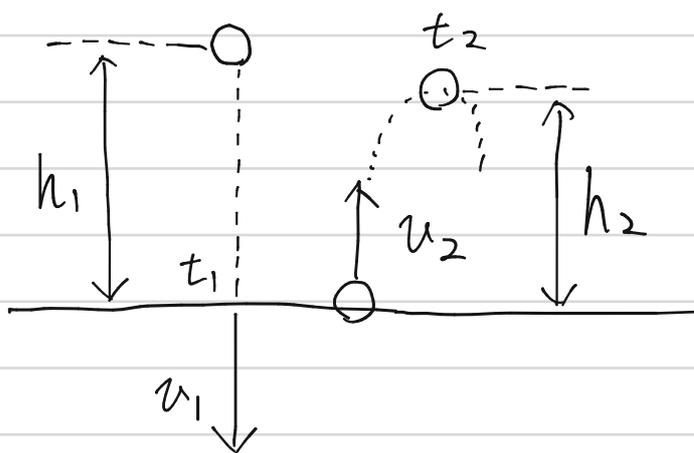


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$$(ア) \quad x = v_0 t + \frac{1}{2} a t^2 \text{ より}$$

$$h_1 = 0 + \frac{1}{2} g t_1^2$$

$$\therefore t_1 = \sqrt{\frac{2h_1}{g}} \quad \#(ア)$$

$$(イ) \quad v^2 - v_0^2 = 2ax \text{ より} \quad \times v = v_0 + at \text{ で"えよ"$$

$$u_1^2 - 0^2 = 2gh_1$$

$$u_1 = \sqrt{2gh_1} \quad \#(イ) \quad \times \text{力学エネルギー保存で"求めてもよ"$$

$$(ウ) \quad e = \frac{\text{遠ざかる}}{\text{近づく}} = \frac{u_2}{u_1}$$

$$u_2 = e u_1 \quad \therefore u_2 = e \sqrt{2gh_1} \quad \#(ウ)$$

$$(エ) \quad v_0 = v_0 + at \text{ より}$$

$$0 = e \sqrt{2gh_1} + (-g)t_2$$

$$\therefore t_2 = e \sqrt{\frac{2h_1}{g}} = \frac{e}{1} t_1 \quad \#(エ)$$

$$(オ) \quad v^2 - v_0^2 = 2ax \text{ より}$$

$$0^2 - (e \sqrt{2gh_1})^2 = 2 \cdot (-g) \cdot h_2$$

$$\therefore h_2 = e^2 h_1 \quad \#(オ)$$