

\triangleright 75 mph 10 min = t
 45 mph 2 min t = 12 min
 0 mph $V_f = V_i + at$

a) $75 \frac{\text{miles}}{\text{hr}} \times \frac{1 \text{ hr}}{3600 \text{ sec}} \times \frac{1609 \text{ m}}{1 \text{ mile}} = \text{m/s}$
 33.5 m/s

b) 0 m/s $45 \text{ mph} \times \frac{1 \text{ hr}}{3600} \times \frac{1609}{1}$

c) $20.1 \text{ m/s} = 33.5 \text{ m/s} + a(120 \text{ sec})$
 $-13.4 \text{ m/s} = a(120)$
 $a = -0.11 \text{ m/s}^2$

$(20.1 \text{ m/s}) = (33.5)^2 + 2(-.11)(\Delta x)$
 $\Delta x = (33.5 \text{ m/s})(120 \text{ sec}) + \frac{1}{2}(-.11)(120)^2$

$\frac{-13.4 \text{ m/s}}{s}$

Aug 17-9:26 AM

d) $V_i = 75 \text{ mph} \quad 33 \text{ m/s}$
 $V_f = 20.1 \text{ m/s}$
 $t = 10 \text{ min}$
 $t_2 = 2 \text{ min}$

$\Delta x = 33 \text{ m/s}(600 \text{ sec})$

Aug 18-9:58 AM

$$\begin{array}{c} 24 \text{ min} \quad 40 \text{ km/hr} \\ \xrightarrow{\hspace{10em}} \\ \xleftarrow{\hspace{10em}} \\ 24 \text{ min} \\ | \\ 10 \text{ min} \end{array}$$

$$40 = \frac{\Delta x}{0.4} = \underline{16 \text{ km}}$$

$$\underline{16 \text{ km}}$$

$$0 \text{ km}$$

$$\underline{40 \text{ km}}$$

$$\underline{72 \text{ km}}$$

$$60 \text{ min} \quad 40 \text{ km} \quad 40 \text{ km/hr}$$

$$118 \text{ min} \quad \frac{72 \text{ km}}{118 \text{ min}} = 37 \text{ km/hr}$$

$$1.97 \text{ hr}$$

$$\frac{40 \text{ km}}{1.97 \text{ hr}} = 20 \text{ km/hr}$$

Aug 24-8:32 AM

$$12 \text{ m} = 2.7t + \frac{1}{2}(.5 \text{ m/s}^2)t^2$$

$$\frac{1}{2}(.5)t^2 + 2.7t - 12 = 0$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-2.7 \pm \sqrt{2.7^2 - 4(0.25)(-12)}}{2(0.25)}$$

$$\frac{-2.7 \pm \sqrt{7.29 + 12}}{0.5}$$

$$\frac{-2.7 \pm \sqrt{19.29}}{0.5}$$

$$\frac{-2.7 \pm 4.39}{0.5}$$

$$\frac{-2.7 + 4.39}{0.5} = 3.38 \text{ sec}$$

$$\frac{-2.7 - 4.39}{0.5} = -14.18 \text{ sec}$$

Aug 25-11:15 AM

#2) $85 \text{ m/s} = v_i$ 8.2 sec
 $124 \text{ m/s} = v_f$

$$124 \text{ m/s} = 85 \text{ m/s} + a(8.2 \text{ sec})$$

$$a = 4.76 \text{ m/s}^2$$

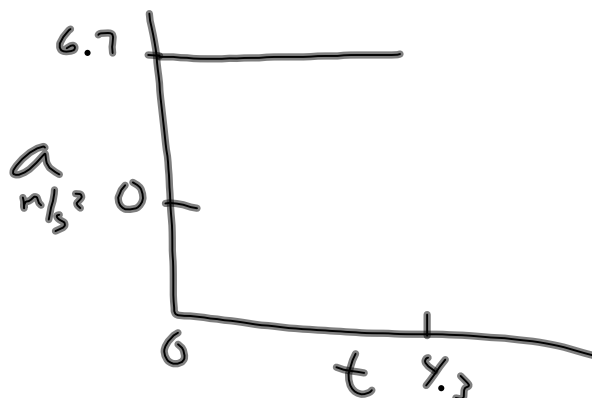
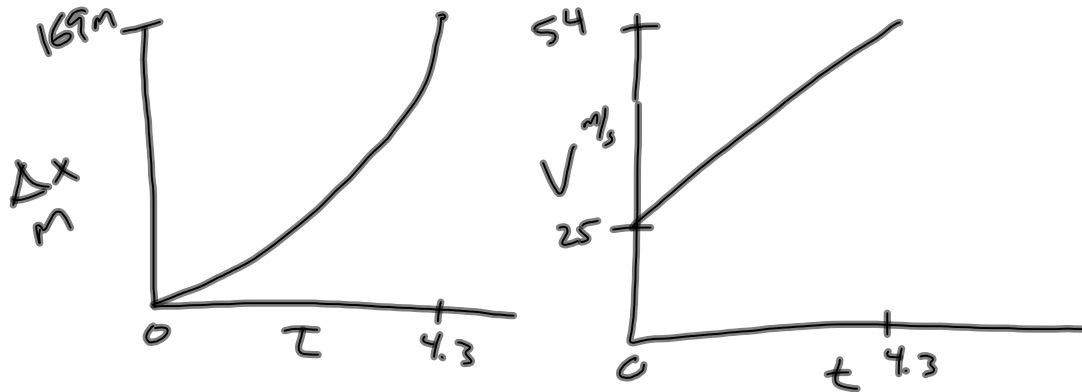
#3) $v_i = 25 \text{ m/s}$ $4.3 \text{ sec} = t$
 $v_f = 54 \text{ m/s}$ Δx

