קול"ד

①

→ ←

A

$V_{0_A} = 20 \frac{M}{sec}$

B

$V_{0_B} = -30 \frac{M}{sec}$

$V_{0y} = 0$

$a_y = -10 \frac{M}{sec^2}$

$y_0 = 80m$

$V_{0y_B} = 0$

$a = -10 \frac{M}{sec}$

$y_0 = 80m$

נקודת הקרקע $y = 0$ בגלל
A

B
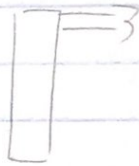
$y = y_0 N_0 t - \frac{1}{2}gt^2$

$0 = 80 + V_0 t - \frac{1}{2}gt^2$

$0 = 80 - 5t^2$

$\boxed{t_1 = 4_{sec}}$ וזהו הזמן שבו הכדור B נופל לארץ
$\boxed{t_2 = -4_{sec}}$

③

A

$y = y_0 + V_0 t - \frac{1}{2}gt^2$

$y = 80 + 0 - 5t^2$

$0 = 80 - 5t^2$

$\boxed{t_1 = 4 sec}$

$\boxed{t_2 = -4 sec}$

ניתן להבין הגופים מגיעים לקרקע באותו זמן 4 שניות.

Ⓒ

A　　　　　　　　　　　　**B** ①

$$V_y = V_0 \cdot \sin\alpha$$

(אותו תהליך בדיוק כמו) A

$$\frac{M}{sec} = 30 = V_0$$

$$t = 4$$

$$V_y = V_{0y} + at = 0 - gt$$

$$V_0 = 30 \frac{M}{sec}$$

$$V_y = -10 \cdot 4$$

$$\boxed{V = -30 \frac{M}{sec} \atop B_X}$$

$$\boxed{V_y = -40 \frac{M}{sec}}$$

$$V_{By} = 0 - gt$$

$$\boxed{V_x = 20 \frac{M}{sec}}$$

$$V_{By} = -10 \cdot 4$$

$$\vec{V} = \sqrt{(-40)^2 + (20)^2} = 20\sqrt{5}$$

$$\boxed{V_{By} = -40 \frac{M}{sec}}$$

$$\vec{V} = 20\sqrt{5}$$

$$\vec{V} = \sqrt{(-40)^2 + (-30)^2}$$

$$\theta = \arctan\left(\frac{-40}{20}\right) = -63.434° \atop A$$

$$\vec{V}_B = 50 \frac{M}{sec}$$

$$\boxed{\theta_A = -63.434°}$$

$$\boxed{\theta_B = 53.130°}$$

③　$X = Vt$

$X = Vt$

$X = 20 \cdot 2$

$X = -30 \cdot 2$

$$\boxed{X = 40 \atop M}$$

$$\boxed{X = -60 \, m}$$

$$40 - (-60) = 100 \atop m$$

200m כמו ... 2 ① ... ...

