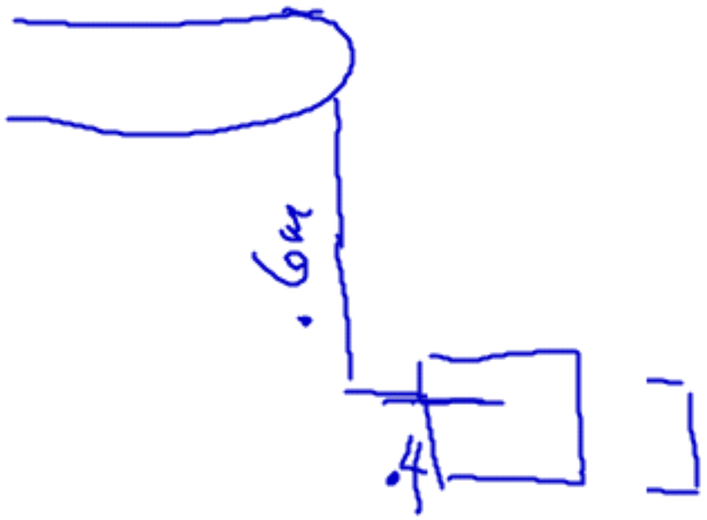


horizontal

$d = \bar{v}t$

$\frac{d}{t} = \bar{v}$

$\frac{.4m}{.35s} = 1.14 m/s$

$d = \frac{1}{2} g t^2$ = vertical

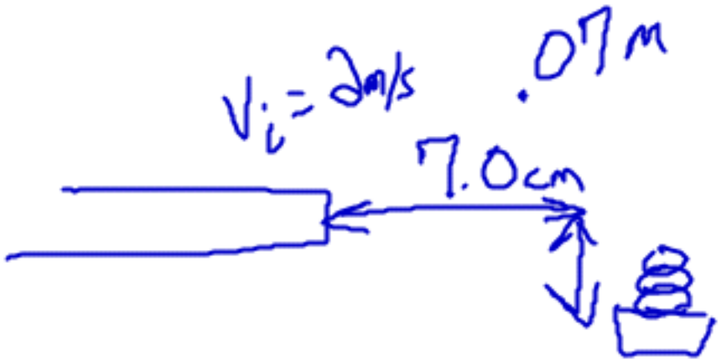
$2d = g t^2$

$\frac{2d}{g} = t^2$

$\sqrt{\frac{2d}{g}} = t$

$\sqrt{\frac{2(.6m)}{(10 m/s^2)}} = t$

$0.35 s = t$



V_i	V_f	$\bar{v}$	g	d	t
0m/s	.35m/s	.175m/s	10m/s	.006m	.035s

$a = \frac{\Delta v}{t}$ $\quad d = \bar{v}t$

$at = \Delta v$

$(10 m/s^2)(.035) =$

$.35$

horizontal

$d = .07m$

$t = ?$

$v = 2.0 m/s$

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

$= \frac{.07m}{2.0 m/s}$

$t = .035s$

Model a ball free falling from a height of 100 meters.

$$s(t) = \frac{1}{2}at^2 + v_0t + s$$

$$y = -4.9T^2 + 100$$

$$x = 2$$