$$54 \text{ m/s} = 25 \text{ m/s} + a(4.3 \text{ sec}) = 6.7 \text{ m/s}^2$$

$$\Delta x = 25(4.3 \text{ sec}) + \frac{1}{2}(6.7 \text{ m/s}^2)(4.3 \text{ sec})^2$$

169.4m

Aug 18-9:47 AM

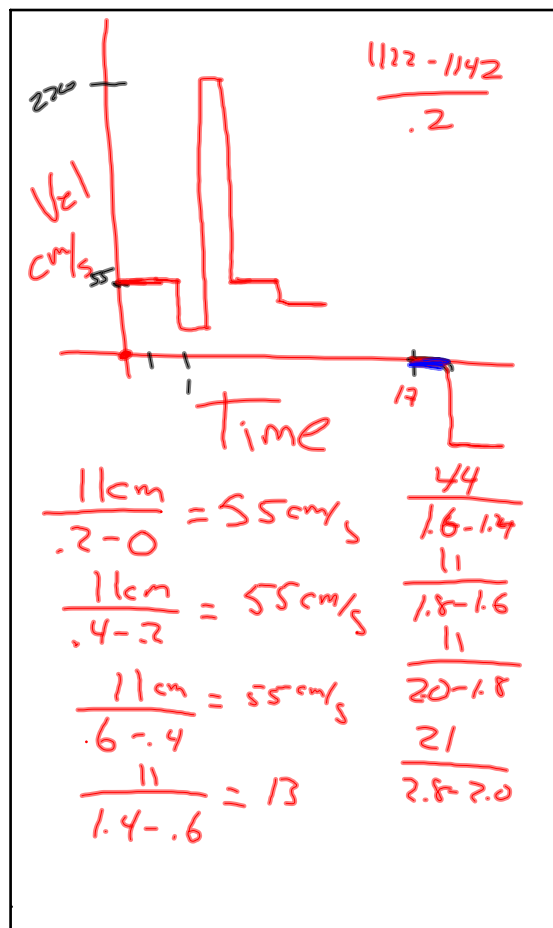


Aug 18-9:54 AM

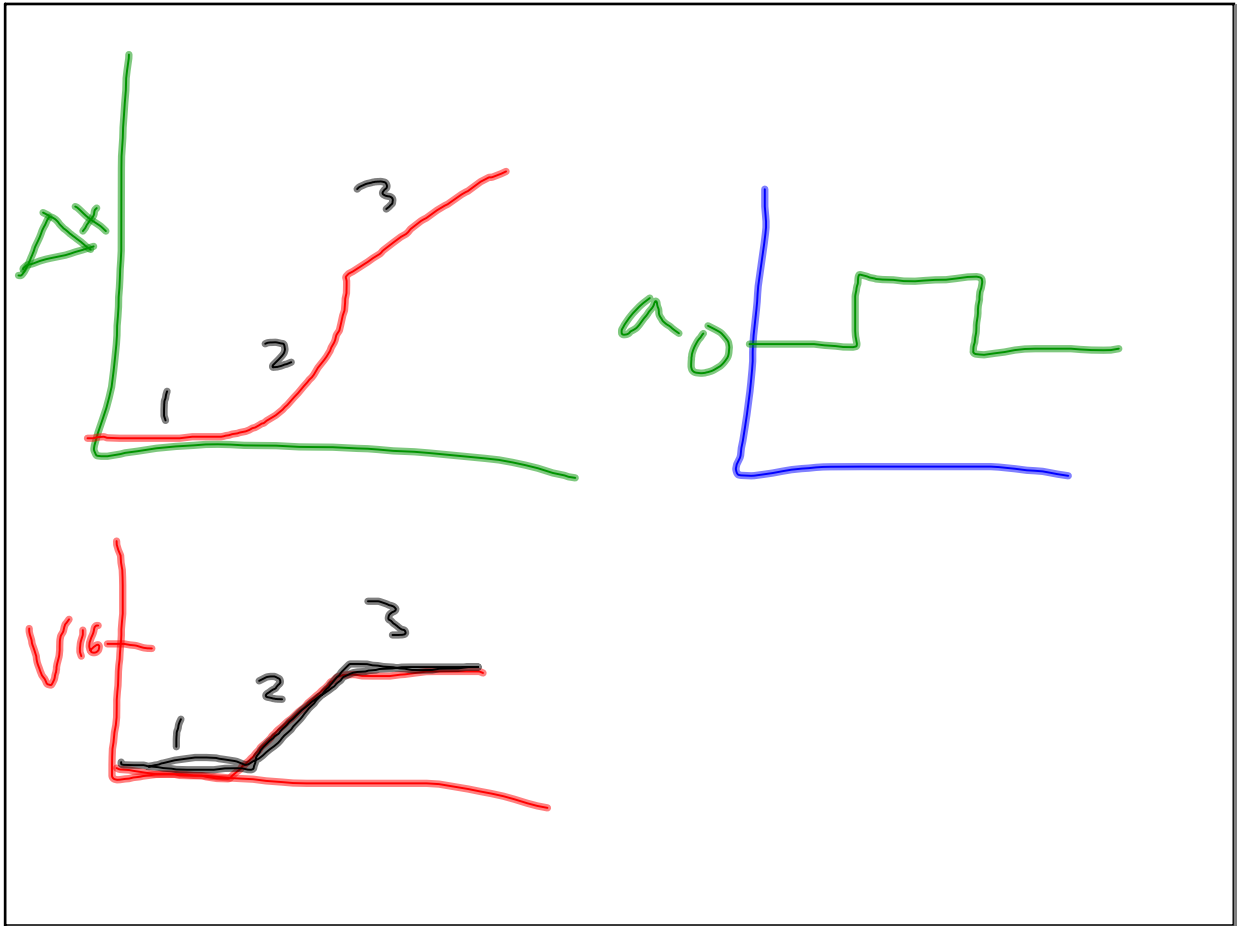
| Δt | $\Delta X(\text{cm})$ | | $\frac{33-22}{0.6-0.4} \frac{\Delta x}{\Delta t}$ |
|------------|-----------------------|-----|---|
| 0 | 0 | 3.0 | 55 cm/s |
| .2 | 11 | 3.2 | |
| .4 | 22 | 3.4 | |
| .6 | 33 | 4.2 | |
| .8 | 44 | 4.4 | |
| 1.0 | 55 | 4.6 | 32 cm / 1 sec |
| 1.2 | 66 | 4.8 | |
| 1.4 | 77 | 5.6 | |
| 1.6 | 88 | 5.8 | |
| 1.8 | 99 | 6.0 | |
| 2.0 | 110 | 6.2 | 32 cm/s |
| 2.2 | 121 | | |
| 2.4 | 132 | | |

