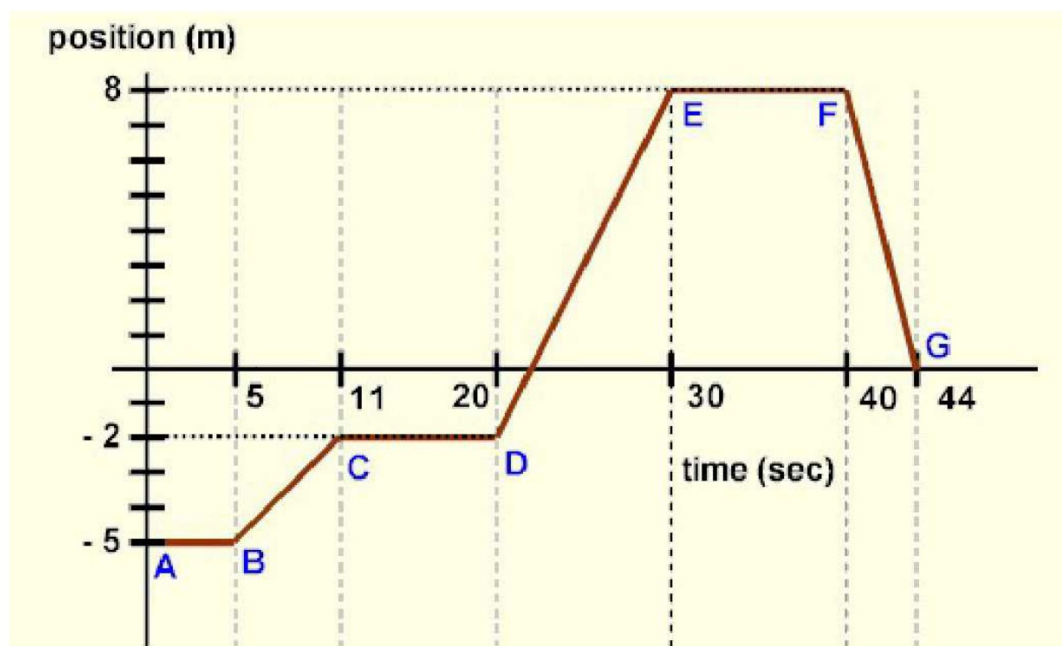


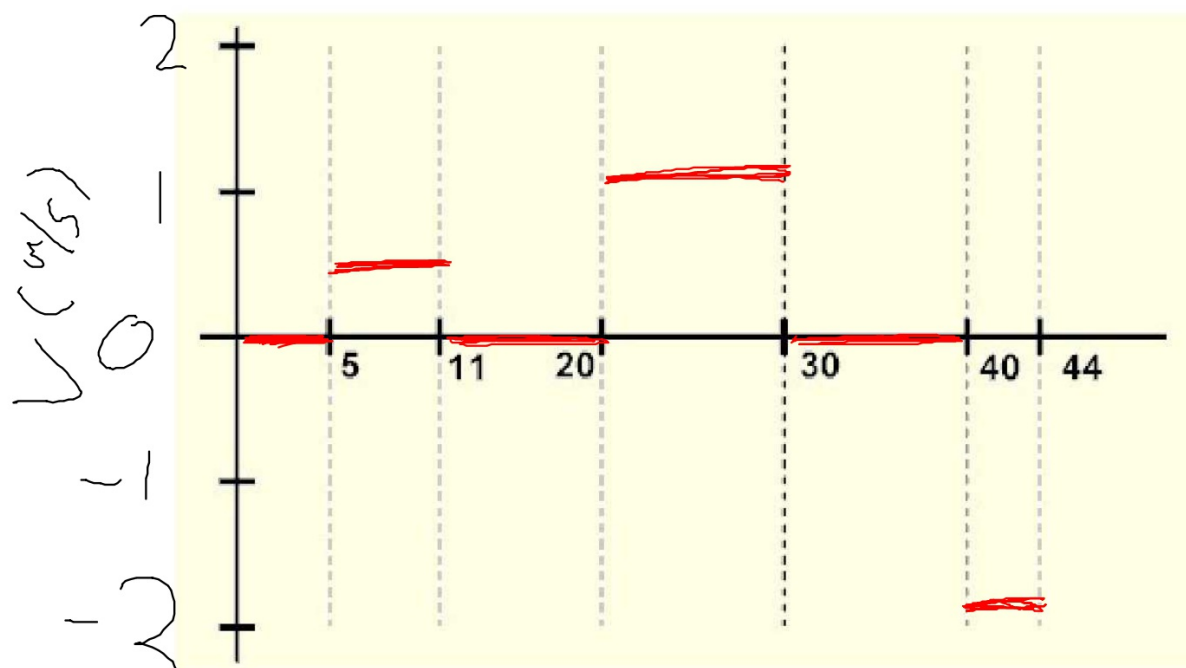
Do Now

Please take a review checklist

- Check the homework on either side of the room.
- Get a whiteboard and write down the problems that you would like to see.



