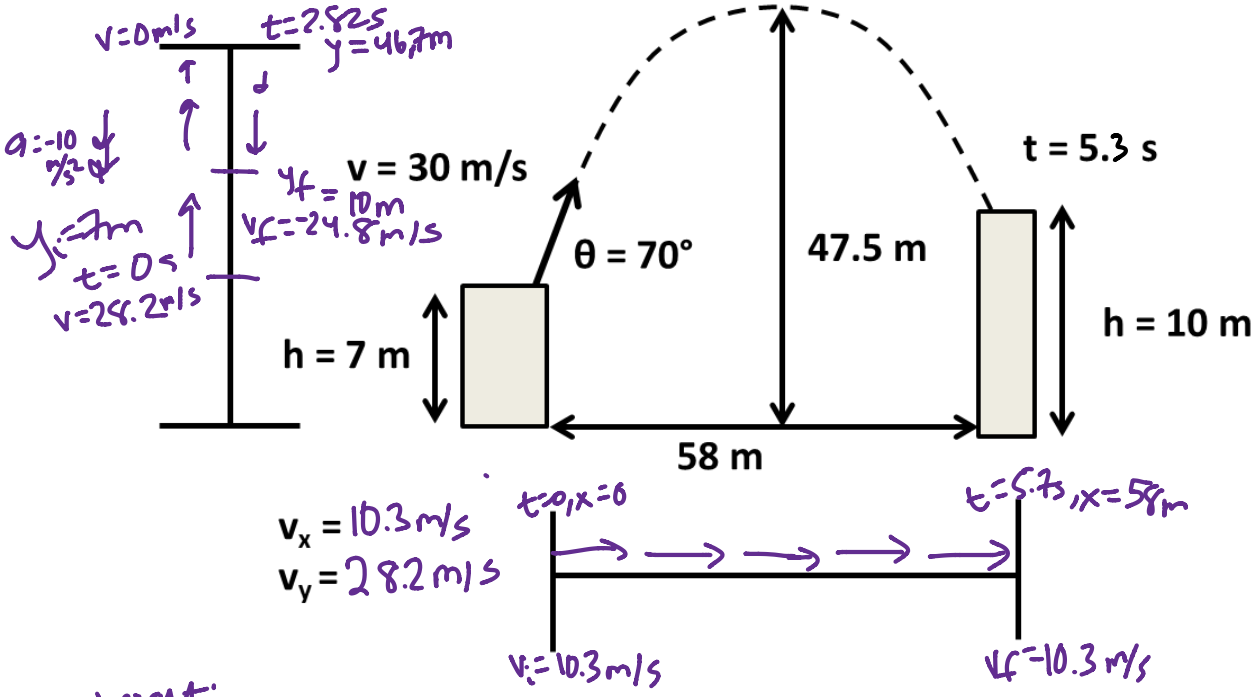
$10 = -\frac{10}{2}t^2 + 28.2t + 7$

$0 = -5t^2 + 28.2t - 3$

Worksheet 2.1

For each diagram below, calculate the v_x and v_y and draw the motion diagrams in the y and x-directions.

