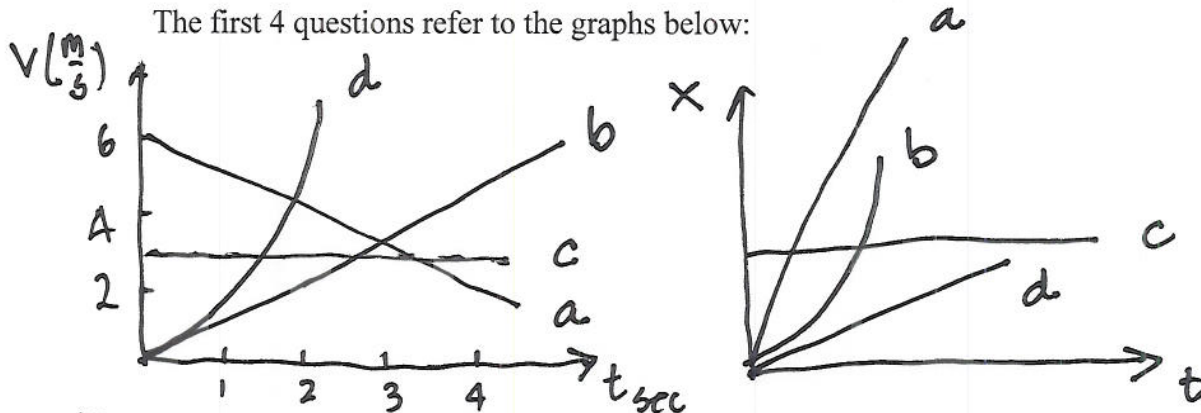


KEY.

This is P110, Quiz 2. You are allowed to use a cheat sheet and a calculator.

The first 4 questions refer to the graphs below:



- 1) Which trajectories are consistent with constant acceleration motion (non-zero)? *curvature straight*  
 2) Which velocities are consistent with constant acceleration motion (non-zero)?  
 3) Which trajectory represents the largest acceleration? *only one*  
 4) What is the approximate acceleration represented by velocity curve (b)?

- a) 1 m/s/s  
 b) 3 m/s/s  
 c) 5 m/s/s  
 d) 10 m/s/s  
 e) 22 mph/s

$$a = \frac{\Delta v}{\Delta t} = \frac{2 \text{ m/s}}{26} \approx 1 \text{ m/s}^2$$

- 5) A fastball thrown upwards at 100 mph reaches a maximum height of roughly 120m. How high would a 50 mph throw go?

- a) 60m  
 b) 40m  
 c) 30m  
 d) 120m  
 e) 240m

$$v_0 \propto T \propto \sqrt{H}$$

$$\frac{1}{2} \text{ as small} \rightarrow H \text{ is } \left(\frac{1}{2}\right)^2 \text{ smaller}$$