Requested Problems



Velocity-time graph

Today

- First kinematic equation.
- Apply first kinematic equation to velocity-time graphs.
- Developing position-time graphs and velocity-graphs from one another.
- Finish Ted Talk: Science Denial.

Tonight:

Finish graphing table worksheet.

Look over review checklist.

Come in with questions about quiz material.

A drag racer starts from rest and accelerates uniformly at 15m/s^2 . The race takes 9 seconds. How fast is she going when she crosses the finish

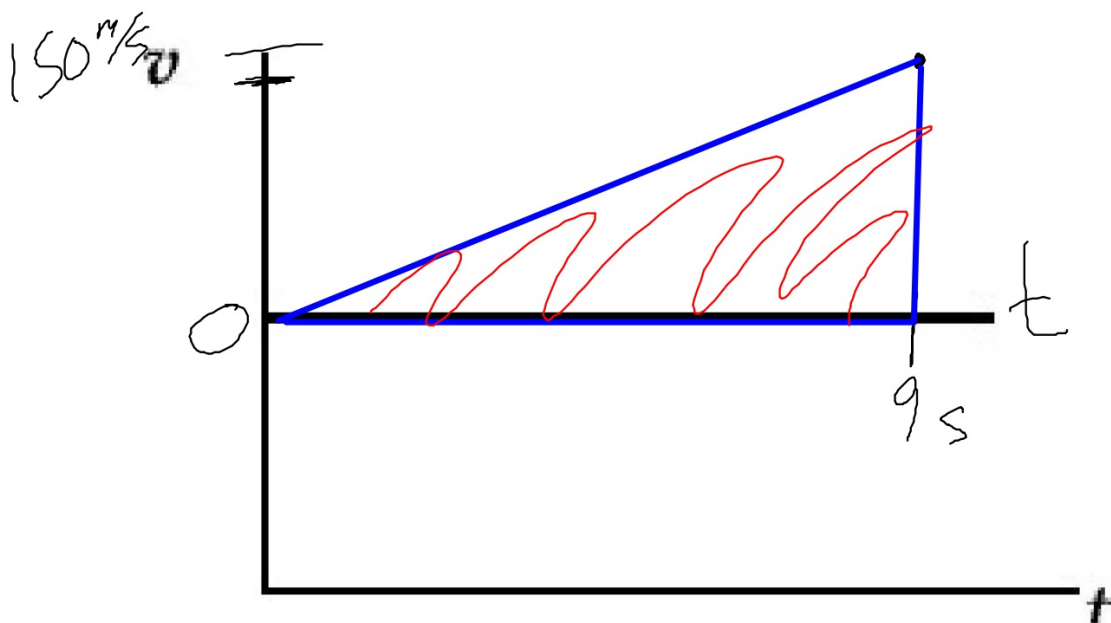
K: $a = 15\text{ m/s}^2$ line? $t = 9\text{ s}$, $V_i = 0\text{ m/s}$

U: $V_f = ?$

Eqn: $V_f = V_i + at$

$$V_f = \cancel{0\text{ m/s}} + 15\text{ m/s}^2 \cdot 9\text{ s}$$

$$V_f = 135\text{ m/s}$$



Velocity-time Graph

How far does the drag racer travel?

- How do you attain the displacement from a velocity time graph?