$X = Vt$

$$\boxed{80 - (-120) = 200 \, m}$$

$X = Vt \atop A$

$X = 20 \cdot 4$

$X = -30 \cdot 4$

$$\boxed{X = -120 \, m}$$

$g = -10 \frac{M}{sec^2}$ $t = 3_{sec}$ $\alpha = 40°$ $V = 50 \frac{M}{sec}^2$

©

אמצע

על מכולן הגוף בקצה
.הדרוך

$V_o x = 0 \frac{M}{sec}$

מהירות ותאוצה

$a_x = 50 \frac{M}{sec}^2$

$\alpha = 40°$

$a_x = 50 \cdot \cos(40) = 38.30 \frac{M}{sec}$

$a_y = 50 \cdot \sin(40) = 32.139 \frac{M}{sec}$

$V_x = 38.30 \cdot 3$ | $V_y = 32.139 \cdot 3$

$V_x = 38.30 \cdot 3$, | $\boxed{V_y = 96.417 \frac{M}{sec}}$

$\boxed{V_x = 114.9 \frac{M}{sec}}$

$\vec{V} = \sqrt{(114.9)^2 + (96.417)^2} = 150. \frac{M}{sec}$

$arctan = \left(\frac{96.417}{114.9}\right) = 40°$

② $\Delta t = ?$

$V_y = 96.417$

96.417

$y = v_o t + y_o - \frac{1}{2}gt^2$

$y = 0 + 0 - \frac{1}{2} \cdot 32.13 \cdot (3)^2$

$y = 144.63$

$y_{(t)} = 144.63 + 96.417t - \frac{1}{2} \cdot 10 \cdot t^2$

$y(t) = 0$

$t_1 = 20.681$ $\boxed{t = 23.681_{sec}}$

$+ 3_{sec}$

$\boxed{t = 20.989}$

$\rho = \frac{-10.5^m}{s^2}$ $t = 3_{sec}$ $\alpha = 40°$ $V = 80\frac{m}{s}$

(c) $t = t_1 + 3 = 20.681 + 3 = 23.681_{sec}$

$\Delta x (3) = 0 + 0 + \frac{38.3 \cdot 3^2}{2} = 172.85 \, m$

$\Delta x (4) = 172.85 + 114.9 \cdot t^2 =$

$\Delta x (20.681) = 172.85 + 114.9 \cdot 20.81 = 2549.1 \, m$

(h)

$V_y (20) = 93.417 - 10.203 = 110.393 \frac{m}{sec}$

$\tan \alpha = \frac{-103.583}{114.9}$ $\alpha = -43.85$

$|\vec{v}| = \sqrt{(103.583)^2 + (114.9)^2} = 154.69 \frac{m}{sec}$
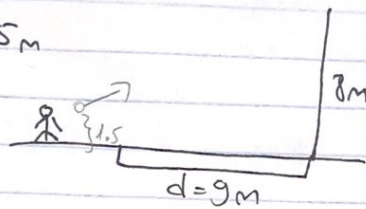
$\vec{v} = 159.43 - 43.85 = 115.58 \frac{m}{sec}$

$S = t_4$

$d = 45°$　　$h = 1.5_M$

$H = 8_M$

$d = 9_M$

$V_0 x = \cos(45°)$

Ⓒ　$V_x = V_0 + at$

$$x = x_0 + v_0 t + \frac{at^2}{2}$$

I $9 = V_{0x}t$　　$x \to 13$　　　$6.5 =$

　　　：$y \to 13$

$V_0 = \frac{9}{t}$　　$8 = 1.5 + V_{0y} \cdot \frac{9}{V_0 x} - 5\left(\frac{9}{V_0 x}\right)^2$

$\quad = t$

　　　$8 < 1.5 + 9 - 5\left(\frac{9}{V_0 x}\right)^2$

　　　$-2.5 < -5\left(\frac{9}{V_0 x}\right)^2$

　　　$1 < \left(\frac{9}{V_0 x}\right)^2$

　　　$1 < 2\left(\frac{9}{V_0 x}\right)^2$

　　　$1 < (9\sqrt{2})^2$

　　　$1 < (162) \cdot 2$

　　　$1 < 324 V_0 x^2$

$$\boxed{V_0 x = 18 \frac{M}{sec}}$$

①

$N = 1.5m$

$5m$

$\Delta y = 8$ $\Delta y = y_0 + V_0 t - \frac{1}{2}g t^2$

$H = 8m$

$V = V_0 + at$ $3 =$ $b = 9m$

$\Delta y = 8 + 0 - 5t^2$

②

$0 = 8 - 5t^2$

$V_0 x = 18 \cdot \cos(45°)$ $\boxed{t^{\pm} = 1.264 sec}$

$\Delta x = 9 + V_0 x \cdot 1.264 \cdot 12.72 = 25 m$
(1.264)

$\boxed{\Delta x = 25m}$ $\boxed{9 \text{ זרק}}$

זווית
החוצה   המיקום

V_0
זווית
ההתזה

$9m$ 16 $25 m$
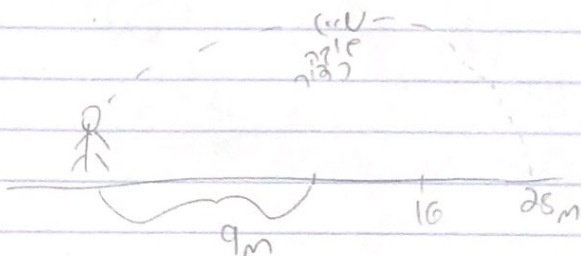
⑦ $d = 53°$

$d = 18 \cdot \cos(53°) t \quad = 10.83 t$

$t = \frac{d}{10.83}$

$8 = 1.5 + \frac{d}{10.83} - 5 \frac{d^2}{(10.83)^2}$

$0 = -6.5 + 1.32 d - 0.042 d^2$

$\boxed{t_1 = 6.11 \frac{}{sec}} \boxed{t_2 = 25.31 \frac{}{sec}}$

$\boxed{d = 6.13 m}$

⁕ החישוב של זה כי שתפוס את הכדור צריך שזמן
$d = 6.13m$ הזריקה ד' א' צריך