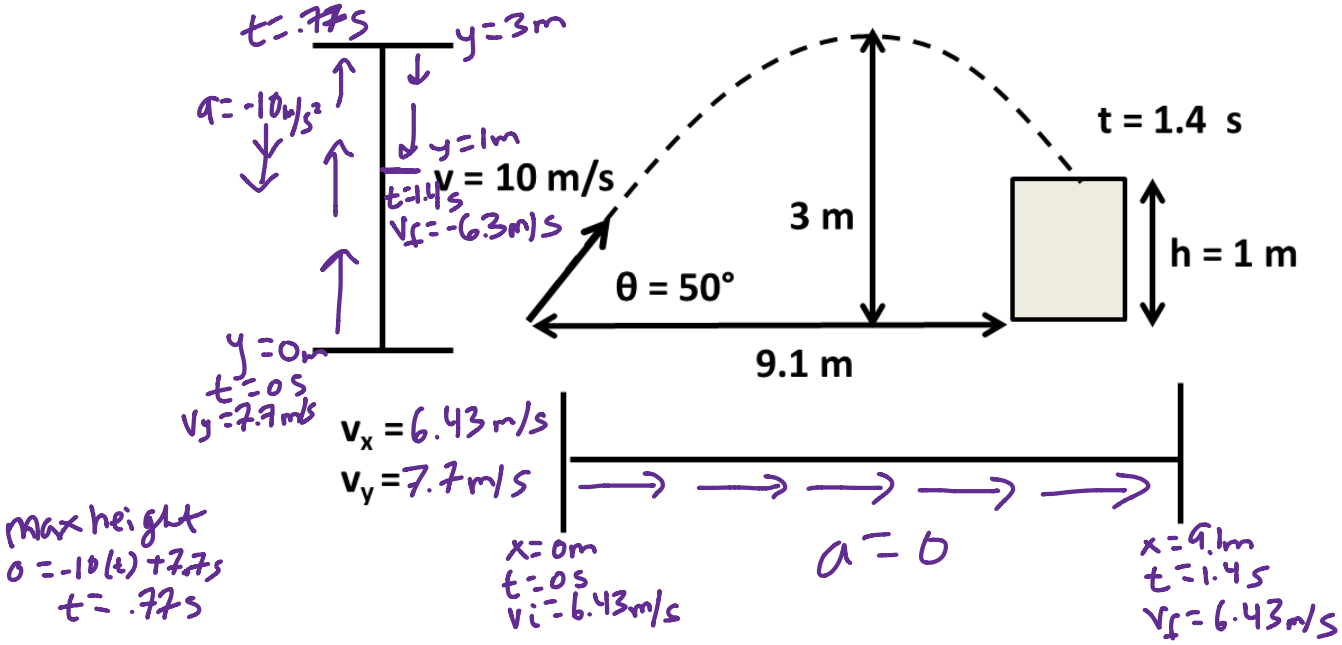


max height:

$0 = -10t + 28.2$

$t = 2.82\text{s}$

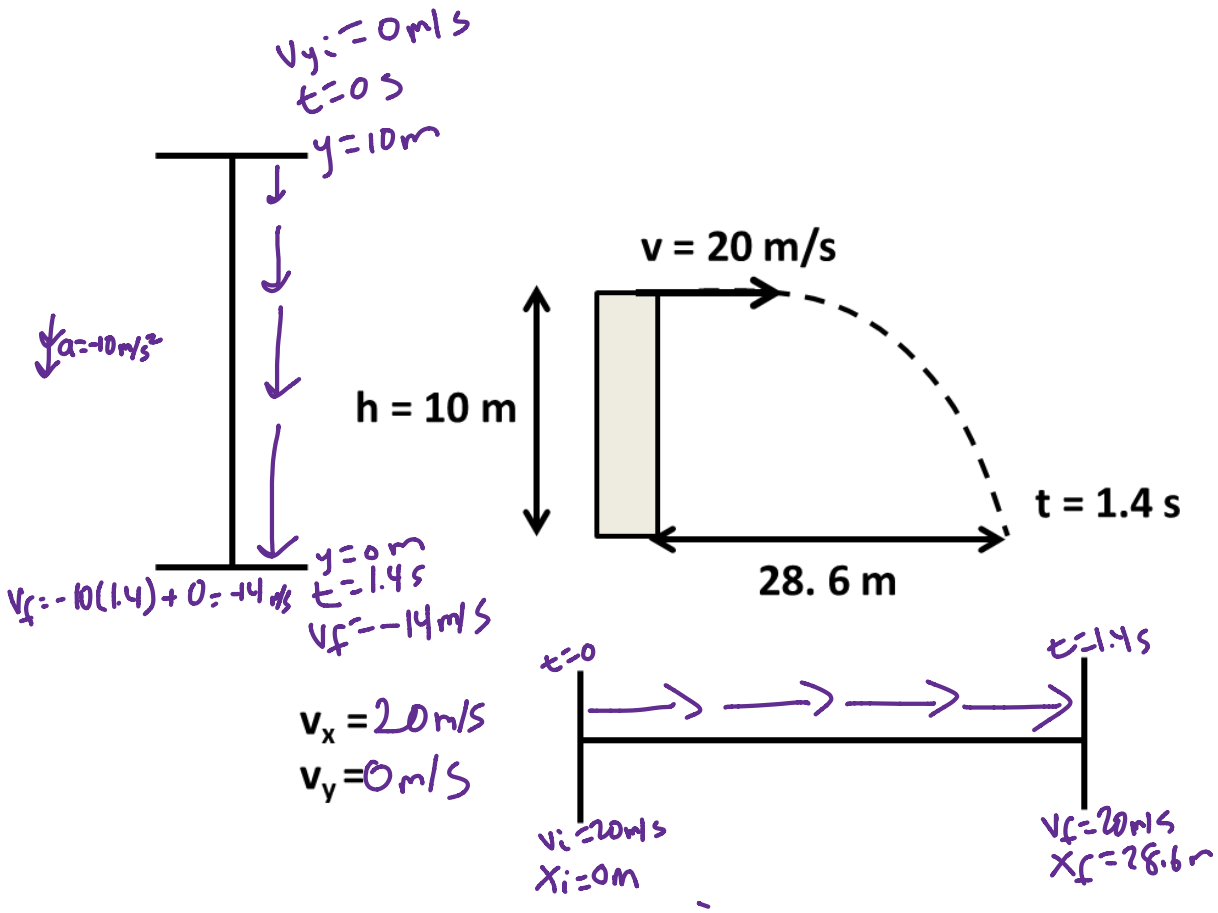
$y_f = -\frac{10}{2}(2.82)^2 + 28.2(2.82) + 7 = 46.7\text{m}$