$$1/2 b \cdot h = \frac{1}{2} 9 \text{ s} \cdot 135 \frac{\text{m}}{\text{s}}$$

$$607.5 \text{ m}$$

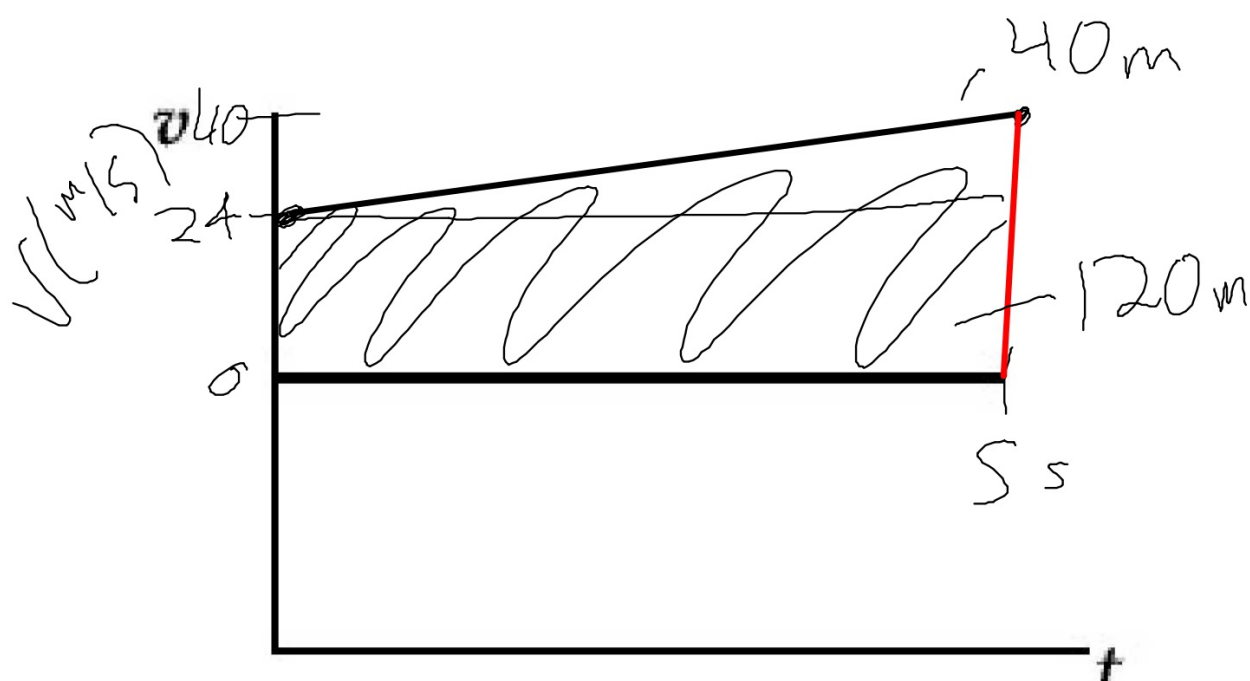
Evil Kinevil rides is doing a wheelie. The front wheel starts to come down and so he accelerates at 3.2m/s^2 to hold the wheelie. After 5 seconds he finishes the stunt at 40m/s . How fast was he going when he started the wheelie?

$$K: a = 3.2\text{m/s}^2 \quad t = 5\text{s} \quad V_f = 40\text{m/s}$$

$$U: V_i$$

$$\text{Eqn: } V_f = V_i + at \Rightarrow V_i = V_f - at$$

$$V_i = 40\text{m/s} - 3.2\text{m/s}^2 \cdot 5\text{s} = 24\text{m/s}$$



Velocity-time Graph

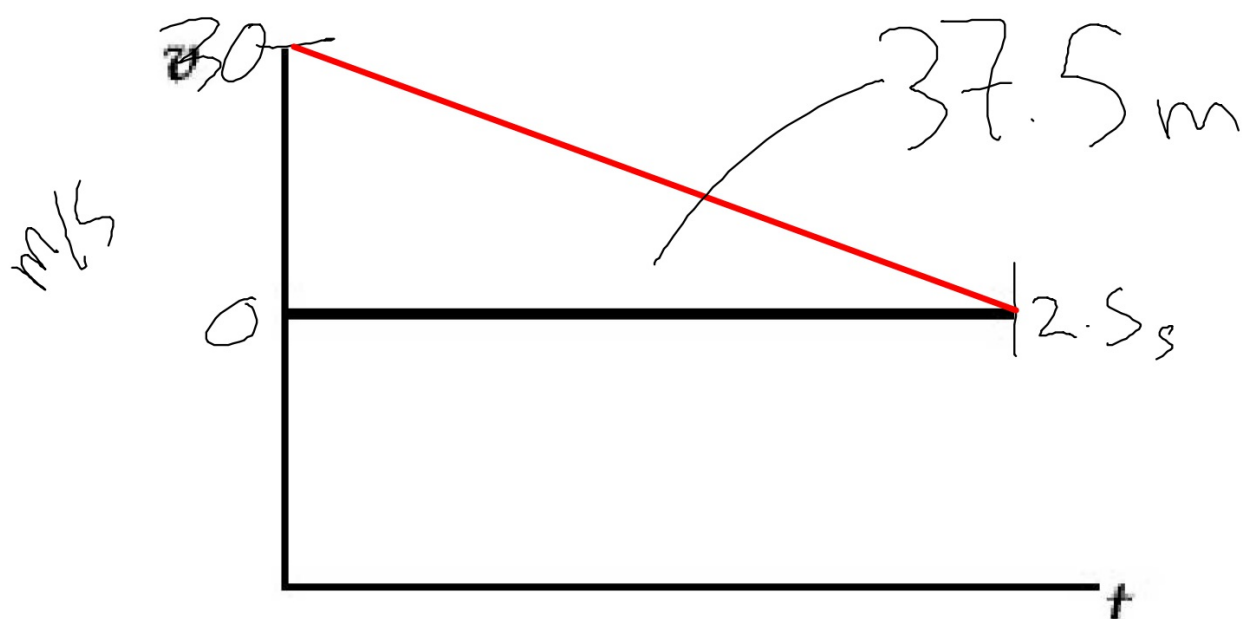
How far does Evil Kinevil travel?

