

Free Fall sheet #5 Skydiver

$3000 = d_1 + d_2 + d_3$

$Vi = 0$

d_1 $t_1 = 6s$ $a = -8.0$

$Vf = -48 m/s$

d_2 $t_2 = 10s$ $a = ?$

$Vf = -5 m/s$

$Vf = -5 m/s$ $t_3 = ?$ $con. \ddot{x}$

$total\ t = 6 + 10 + t_3$ $t = d$

① $Vf = Vi + at$
 $= 0 + (-8)(6)$
 $= -48 m/s$
 $d = \frac{1}{2}at^2$
 $= \frac{1}{2}(-8)(6)^2$
 $= -144m$

② $d_2 = V_{me}t = \frac{(Vi + Vf)}{2}t$
 $= \frac{(-48 + (-5))}{2}(10)$
 $= -265m$

$d_T = 3000 = -144 - 265 + (d_3)$
 $d_3 = 2591m$

$total\ t = 6 + 10 + 518.2 = 534.2s$

Mar 13-11:17 AM