0.45 sec

Aug 26-8:27 AM



Aug 26-8:43 AM



Aug 26-11:36 AM

$a = 4.5 \text{ m/s}^2$

e) $24.7 = 0 + 4.5(t)$
 (5.4 sec)

a) $v_i = 0 \text{ m/s}$
 b) $v_f = 0 + 2(4.5 \text{ m/s}^2)(45 \text{ m}) \quad 20.1 \text{ m/s}$
 c) $v_f = 0 + 2(4.5 \text{ m/s}^2)(65 \text{ m}) \quad 24.7 \text{ m/s}$
 d) $0 = 24.7^2 + 2(a)(0.25 \text{ m}) \quad 1178 \text{ m/s}^2$

Aug 23-8:55 AM

WS #6

$$V_f = 32 \text{ m/s} + (-1.8 \text{ m/s}^2)(5 \text{ sec})$$

$$V_f = 23 \text{ m/s}$$

$V_i = 32 \text{ m/s}$
 $t = 10 \text{ sec}$
 $a = -1.8 \text{ m/s}^2$
 $t_2 = 5 \text{ sec}$
 $V_f = ?$
 $\Delta x = 200 \text{ m}$

$$\Delta x = (32 \text{ m/s})(5 \text{ sec}) + \frac{1}{2}(-1.8)(5)^2$$

$$\Delta x = 137 \text{ m}$$

Aug 30-9:18 AM

WS #7

$$\Delta x = 0 + \frac{1}{2}(4.6)(6.3)^2$$

$$V_f = 0 + 4.6(6.3)$$

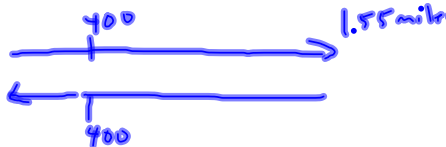
$$\Delta x = 29 \text{ m/s}(7.9 \text{ sec})$$

$V_i = 0$
 $a = 4.6 \text{ m/s}^2$
 $t_1 = 6.3 \text{ sec}$
 $V_2 = 29 \text{ m/s}$
 $t_2 = 7.9 \text{ sec}$
 $a_2 = -2.5 \text{ m/s}^2$
 $V_3 = 17 \text{ m/s}$
 $\Delta x_{\text{TOT}} = 430 \text{ m}$

