Clicker question #8

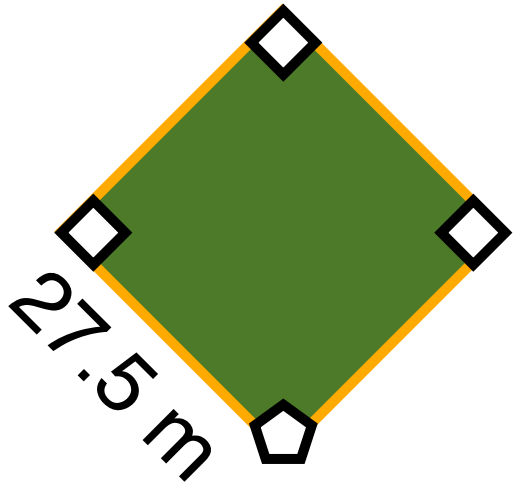
- The distance around a baseball diamond is 110 m. A runner runs the bases in 10 s. The runner's average velocity is...

A 1 m/s, counterclockwise

B 11 m/s, counterclockwise

C 11 m/s, clockwise

D 0 m/s



Clicker question #9

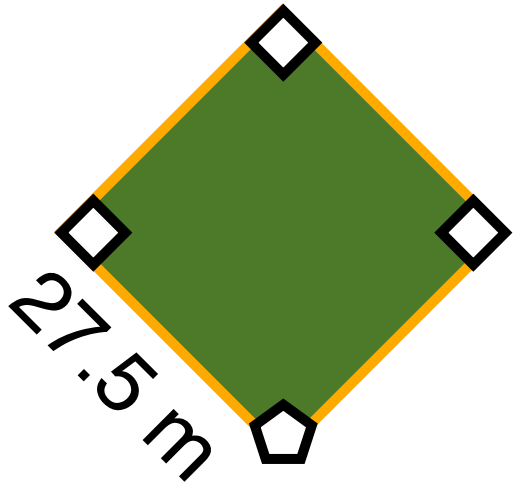
- The distance around a baseball diamond is 110 m. A runner runs the bases in 10 s. The runner's average speed is...

A $1\ \mathrm{m/s}$

B $11\ \mathrm{m/s}$

C $0\ \mathrm{m/s}$

D $1100\ \mathrm{m/s}$



EZ-Pass Speed Trap?

- July 18, I left Cornell
- Was I in a hurry to leave Cornell?
  I.e. was I speeding?)

Mile 131	CLS	07/18	16:21	STANDARD	1	$ 0.67
	KEA	07/18	16:30	STANDARD	1	$ 0.67
Mile 31	LAN	07/18	17:52	STANDARD	1	$ 5.97

Source: My EZ-Pass Toll Receipt

Source: visualphotos.com

EZ-Pass Speed Trap?

Mile 131	CLS	07/18	16:21	STANDARD	1	$ 0.67
	KEA	07/18	16:30	STANDARD	1	$ 0.67
Mile 31	LAN	07/18	17:52	STANDARD	1	$ 5.97

- I drove south 100 mi in 91 minutes
- What was my average speed in mi/hr?

A 1.1 mi/hr

C 120 mi/hr

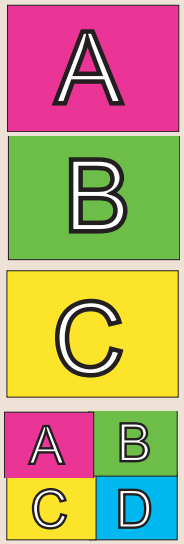
B 55 mi/hr

D 66 mi/hr

Clicker question #10

Question 2.6a **Cruising Along I**

You drive for 30 minutes at 30 mi/hr and then for another 30 minutes at 50 mi/hr. What is your average speed for the whole trip?



