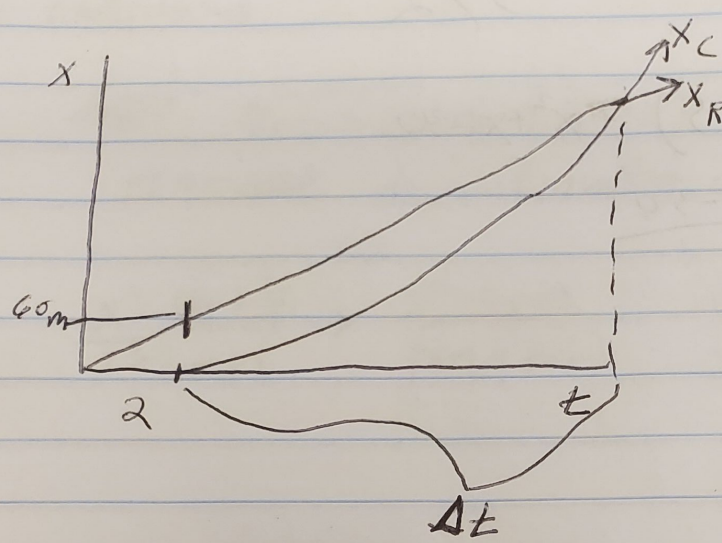
7

1.



$8t^2 \rightarrow 8(x-2)^2$

$8(x-2)^2 - 30x = 0$

$x = 7.194$ ~~sec~~

$8t^2 = 30t \rightarrow 8t^2 - 30t$ ~~$= 60$~~

2. ~~$t = 7.194$ seconds~~

$t = 7.194$ sec

215.82 − 60 =

3. 155.82 ~~$(30 m/s)(2 sec)(60 m)$~~

4. a acceleration: −
   velocity: +
   b. acceleration: −
   velocity: 0
   C. acceleration: −
   velocity: −

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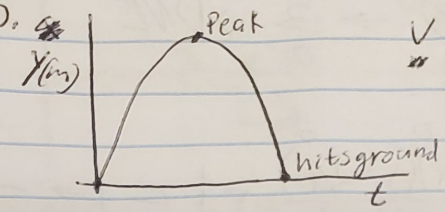
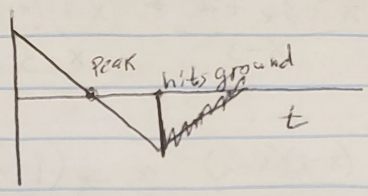
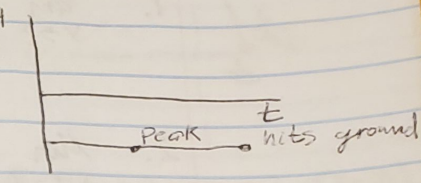
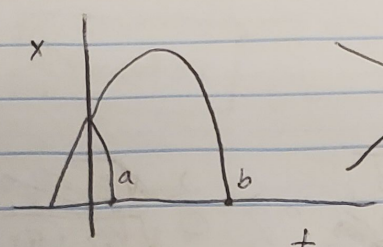
5.







6.



$V_f = a\Delta t + V_i$

$-9.8t^2 + 30t + 10$

$-9.8t^2 - 30t + 10$

$V_f = (9.8\,m/s^2)\Delta t + V_i$

$V_{i_a} = -30\,m/s$

$V_{i_b} = 30\,m/s$

$\Delta t_a = 0.303\,s$

$\Delta t_b = 3.365$

both ~~Buffers~~ is going ~~going faster~~ the same speed

$-33\,m/s =$

$33 =$

$-33\,m/s =$

$V_{f_a} = (-9.8)(3.03) + -30$

$V_{f_b} = (-9.8)(3.365) + 30 \quad (-9.8)(1.843)$

$3.365 - 1.531 =$

$V_f^2 = V_i^2 + 2ad \rightarrow 900 + 2(-9.8)(10)$?

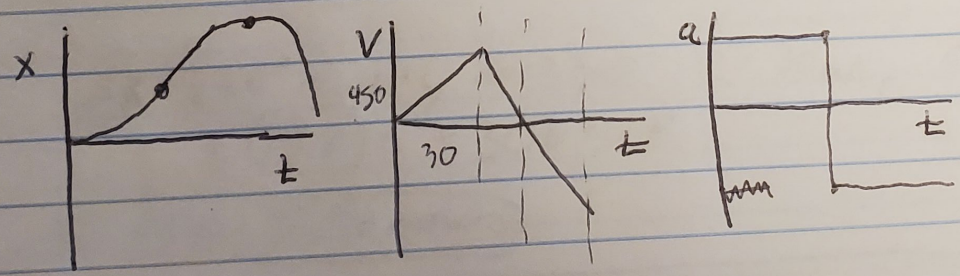
$6.439 - 0.317 = 6.122$

~~$3.365 - 0.303 =$~~ ~~3.062 seconds~~

7.

8. $95.9 - 10 =$ 43.9 ~~$33 - 10 =$ 23 meters~~

9.



10. $15 \cdot 30 = 450 = V_i$

$46 + 30 = 75 \rightarrow 1\,min\ 16\,sec$

$t + 1:16$

acceleration

freefall w/ V_i

$a = -9.8\,m/s^2$

$V_i = 450\,m/s$

$x_i = 6,750\,m$

$\frac{1}{2}(-9.8)t^2 + 450$

11. 17,081 m $= \frac{1}{2}(-9.8)(46)^2 + 450(46) + 6,750$

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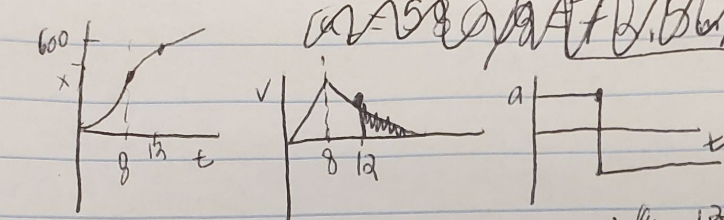
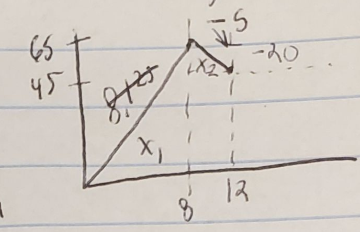
12. ~~$a_r = 8m/s^2$~~ $a_p = -5m/s^2$ ~~ ~~ (12,600)

$-5 \cdot 4 = -20m/s$

$v = at$, $a = \frac{v}{t}$

-80m 520/8 = 65 65/8 = 8.125





$\frac{1}{2}at^2 + v_i t$

$x_1 = \frac{1}{2}at^2 + V_i t \to \frac{1}{2}a(8^2) \to 32a$

$x_1 = 32a$

$X_2 = -2.5(4^2) + 8a(4) \to -40 + 32a$

$X_2 = 32a - 40$

$X_1 + X_2 = 600m$

$32a + 32a - 40m = 600m$

$+40 \quad +40$

$64a = 640m$ $\boxed{a = 10m/s^2}$

13.

~~ ~~ -80-

$\frac{1}{0.447} \cdot \frac{80-20}{1} = 134.2$

134-35=99

40-45	50
45-50	100
50	150
55	200
60	250
65	300
70	350
75	400
80	450
85	500
90	550
95	600

$\boxed{\$600 \text{ ticket}}$