$$(17 \text{ m/s})^2 = (29 \text{ m/s})^2 + 2(-2.5)(\Delta x)$$

Aug 30-9:24 AM

WS #11



$$V = \frac{400m}{80sec} = 5 m/s$$

$$\frac{2091m}{435sec} = 4.8 m/s$$

$$4.8 m/s = \frac{2091m}{t}$$

$$\frac{2491m}{515sec} = 4.8 m/s$$

$$\frac{4982m}{1386sec} = 3.6 m/s$$

$$V_1 = 0 m/s$$

$$\Delta x_1 = 400m$$

$$t_1 = 80sec$$

$$V_2 = 5 m/s$$

$$\Delta x_2 = 1.3 miles (1609)$$

$$t_2 = 435sec$$

$$V_3 = 4.8 m/s$$

$$\Delta x_3 = 1.3 miles (1609)$$

$$t_3 = 435sec$$

$$t_4 = 360sec$$

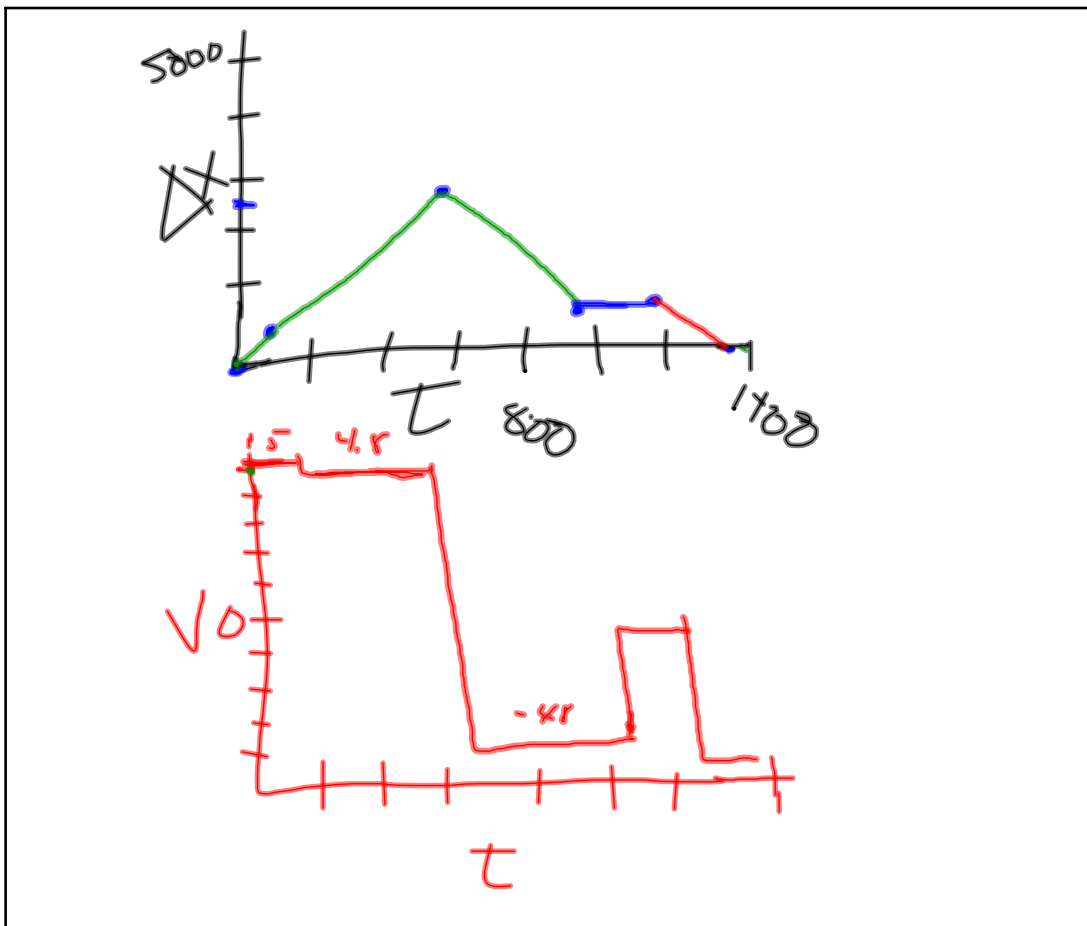
$$\Delta x_4 = 0m$$

$$\Delta x_5 = 100m$$

$$t_5 = 26sec$$

$$V_5 = -3L$$

Aug 30-9:31 AM



Aug 30-9:42 AM

^{13s}
 d) $\Delta x_2 = 0 + \frac{1}{2}(8)(2)^2$
 $\Delta x_2 = 16(2)$
 $\Delta x_2 = 48m$
 Δx

