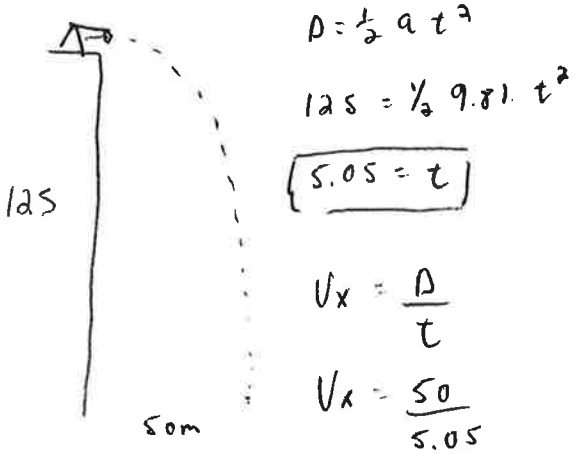
Example Problem Answer



$D = \frac{1}{2} a t^2$

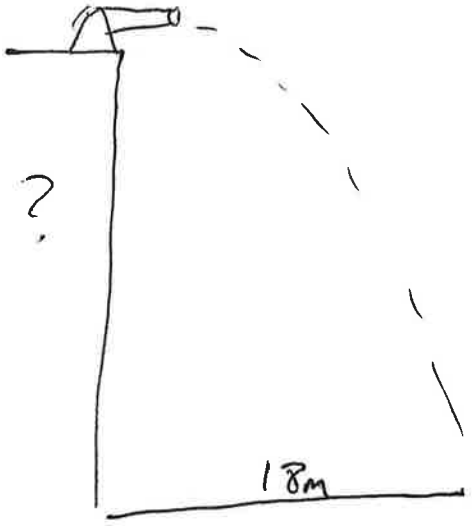
$125 = \frac{1}{2} 9.81 \cdot t^2$

$5.05 = t$

$V_x = \frac{D}{t}$

$V_x = \frac{50}{5.05}$

#1 $V_x = 9.90 m/s$



$V_x = \frac{D}{t}$ $\quad 9.90 m/s = \frac{18m}{t}$

$1.82s = t$

$V_y = g t$

$V_y = 9.81 (5.05)$

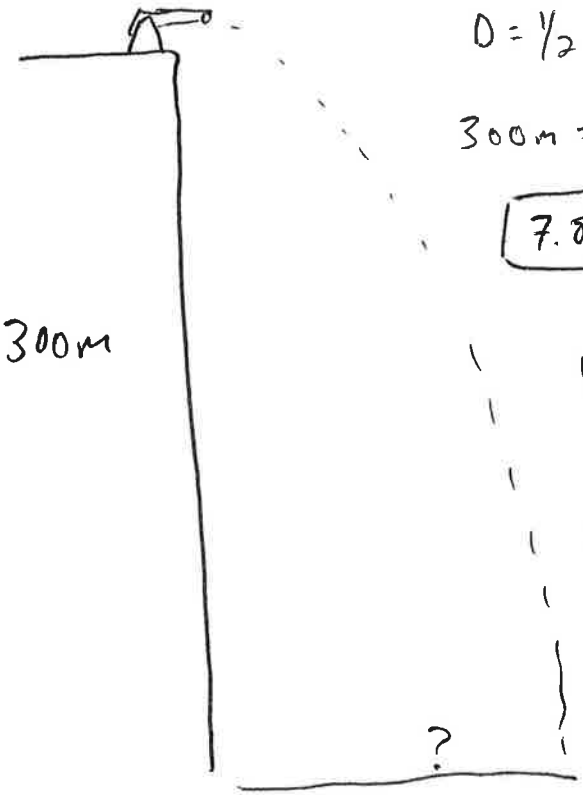
$V_y = 49.5 m/s \downarrow$

#2

$D = \frac{1}{2} a t^2$

$D = \frac{1}{2} 9.81 m/s^2 (1.82)^2$

$D = 16.2m$ #4



$D = \frac{1}{2} a t^2$

$300m = \frac{1}{2} 9.81 (t)^2$

$7.82 = t$

$V_x = \frac{D}{t}$

$9.90 m/s = \frac{D}{7.82}$

Distance = 77.42 m

#3

$V_y = g t$

$V_y = 9.81 (1.82sec)$

$V_y = 17.85 m/s \downarrow$

#4