

# Do Now

- Take out your notebook, calculator and a pencil and solve the following in your notes using a  $V_f = V_i + at$  and a V-t graph.
- A car is traveling at 17m/s. It accelerates at  $2.5\text{m/s}^2$  for 5 seconds. How far does the car travel during that time?

# Today

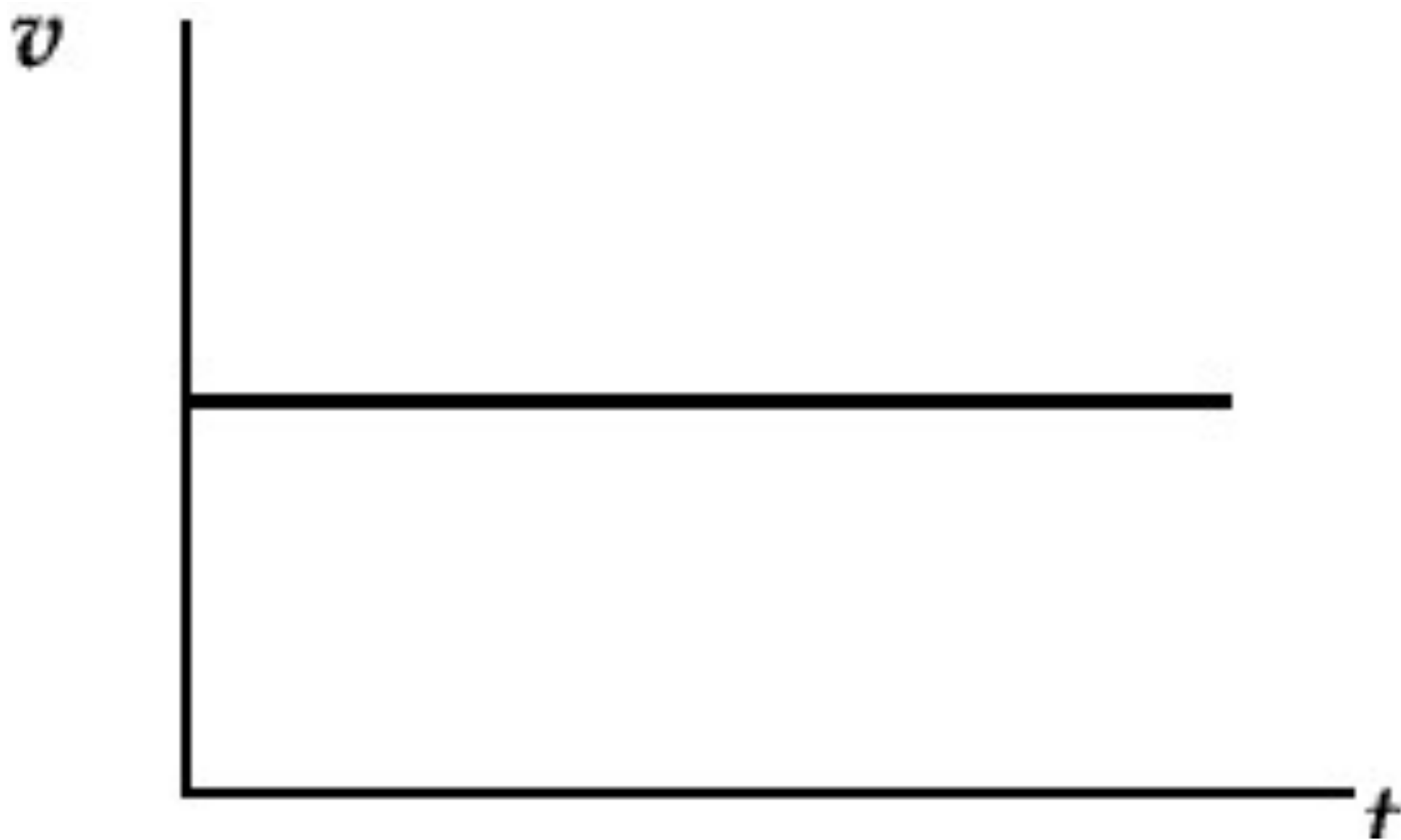
- 2nd and 3rd kinematics equations.
- Review of Friday's Quiz.

# Tonight

- Get onto Quest
- Look at 1-D kinematics problems.
- You should be able to do problems 1-9 tonight.

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# Velocity-time Graph

# For Each Problem

- 1) Draw a picture
- 2) write your knowns
- 3) write your unknowns
- 4) write the relevant equation
- 5) isolate the unknown variable algebraically, and only then
- 6) plug in numbers.

- $\Delta x = V_i t + (1/2)at^2$

- The second kinematics equation.