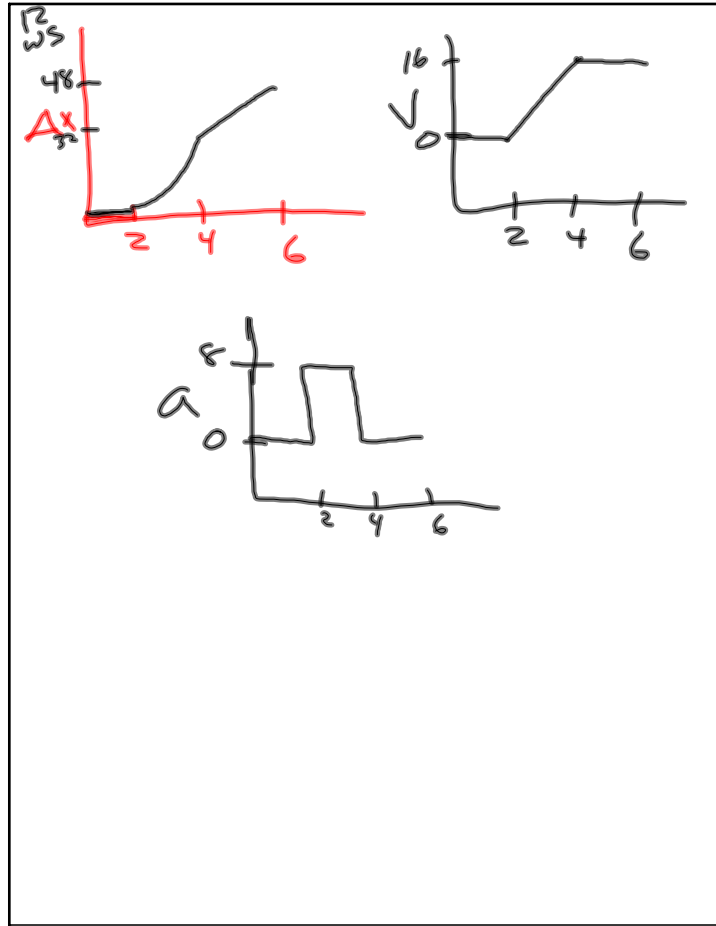
Aug 26-9:01 AM

^{12 vs}
 a) $V_f = V_i + at$
 $13.8 m/s$

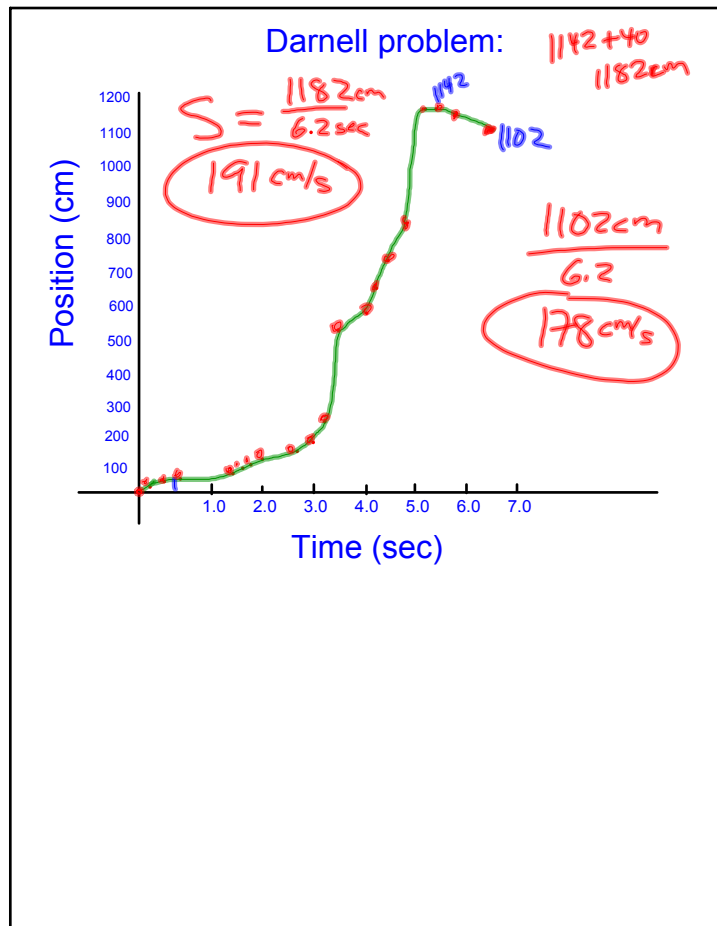
b) $V_f = V_i + at$
 $16 m/s$

c) $\Delta x = V_i t + \frac{1}{2} at^2$
 $\Delta x_1 = 0 + \frac{1}{2}(4.6)(3^2)$ 1st 3sec 20.7m
 $\Delta x_2 = 13.8 m/s(3)$ 2nd 3sec 41.4m
 $\Delta x_{Tot} = 62.1m$

Aug 26-8:43 AM



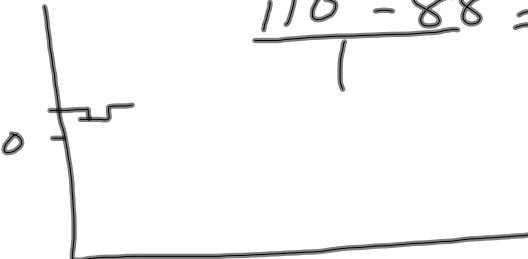
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Aug 26-8:03 AM

