$d_y = 1.5m$
$v_x = 5.0 m/s$

$d_y = \frac{1}{2} a \cdot t^2$ so $(1.5m) = \frac{1}{2} \cdot (9.8 m/s^2) \cdot t^2$

$t = .55$ sec

$d_x = v_x \cdot t$
$\quad = (5.0 m/s)(.55 sec)$

$\boxed{d_x = 2.8 m}$

v_x remains constant, so $\boxed{v_x = 5.0 m/s}$

$v_y = v_{0y} + a \cdot t$
$\quad = 0 m/s + (-9.8 m/s^2)(.55 sec)$

$\boxed{v_y = -5.4 m/s}$