



$$v_0 = 150 \frac{\text{m}}{\text{s}}$$

$$\alpha = 30^\circ$$

$$\beta = 60^\circ$$

$$x_B = ?$$

$$y_B = ?$$

$$\operatorname{tg} \alpha = \frac{y_B}{x_B} = \frac{1}{\sqrt{3}} \Rightarrow y_B \cdot \sqrt{3} = x_B$$

Нека се мисли налази у тачки B у тренутку t .
Тогда је:

$$x_B = v_0 \cos \beta \cdot t = v_0 \cdot \frac{t}{2}$$

$$y_B = v_0 \sin \beta \cdot t - \frac{1}{2} g t^2 = v_0 \frac{\sqrt{3}}{2} t - \frac{1}{2} g t^2$$

$$(v_0 \frac{\sqrt{3}}{2} t - \frac{1}{2} g t^2) \sqrt{3} = v_0 \frac{t}{2} \quad /: t, t \neq 0$$

$$\frac{v_0 \sqrt{3}}{2} \cdot \sqrt{3} - \frac{1}{2} g t \sqrt{3} = v_0 \cdot \frac{1}{2} \quad /: 2$$

$$3v_0 - g t \sqrt{3} = v_0$$

$$g t \sqrt{3} = 2v_0$$

$$\boxed{t = \frac{2v_0}{g\sqrt{3}}}$$

$$\Rightarrow x_B = v_0 \cdot \frac{v_0}{g\sqrt{3}} = \frac{v_0^2}{g\sqrt{3}}$$

$$y_B = x_B \cdot \frac{1}{\sqrt{3}} = \frac{v_0^2}{g \cdot 3}$$

$$\Rightarrow \boxed{B \left(\frac{v_0^2}{g\sqrt{3}}, \frac{v_0^2}{3g} \right)}$$