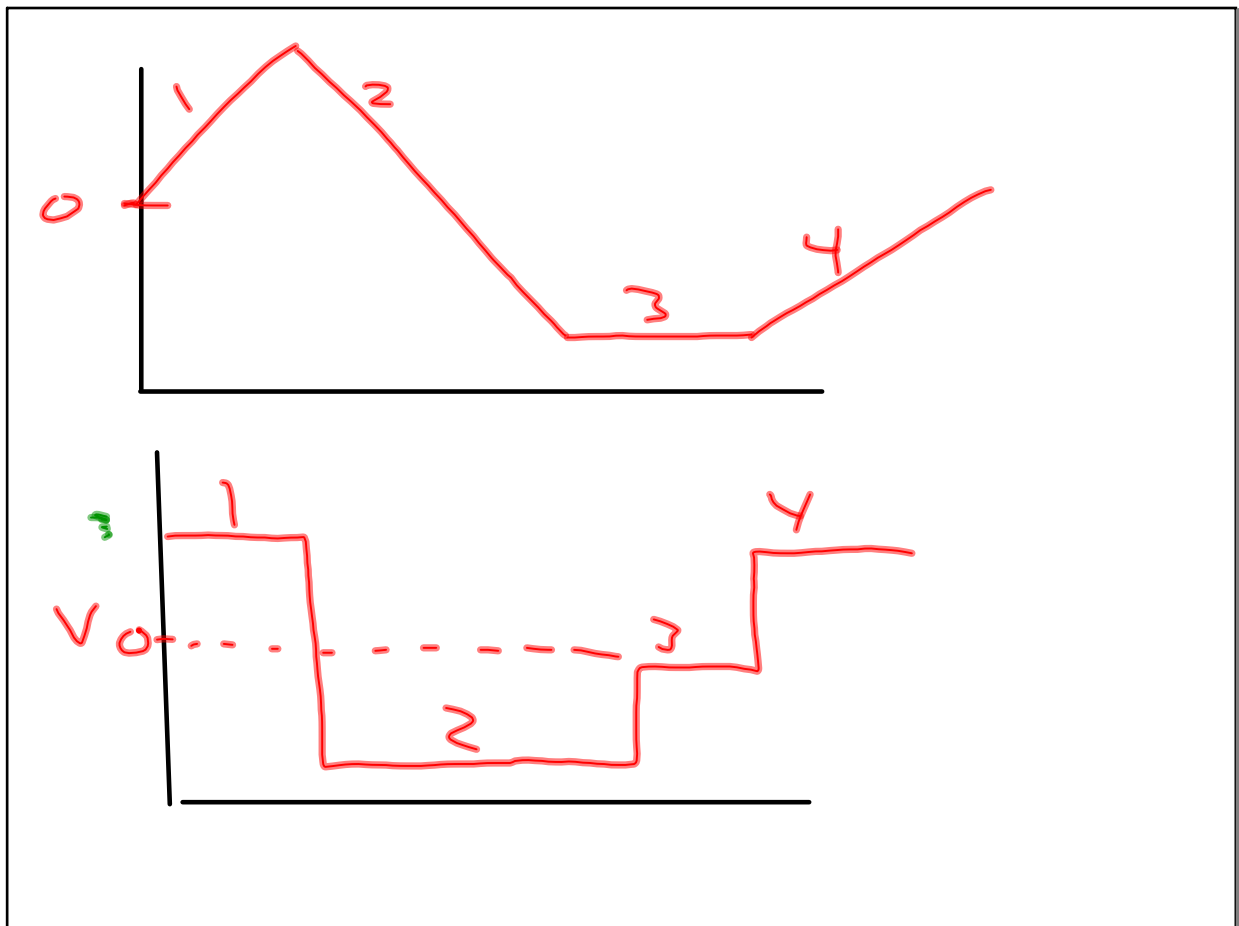
$$V_2 = \frac{131 - 99}{1 \text{ sec}} = 32 \frac{\text{cm}}{\text{s}}$$

