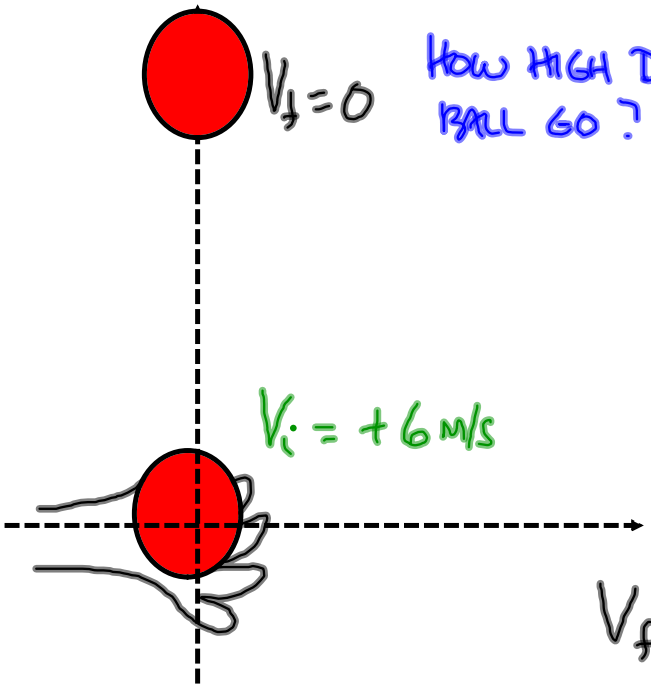
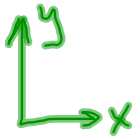


HOW HIGH DOES THE BALL GO?



$a = g = -9.81 \frac{M}{S^2}$

$V_i = +6 M/S$

$t = ?$

$V_f = V_i + at$

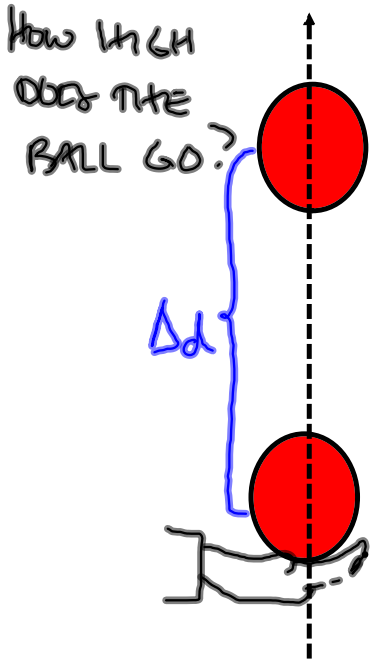
$V_f = V_i + (-9.81)t$

$0 = 6 - 9.81t$

$\therefore t = \frac{-6}{-9.81} = 0.61 S$

$V_{AVG} = \frac{V_i + V_f}{2} = 3 M/S$

$\Delta d = V_{AVG} t = (3)(.61) = 1.83 M$



$\Delta d = ?$ $\quad V_f = 0$

$t = ?$ $\quad a = g = -9.81 \frac{m}{s^2}$

$V_i = 6\ m/s$ ✓

$\frac{V_f - V_i}{\Delta t} = a$

$V_f = V_i + a\Delta t$

$\Delta d = V_{Ave}\,\Delta t \cong 1.81\ m$

$3\frac{m}{s} = V_{Ave} = \frac{V_i + V_f}{2}$ $\quad \frac{6+0}{2}$

$V_f = V_i + a\Delta t$?

$0 = V_i - (9.81)\Delta t$

$\frac{-6}{-9.81} = \frac{-9.81\,\Delta t}{-9.81}$

$\Delta t = 0.611\ s$

$\Delta t\left[\frac{V_f - V_i}{\Delta t}\right] = a\,\Delta t$

$V_f - V_i = a\Delta t \quad + V_i$

$+V_i$

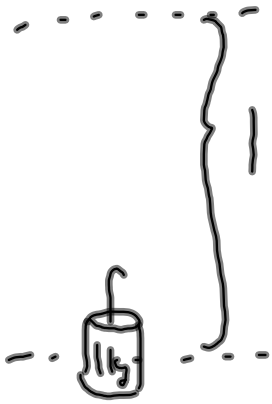
$V_f = V_i + a\Delta t$

PUICES ← EQUATION, SOLVE, KNOW, UNKNOWN, PICTURE

$W_{ork} = [F][\Delta d]$

$(N)(M)$

JOULE



$W_{ork} = [F][\Delta d]$

$= (9.81 N)(1 M)$

$P.E. = \frac{1}{2} k x^2$

SPRING

$PE = mg\Delta h = 9.81\ J$

$Weight = mg$

$KE = \frac{1}{2} m v^2$

$P.E. = \frac{k}{2}x^2$

$K.E. = \frac{1}{2}mV^2$

Joules

$\Delta d = 1\,m = h$

$W = F\,\Delta d_{\parallel} = (9.81\,N)(1\,m)$

$= 9.81\,J$

$W = m g$ (1 kg, 9.81)

$PE = 9.81\,J = [m g \Delta h]$