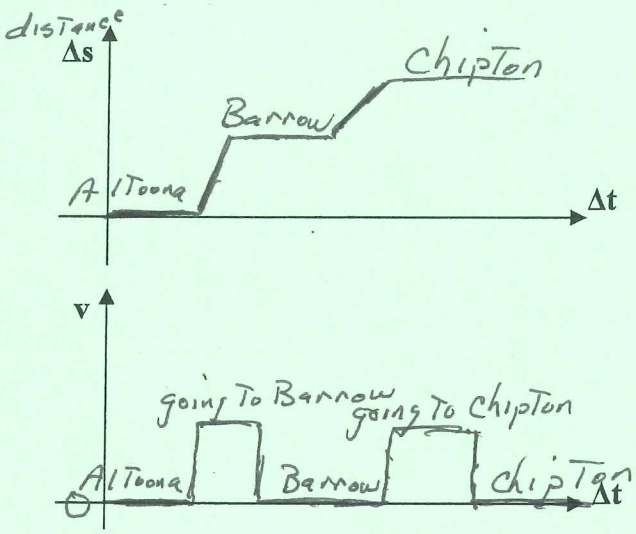
Name: _____

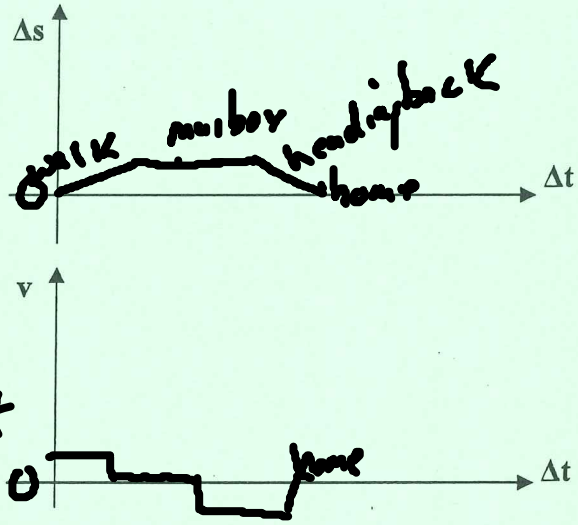
GRAPHS OF MOTION 2

IN CLASS

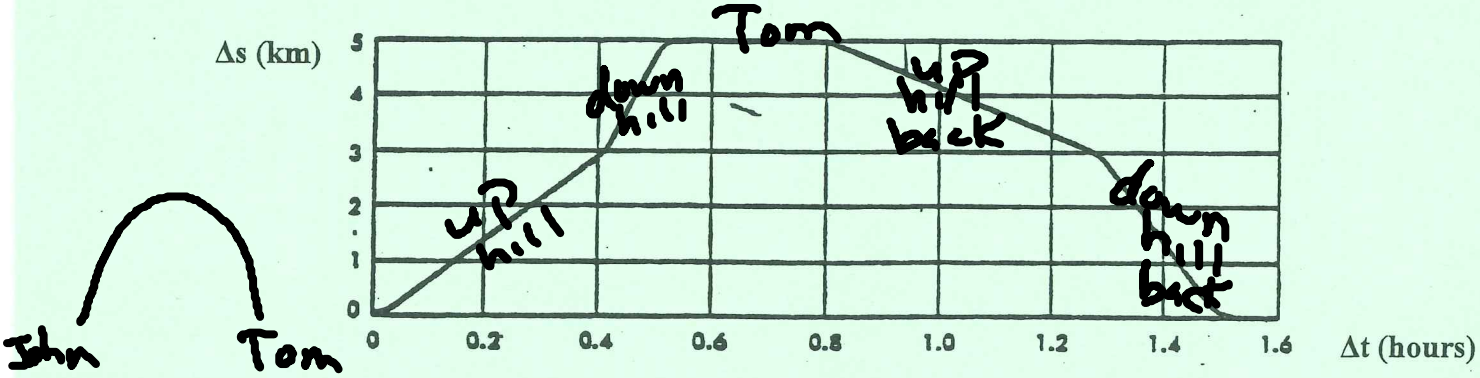
1. On the graphs below, sketch the distance-time and velocity-time graphs for a train that travels from Altoona to Chipton with an intermediate stop at Barrow. Assume all the cities are on a straight line.



2. A man walks to the corner to mail a letter and comes back home. Sketch the distance-time and velocity-time graphs below for his walk.

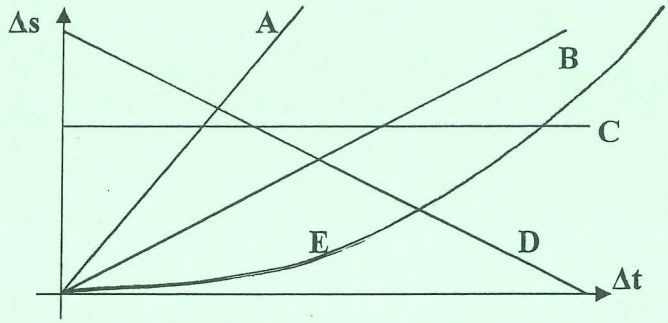


3. John rode his bicycle as fast as he could from his house to Tom's house. After a short time he rode back as fast as he could. The graph below shows a distance-time graph of his trip. From the information given and the graph, how would you describe the road between their homes?