- $\Delta x$ : displacement

- $V_i$ : initial velocity

- $a$ : acceleration       $t$ : time



LeSean McCoy is running at  $4\text{m/s}$  when he catches a pass. He then accelerates at  $1.2\text{m/s}^2$  for 5 seconds and then scores a touchdown. How far did he run with the ball? Answer in meters.

A dog gets away from its owner. It runs 35m in 14 seconds. Assuming that it was sitting when it started running, what was the dog's acceleration?

# Quiz I

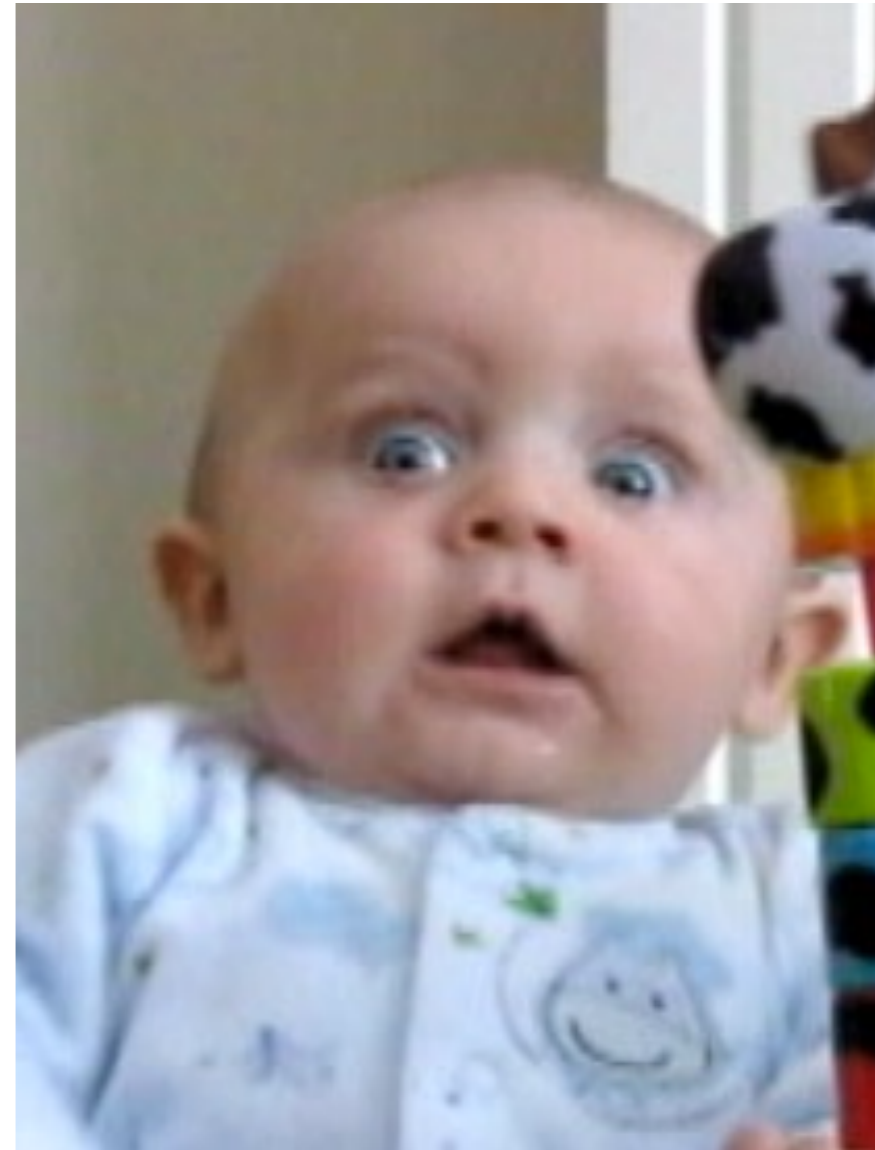
- The quiz is out of 72.
- The average was an 86%.
- Check IC to see that the grade on the page is the grade on the quiz.
- I will take questions in a moment.

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

- The final kinematic equation.
- You do not need time for this formula.
- Units are the same as the other kinematic equations.

# Too Many Formulas!

- Don't panic!
- You can only use a formula if you have **only** one unknown.
- If you have more than one unknown, you can't use it.



A speed boat is going  $15\text{m/s}$ . It accelerates uniformly at  $3\text{m/s}^2$  over the span of  $80\text{m}$ .  
What is the boat's final velocity?

One direction is walking down the street at  $0.8\text{m/s}$  after a long concert. A flock of screaming fans sees them and starts chasing them. The boys escape by accelerating to  $4.5\text{m/s}$  while running for a taxi  $20\text{m}$  away, how long does it take them to get there?

# Quest Assessment

- Go to my school wires page.
- Click in quest homework under important links.
- Register for a student EID.
- Request enrollment in this class.
  - Search 6411168