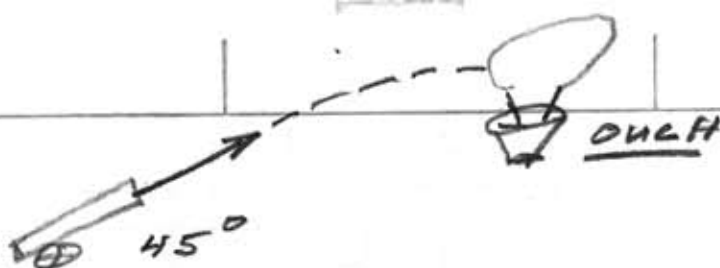


45.



$$v_i = 141 \text{ m/s}$$

$$\text{SINCE } \angle = 45^\circ; v_x = v_y$$

$$v_x = 100 \text{ m/s} \quad (\text{SEE SNEEZZEE} \\ \& \text{ PROB 39})$$

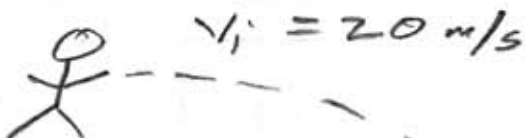
$$v_x = \text{CONSTANT}$$

$$\therefore v_x = 100 \text{ m/s}$$

$$a = 10 \text{ m/s}^2 \quad (\text{REALLY } -10 \text{ m/s}^2)$$

46.

Josh



$$t = 2 \text{ s}$$

a. Find  $s$  @ IMPACT

$$s = \sqrt{v_x^2 + v_y^2}$$

$$v_x = 20 \text{ m/s} \quad (\text{CONSTANT})$$

$$v_y = gt$$

$$= 10 \text{ m/s} \cdot 2 \text{ s}$$

$$v_y = 20 \text{ m/s}$$

$$s = \sqrt{(20 \text{ m/s})^2 + (20 \text{ m/s})^2}$$

$$s = 28 \text{ m/s}$$

b. WHAT  $\angle$  ?

$$v_x = v_y$$

$$\therefore \angle = 45^\circ$$