A more than 40 mi/hr

B equal to 40 mi/hr

C less than 40 mi/hr

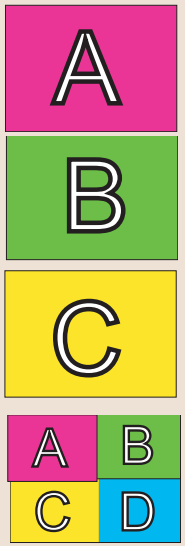
not really sure

Clicker question #11

Question 2.6b

Cruising Along II

You drive 4 miles at 30 mi/hr and then another 4 miles at 50 mi/hr. What is your average speed for the whole 8-mile trip?



more than 40 mi/hr

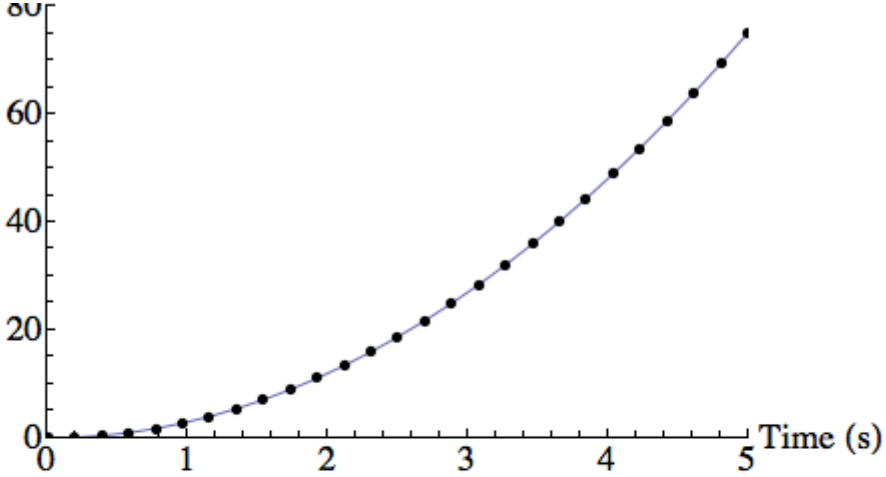
equal to 40 mi/hr

less than 40 mi/hr

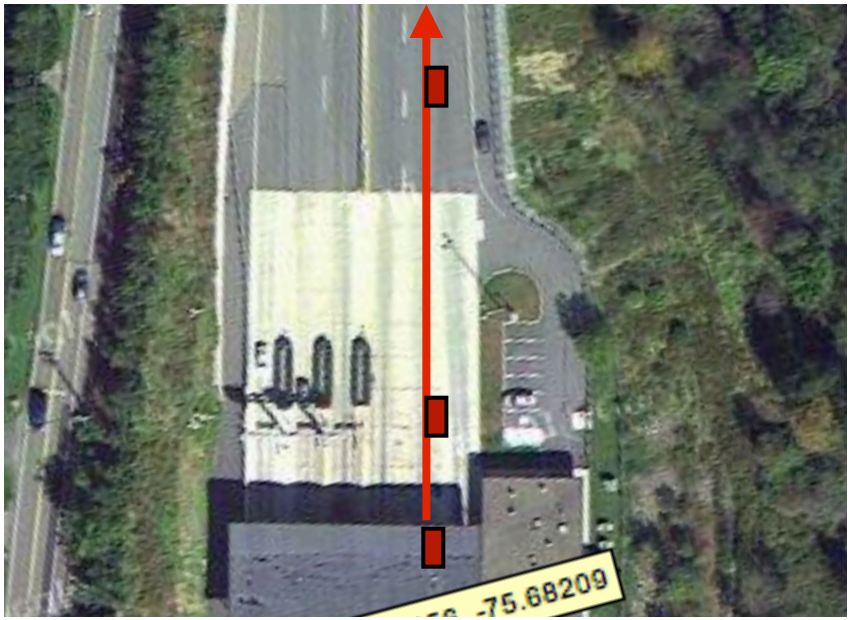
not really sure

Plots of motion

Position x (m)