$$V_{4.4} = \frac{737 - 575}{0.2 \text{ sec}} = 810 \frac{\text{cm}}{\text{s}}$$

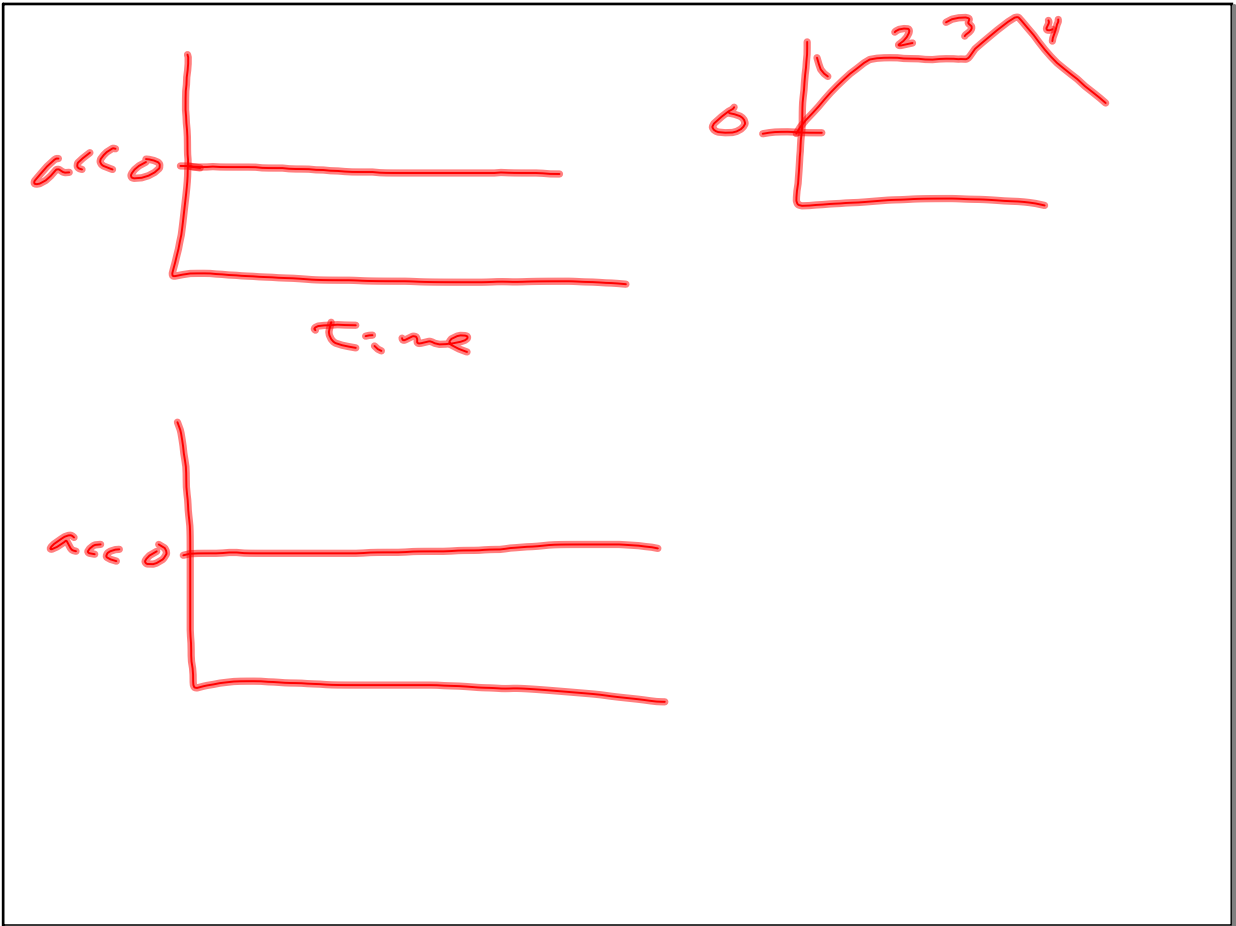
$$\frac{110 - 88}{1} = 22 \frac{\text{cm}}{\text{s}}$$


