

# Constant Rate of Change

# HW Review?

- What issue were the students (and teacher) struggling with?

# A quick task

- 1) I'm trying to save up for a big screen TV. I make the decision to have \$55 of each monthly paycheck go towards the TV savings fund (previously my rainy day fund). After 4 paychecks, I have a total of \$540.
  - a) How much money did I have in my savings account when I first decided to make it a TV fund?
  - b) How much money do I have in my savings account after 8 months?
  - c) Sketch a graph that shows how much money I have saved at each moment in time during the first 8 months after I make the change.

# A quick task

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  - a) How much money did I have in my savings account when I first decided to make it a TV fund?
  - b) How much money do I have in my savings account after 8 months?
  - c) Sketch a graph that shows how much money I have saved at each moment in time during the first 8 months after I make the change. Be sure to think about how much money I have saved *between* paychecks.

# Student Answers

$$\begin{array}{r} 395 \\ - 320 \\ \hline 75 \end{array}$$

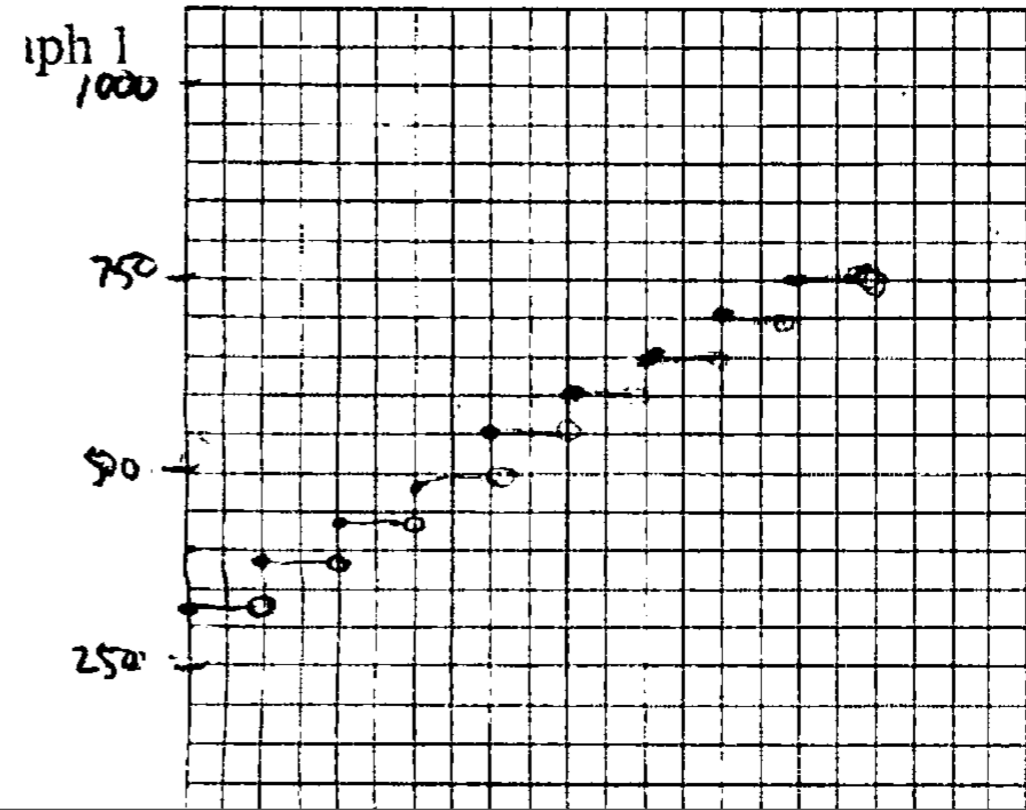
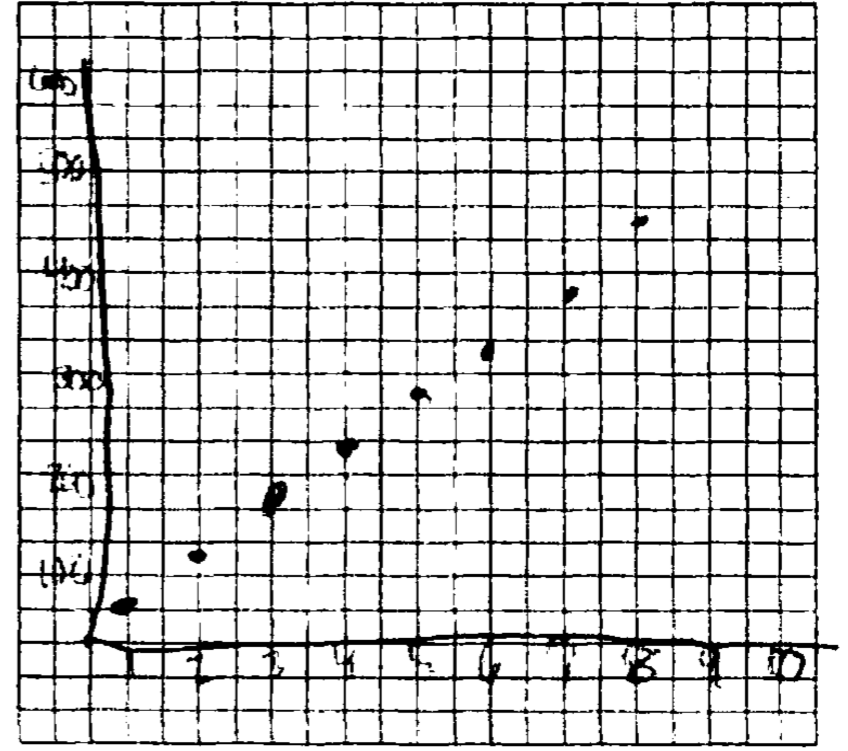
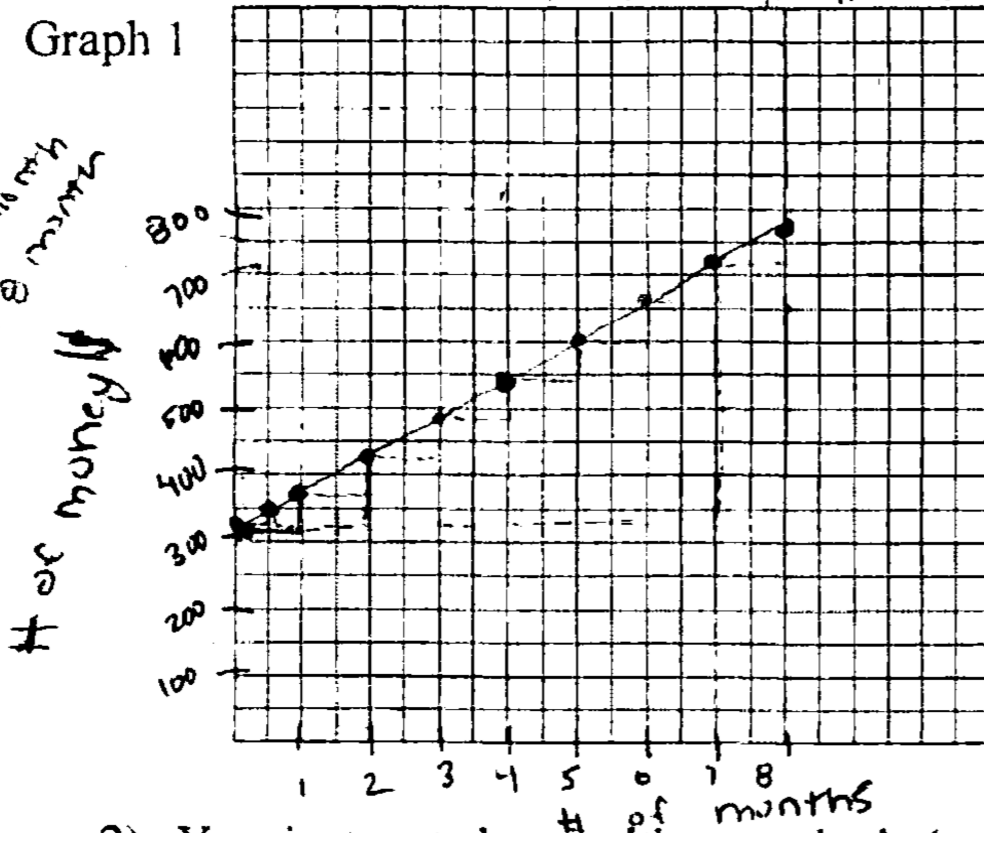
$$\begin{array}{r} 320 \\ + 125 \\ \hline 445 \end{array}$$

$$\begin{array}{r} 440 \\ + 320 \\ \hline 760 \end{array}$$

$$\begin{array}{r} 55 \\ + 8 \\ \hline 63 \end{array}$$

395  
 320  
 125 = 1 month  
 160 = 8 months  
 440  
 320  
 760  
 55  
 8  
 63

