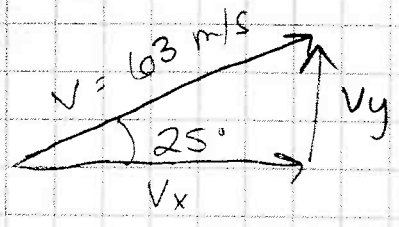
P # E

Ch 3 Worksheet

a) 

$\cos\theta = \frac{V_x}{V}$

$\cos 25° = \frac{V_x}{63\ m/s}$ $\quad \boxed{V_x = 57\ m/s}$

$\sin\theta = \frac{V_y}{V}$

$\sin 25° = \frac{V_y}{63\ m/s}$ $\quad \boxed{V_y = 27\ m/s}$

b) $V_{yi} = 27\ m/s$
$V_{yf} = 0\ m/s$ (at top)
$a = -9.8\ m/s^2$

$V_{yf} = V_{yi} + a \cdot t$

$0\ m/s = (27\ m/s) + (-9.8\ m/s^2) \cdot t$

$\boxed{t_{top} = 2.7\ sec}$

c) $t_{top} = 2.7\ sec$

$t_{total} = t_{top} \cdot 2$

$= (2.7\ sec) \cdot 2$

$\boxed{t_{total} = 5.4\ sec}$