

Cornell Notes

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Topic Physics

Class/Subject Fragoso

New Formulas

$$V_f = V_i + at$$

$$V_f^2 = V_i^2 + 2a\Delta x$$

$$\Delta x = \frac{1}{2}(V_f + V_i)\Delta t$$

$$\Delta x = V_i\Delta t + \frac{1}{2}at^2$$

11:30

pg 58 #4

a) $V_i = 120 \text{ km/h} = 33.333 \text{ m/s}$

$a = ? -2.3 \text{ m/s}^2$

$\Delta x = 240 \text{ m}$

$V_f = 0 \text{ m/s}$ (maximum altitude)

$$V_f^2 = V_i^2 + 2a\Delta x$$

need to match units: $\frac{120 \text{ km}}{1 \text{ hr}} \cdot \frac{1000 \text{ m}}{1 \text{ km}} \cdot \frac{1 \text{ hr}}{3600 \text{ s}}$

$= 33.333 \text{ m/s}$

$$0 = (33.333 \text{ m/s})^2 + 2a(240 \text{ m})$$

$$\frac{-(33.333 \text{ m/s})^2}{480 \text{ m}} = \frac{480 \text{ m}(a)}{480}$$

$a = -2.3 \text{ m/s}^2$

b) $14 \text{ s} = \Delta t$ \nearrow either one is correct
 $15 \text{ s} = \Delta t$

pg 58 #5
11:50

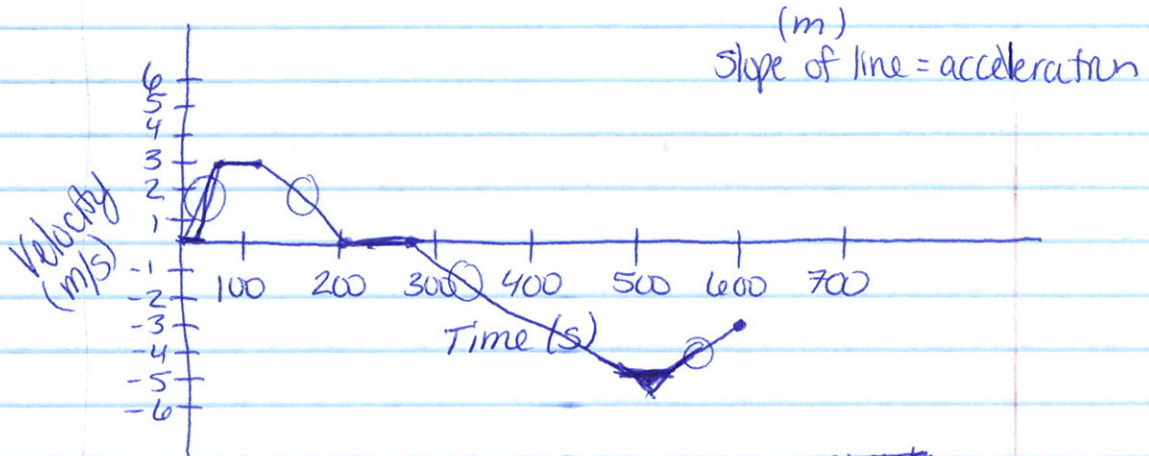
a) $d = 2.3 \text{ m/s}$
 $\Delta x = 55 \text{ m}$

b) $V_f = V_i + a(\Delta t)$
 $11 \text{ m/s} = 2.3 \text{ m/s}^2 \Delta t$
 $= 6.95$
 $\Delta t = 7.0 \text{ m/s}$

$V_f^2 = (2)(126.5)$
 $= 253$
 $= 15.91 \text{ m/s}$

Speed $\approx 16 \text{ m/s}$

pg 59 #5



- a) 0-35, 50-100, 200-275, ~~500-550~~
b) (circled)
c) $a_{avg} = \frac{\Delta v}{\Delta t}$

acceleration measures the rate of change in velocity

12:05 Problem on

separate page
p 71 # 25 a, c

do problem on your own
on a separate page