Graph 1



# Over 1 up m

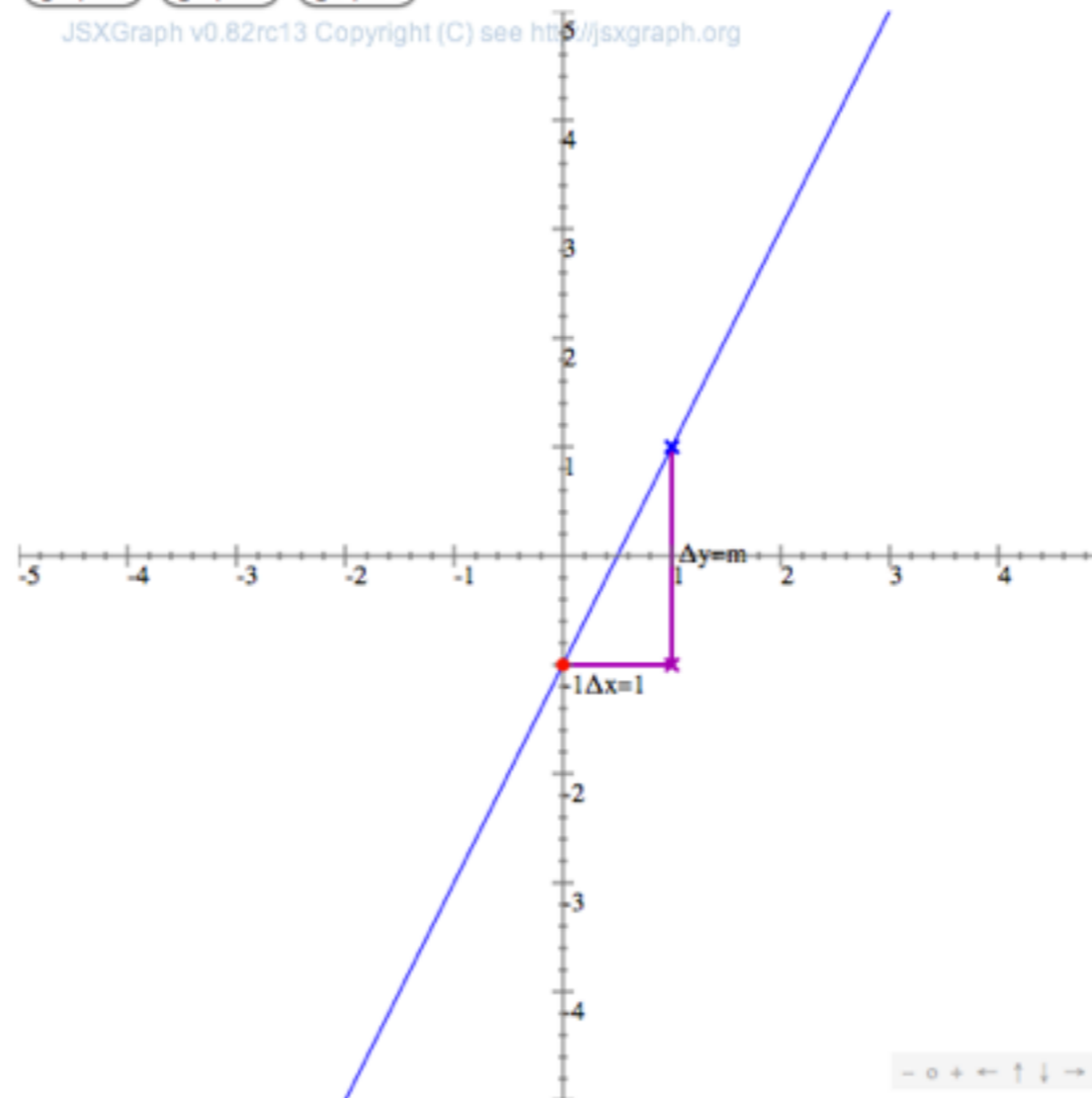
m=2

graph0

graph1

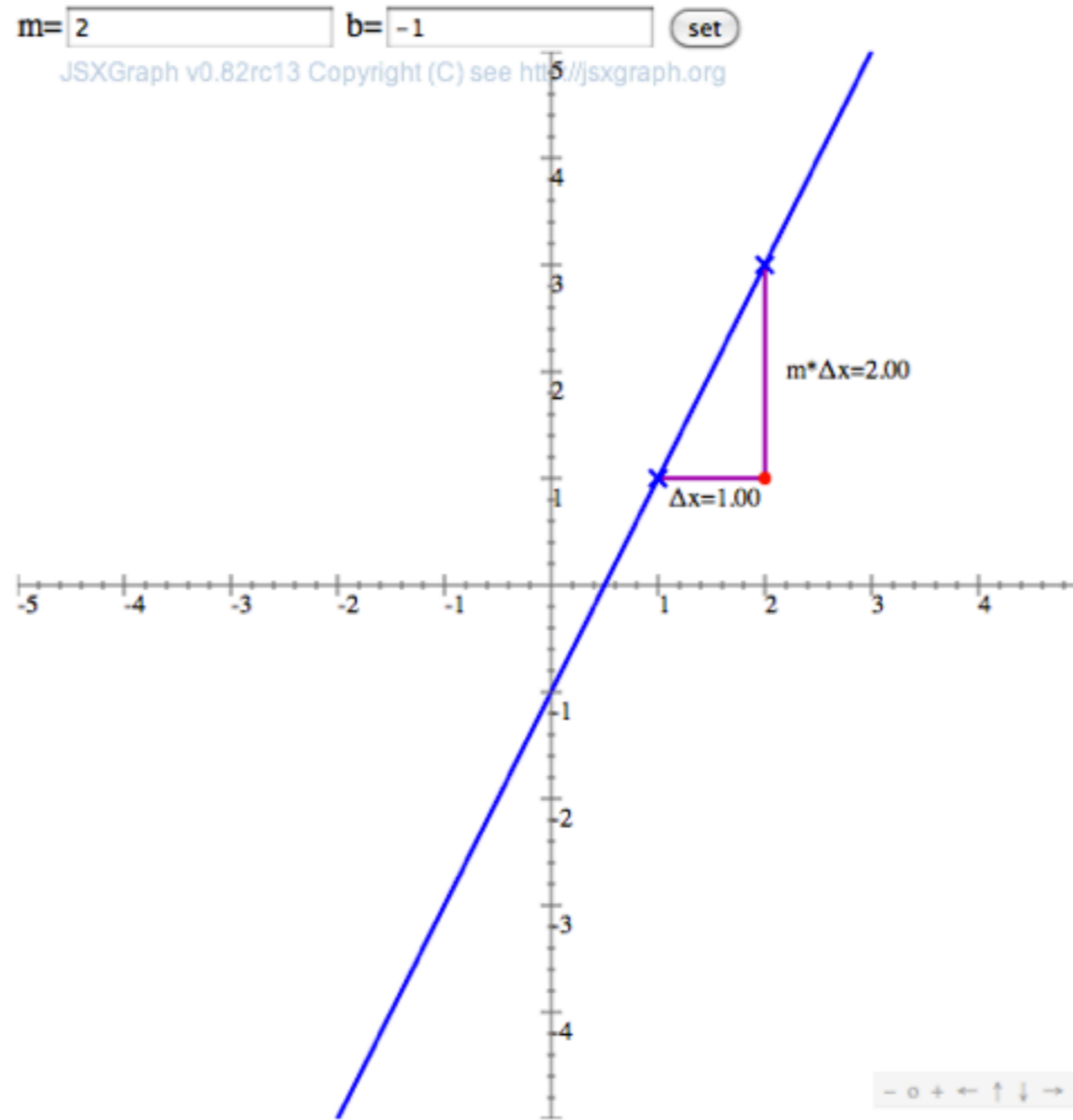
graph2

JSXGraph v0.82rc13 Copyright (C) see <https://jsxgraph.org>

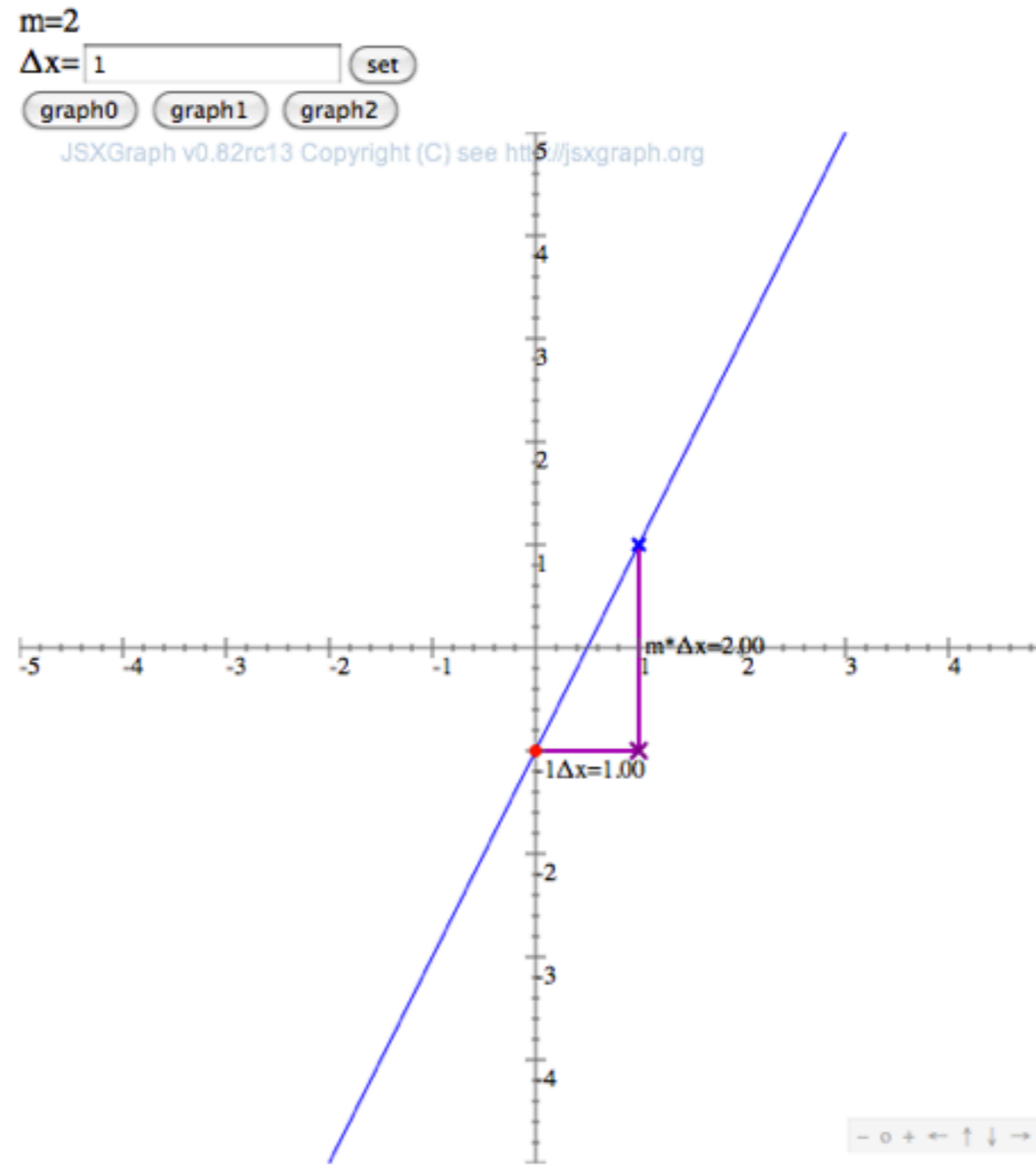