max height

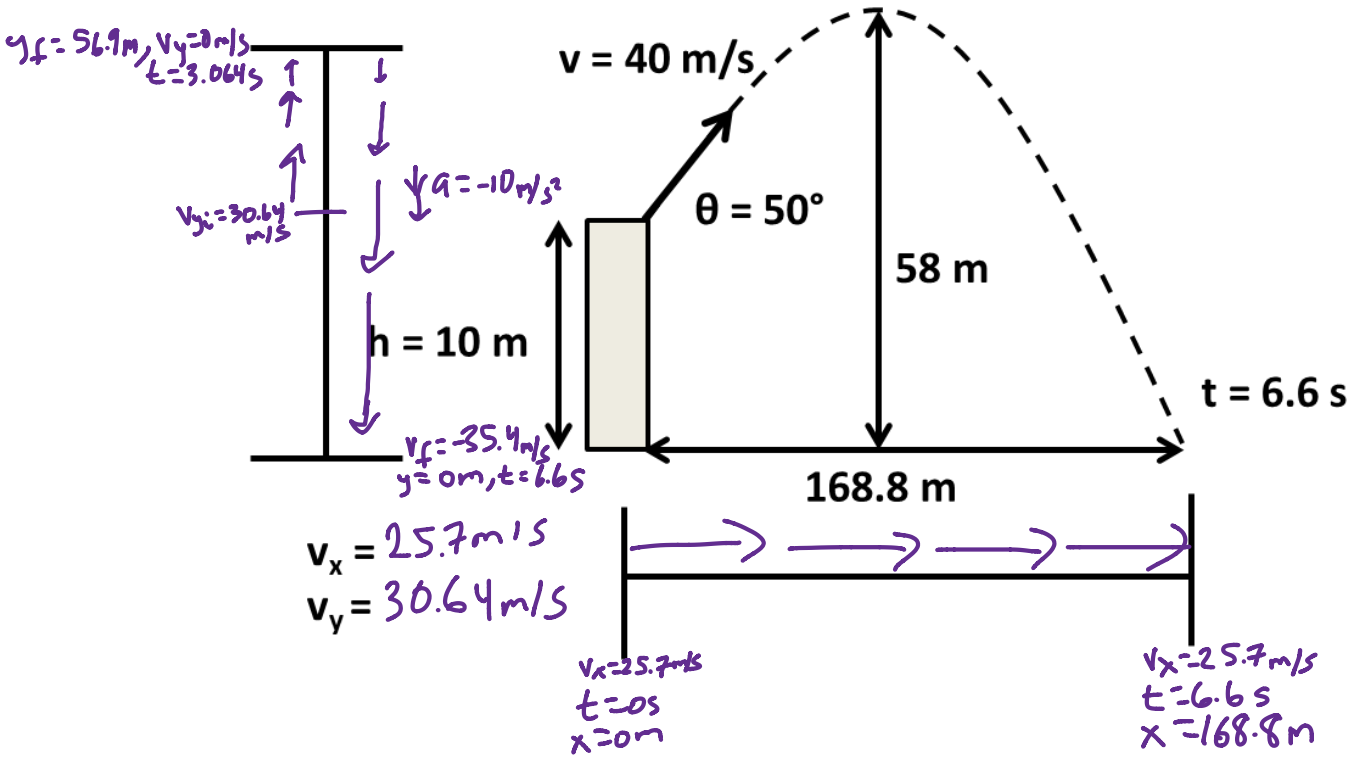
$0 = -10(t) + 7.7\text{s}$

$t = .77\text{s}$

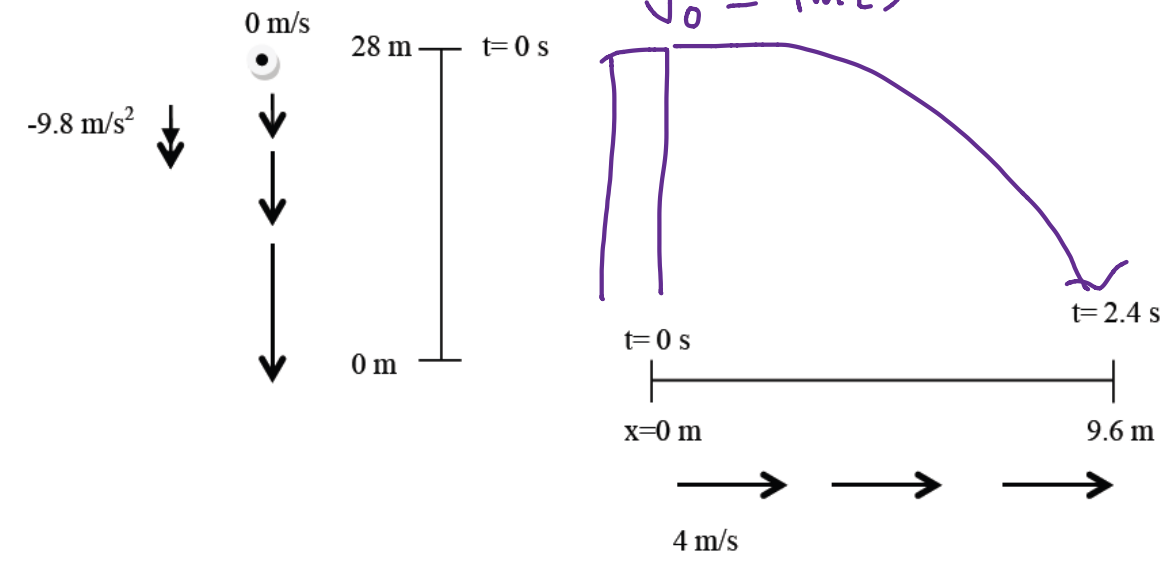


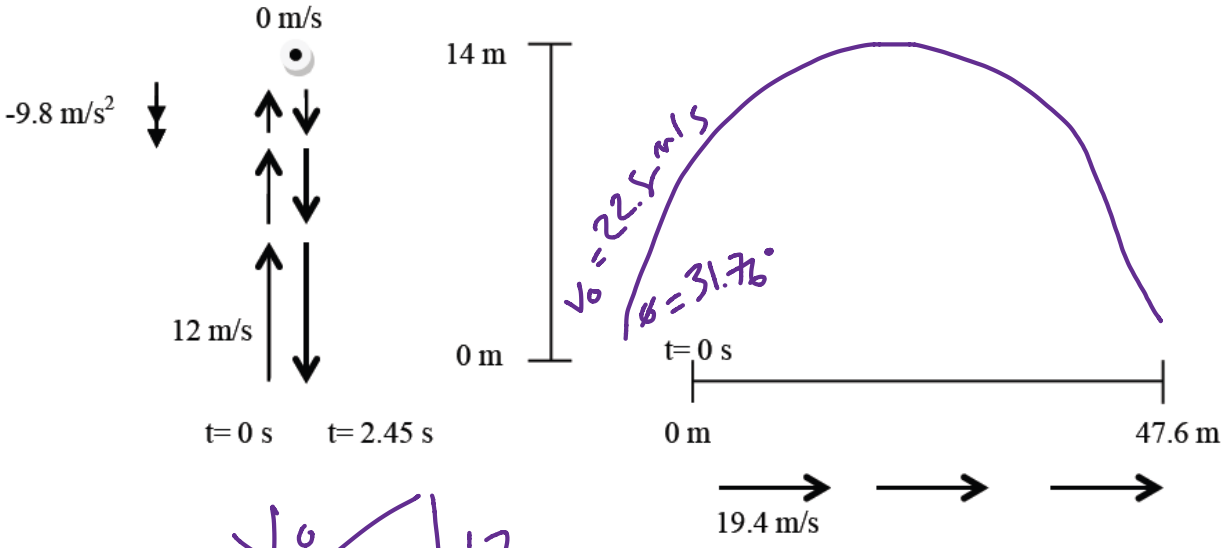
$y_f = -\frac{10}{2}(3.064)^2 + 30.64(3.064) + 10$

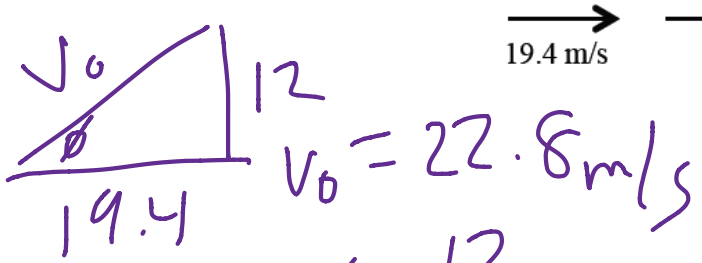
$y_f = 56.9$ m



For the two sets of motion diagrams below, draw and label the matching projectile diagram (like those above).







$v_0 = 22.6$ m/s

$\sin\theta = \frac{12}{22.8}$

$\theta = 31.76°$