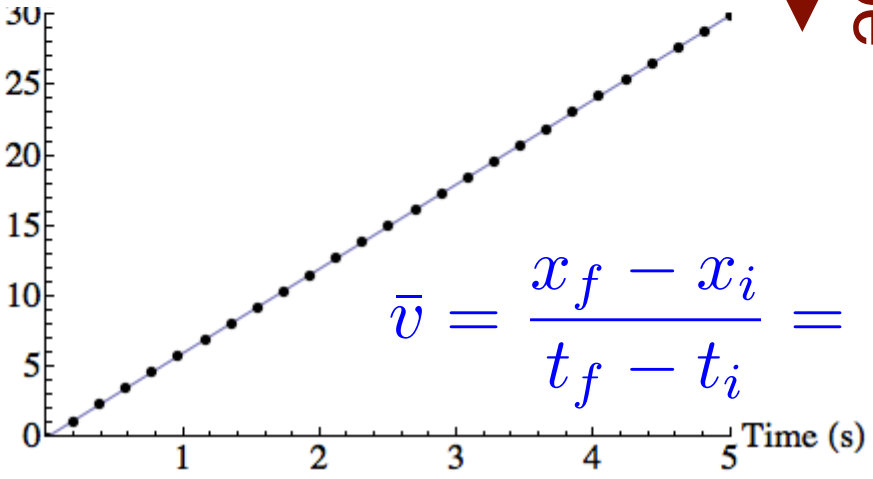


Time t (s)



Slope

Velocity v (m/s)

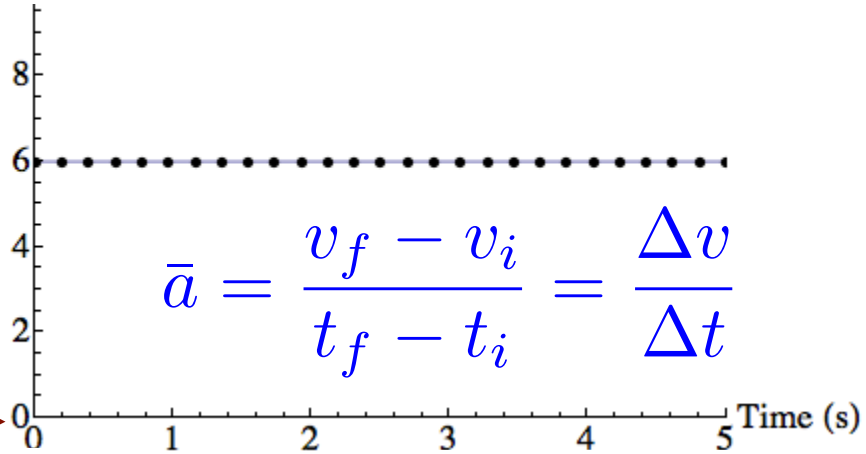


$$\bar{v} = \frac{x_f - x_i}{t_f - t_i} = \frac{\Delta x}{\Delta t}$$

Time t (s)

Slope

Acceleration a (m/s/s)

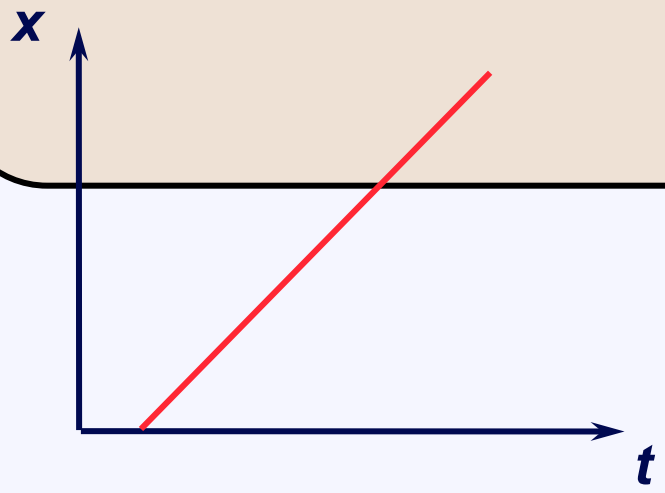


$$\bar{a} = \frac{v_f - v_i}{t_f - t_i} = \frac{\Delta v}{\Delta t}$$

Time t (s)

Clicker question #12

The graph of position versus time for a car is given below. What can you say about the velocity of the car over time?