160m

A truck is going 30m/s. It slams on the breaks and comes to a stop over 2.5 seconds. What is the acceleration of the truck?

$$\begin{aligned} \text{K: } V_i &= 30 \text{ m/s} \\ t &= 2.5 \text{ s} \\ V_f &= 0 \text{ m/s} \\ a &= -12 \text{ m/s}^2 \end{aligned}$$

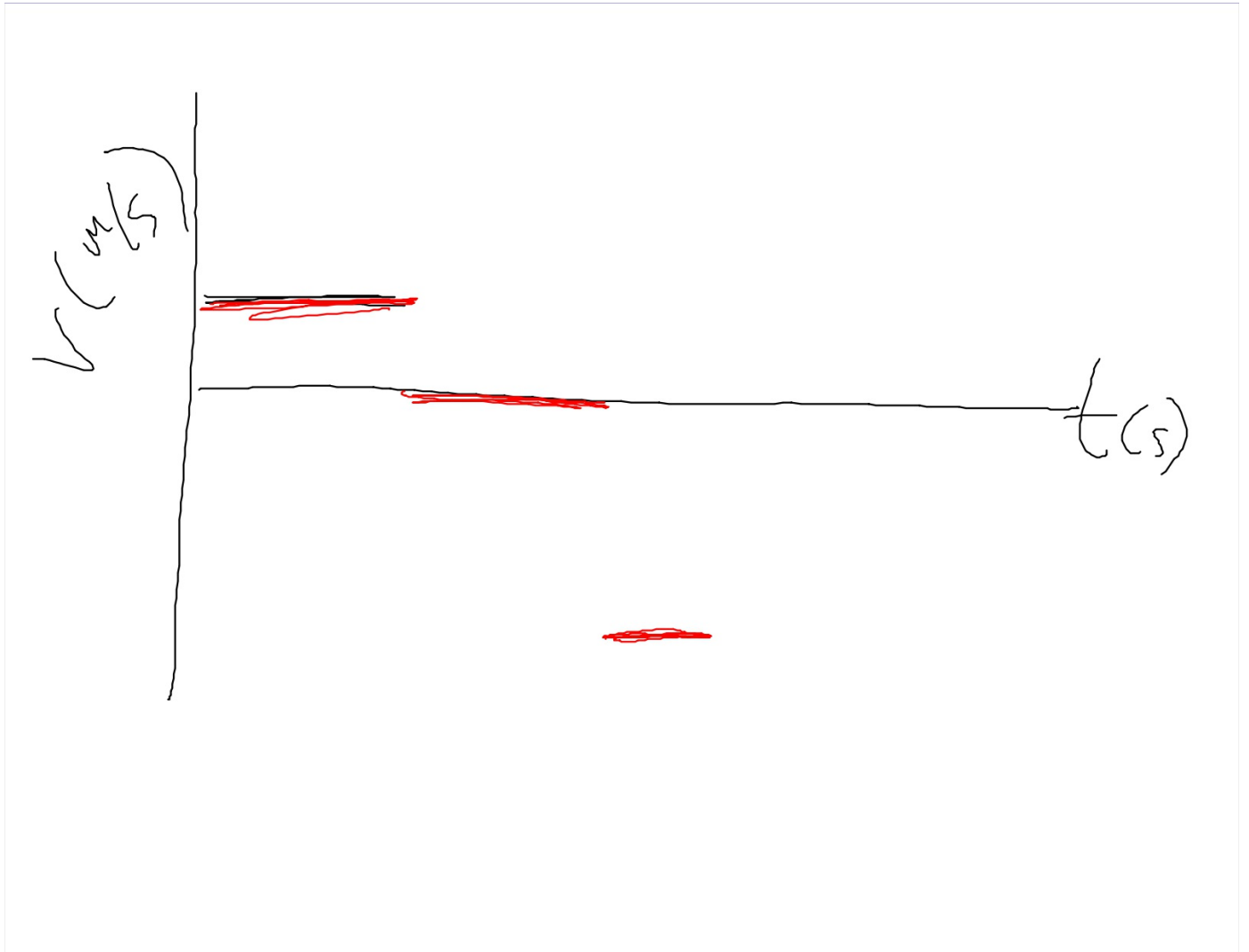




Velocity-time Graph

Worksheet

- You are given either a p-t graph, a v-t graph, or a description of motion.
- Use one to solve for the others.
- Mark the appropriate units on graphs when applicable.





Science Denial 7:00