| | | |
|-----|-----|-----|
| 6 | 7 | 8 |
| 1.8 | 2.0 | 2.8 |

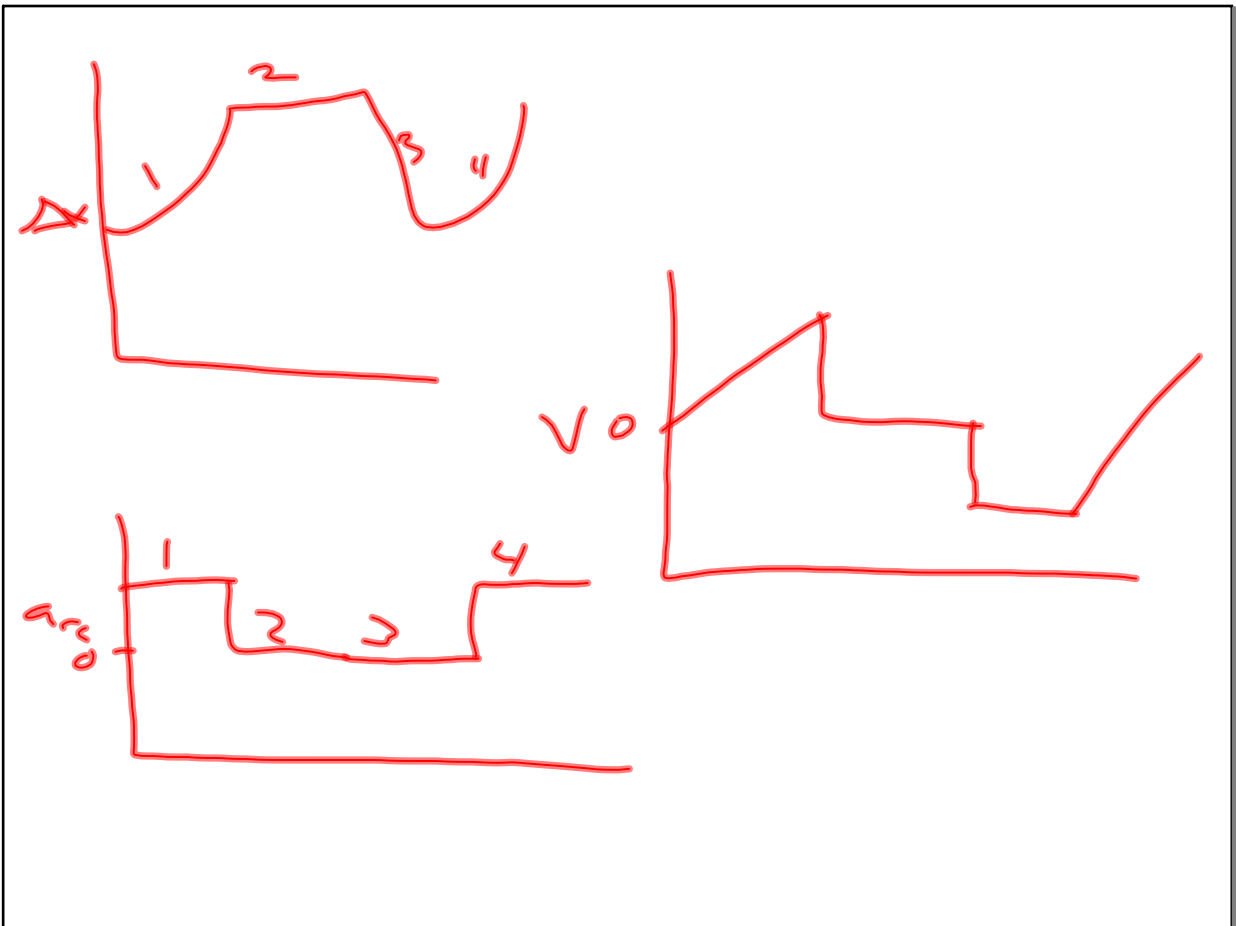
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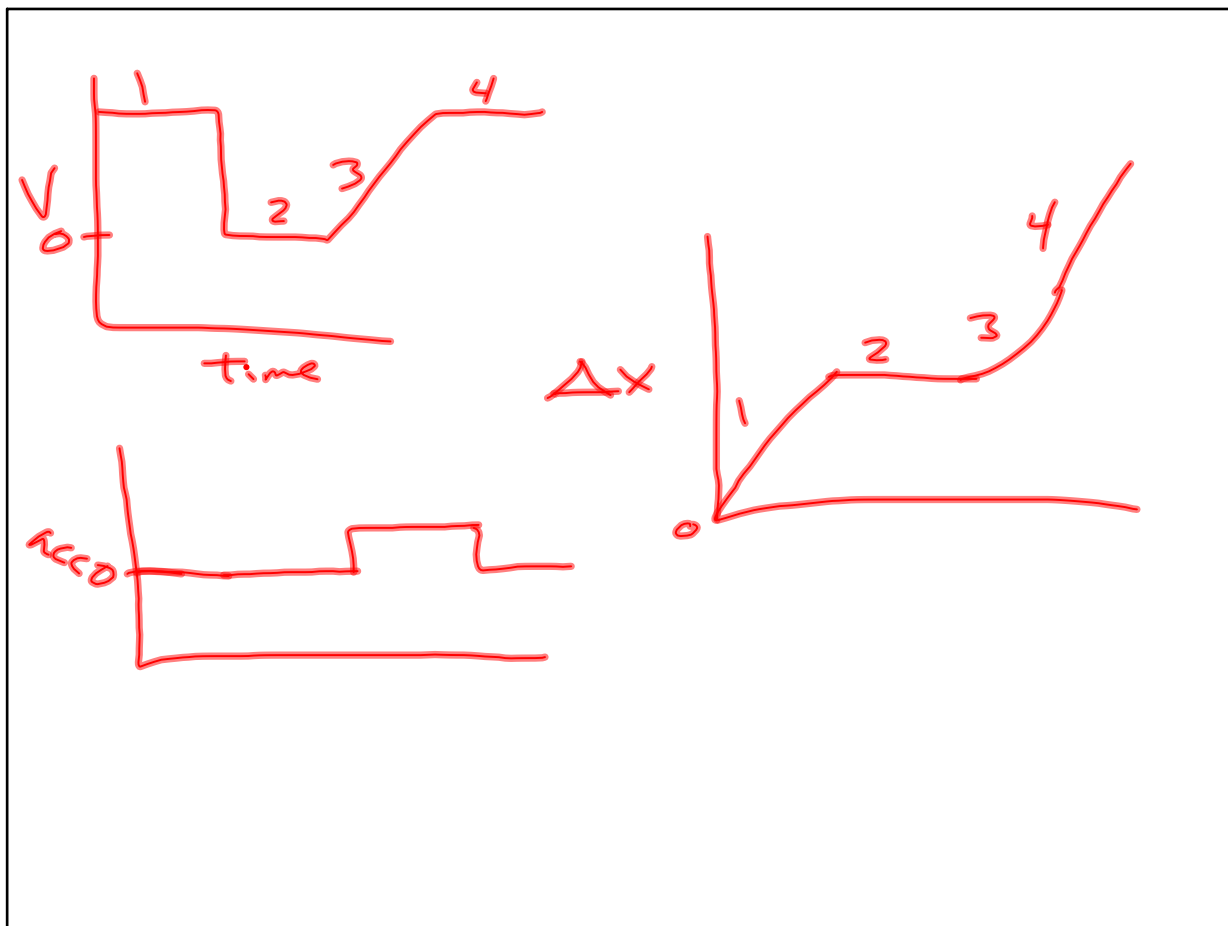
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Aug 29-2:18 PM



Aug 29-2:20 PM



Aug 29-2:23 PM

5)

$\Delta x = 40\text{m}$
 $a = 9.81\text{m/s}^2$
 $t = ?$
 $v_i = 0\text{m/s}$

$$40\text{m} = \frac{1}{2}(9.81)(t^2)$$

2.8sec

Aug 29-2:25 PM