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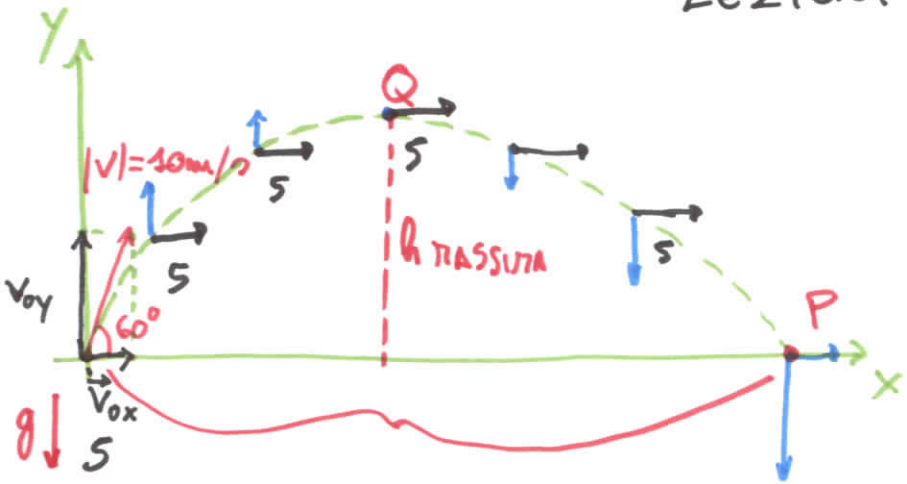
LEZIONI PRIVATE 346/3103392

MOTO DI UN PROIETTILE



$$\begin{cases} x = \overset{0}{\overset{\shortparallel}{x_0}} + \overset{5}{\overset{\shortparallel}{V_{0x}}} \cdot t \\ y = \overset{0}{\overset{\shortparallel}{y_0}} + \overset{5\sqrt{3}}{\overset{\shortparallel}{V_{0y}}} \cdot t + \frac{1}{2} \overset{-9,8}{\overset{\shortparallel}{a_y}} t^2 \end{cases} \qquad \begin{cases} x = 5t \\ y = 5\sqrt{3}t - \frac{1}{2} 9,8 t^2 \end{cases}$$

$$\begin{cases} V_x = V_{0x} \\ V_y = V_{0y} + at \end{cases} \qquad \begin{cases} V_x = V_{0x} = 5 \\ V_y = 5\sqrt{3} - 9,8t \end{cases}$$

GITTATA $P(x, \overset{y}{\overset{\shortparallel}{0}})$

$$y = 0 = 5\sqrt{3}t - \frac{1}{2} 9,8 t^2 = t\,(\underbrace{5\sqrt{3} - 4,9t}_{\overset{\shortparallel}{0}}) = 0$$

$t = 0$ $\qquad \underline{\underline{t^*}} = \frac{5\sqrt{3}}{4,9} = 1,77\,s$

$$x = 5t\Big|_{t^*} = 5 \cdot 1,77 \overset{u}{=} 8,8\,m$$

ALTEZZA MASSIMA $\quad Q(x, y)$

$V_y = 0 \leftarrow$

$$V_y = 0 = 5\sqrt{3} - 9,8t = 0 \qquad t^{**} = \frac{5\sqrt{3}}{9,8} = \underline{0,88\,s}$$

$$y\Big|_{t^{**}} = 5\sqrt{3}\,t^{**} - 4,9t^{**} \overset{u}{=} 3,84\,m$$

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