A it speeds up all the time

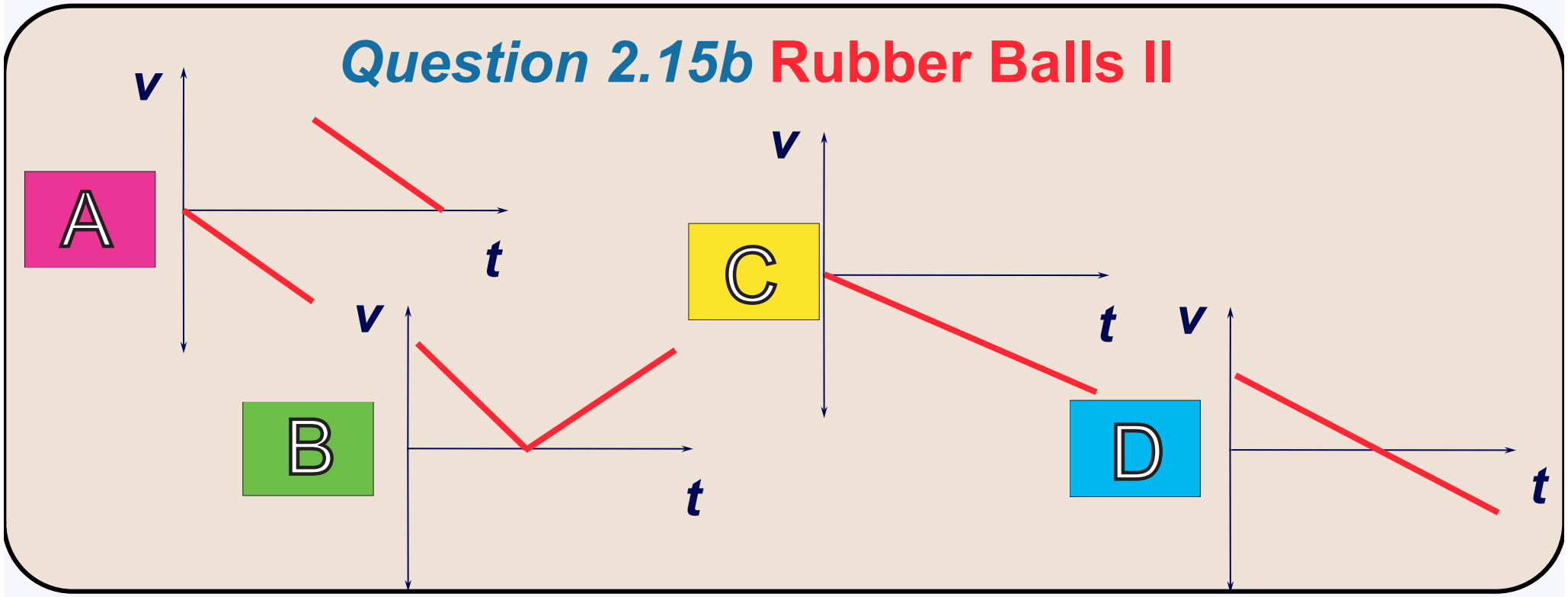
B it slows down all the time

C it moves at constant velocity

D sometimes it speeds up and sometimes it slows down

A B C D not really sure

Clicker question #14



You toss a ball straight up in the air and catch it again. Right after it leaves your hand and before you catch it, which of the above plots represents the *v* vs. *t* graph for this motion? (Assume your y-axis is pointing up).

Clicker question #13

The graph of position versus time for a car is given below (red curve).

What can you say about the velocity of the car over time?

A it speeds up all the time

B it slows down all the time

C it moves at constant velocity

D sometimes it speeds up and sometimes it slows down

A B C D not really sure