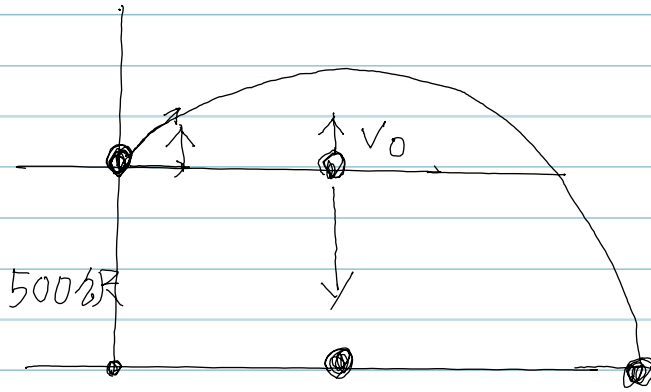


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一球在離地面 500 呎處，以 125 呎/秒， 37° 的仰角擲出。求 (1) 該球到達地面所需要的時間。(2) 同時另一球在同一高度垂直往上拋出，若二球同時著地，求拋出時的速度。 $(g = 10 \frac{m}{s^2})$



$$S = V_0 t + \frac{1}{2} a t^2$$

$$\begin{aligned} -500 &= (125 \times \sin 37^\circ) t - \frac{1}{2} \times 10 \times t^2 \\ &= 75t - 5t^2 \end{aligned}$$

$$t^2 - 15t - 100 = 0$$

$$(t - 20)(t + 5) = 0$$

$$t = 20 \text{ (秒)}, -5 \text{ (秒)} \times$$

$$-500 = V_0 \times 20 - \frac{1}{2} \times 10 \times (20)^2$$

$$-500 = 20 V_0 - 2000$$

$$20 V_0 = 1500$$

$$V_0 = 75 \left(\frac{m}{s} \right)$$