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# Slope

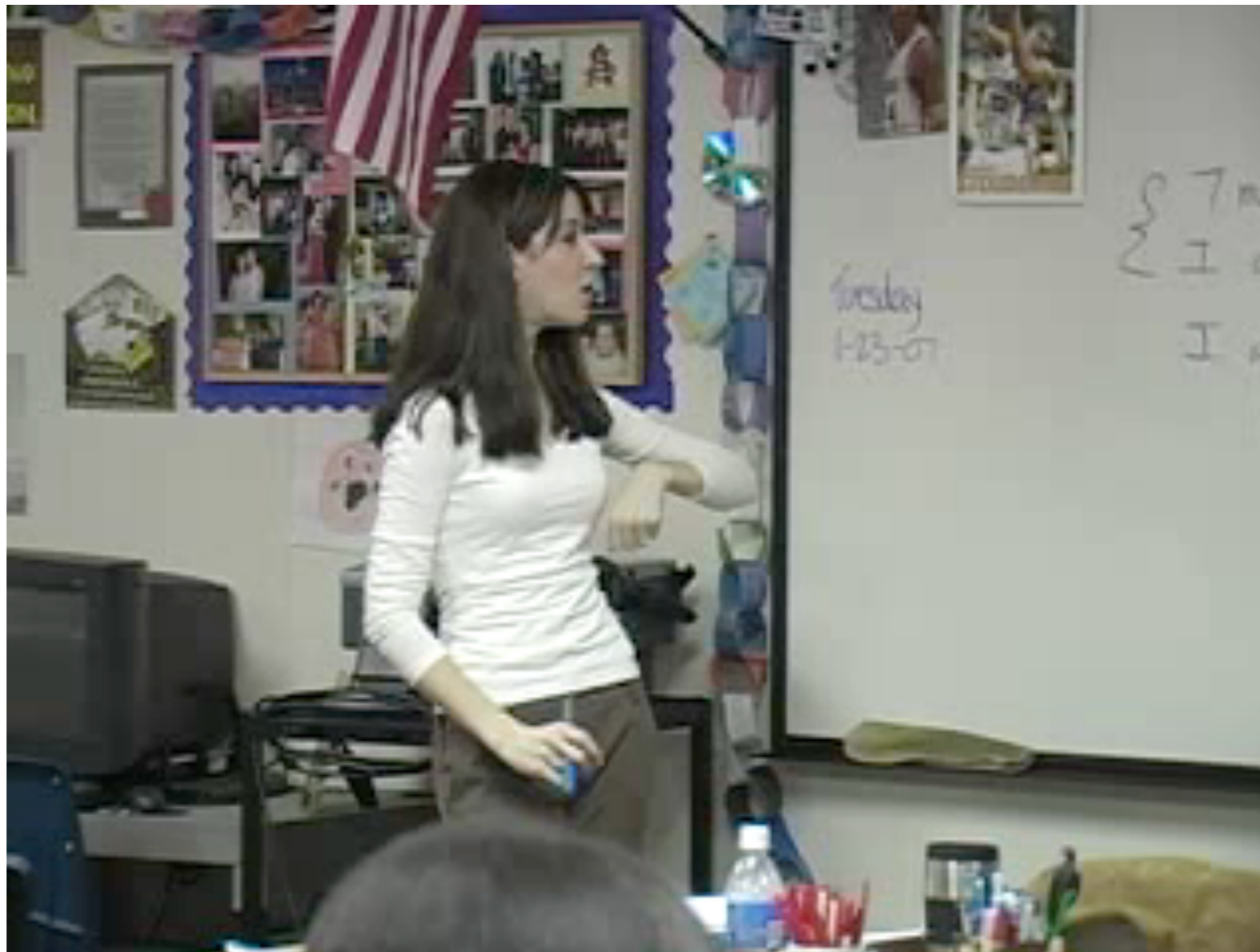


# Testing the new meaning of slope





- 7 minutes after I checked my watch, I'm 3.8 miles from home
- I'm walking at  $1/2$  mile per minute (away from home)
- How far from home was I when I checked my watch?



- 7 minutes after I checked my watch, I'm 3.8 miles from home
- I'm walking at  $1/2$  mile per minute (away from home)
- How far from home was I when I checked my watch?



- $j$  minutes after I checked my watch, I'm  $k$  miles from home
- I'm walking at  $h$  miles per minute (away from home)
- Write an expression for distance from home as a function of time.