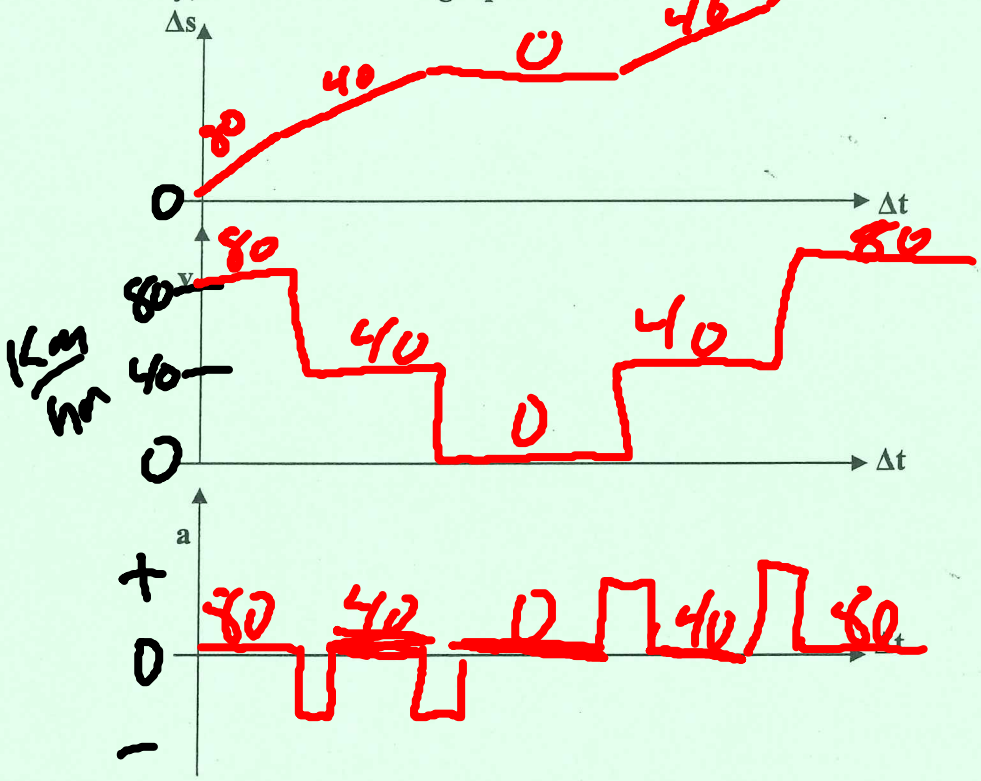


4. In the graph at the right, which object:
   a. has the greatest velocity?
   b. has negative velocity?
   c. is stopped?
   d. is accelerating?

A
C
E



5. A car drives along a highway at 80 km/hr, then decelerates to the speed limit of 40 km/hr as it enters a small village. The car stops at a stop sign in the center of the village, then accelerates to the speed limit until it gets out of town at which time it accelerates to 80 km/hr. Sketch the distance, velocity, and acceleration graphs below.



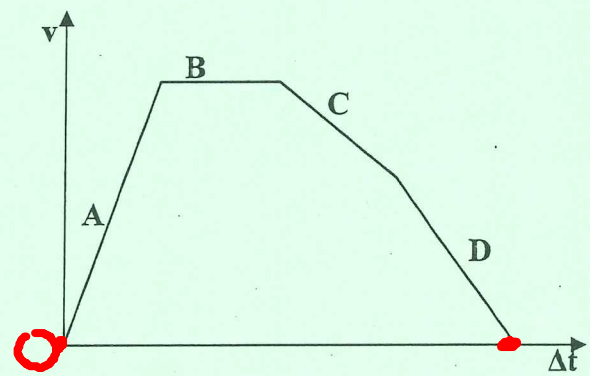
6. For the velocity-time graph at right:

a. During which interval is the speed constant? B

b. During which interval is acceleration positive? A

c. During which interval is acceleration negative? C & D

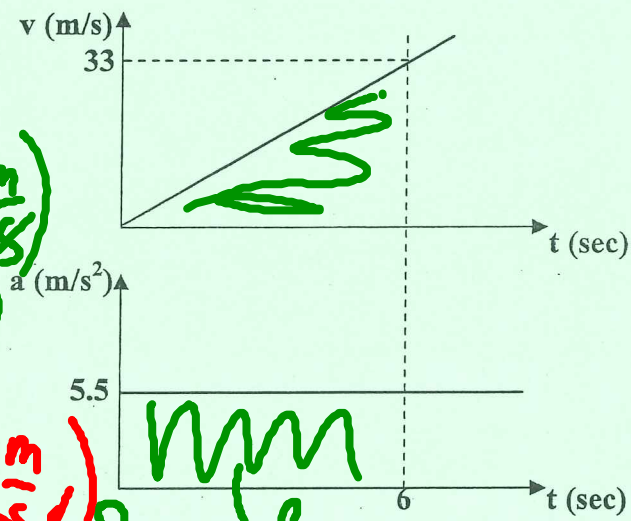
d. When is the object stopped? Beginning & end



7. a. Calculate the area under the curve for the v-t graph between 0-6 seconds. What does this quantity represent?

$A_\Delta = \frac{1}{2}bh = \frac{1}{2}(6s)(33\frac{m}{s})$

$A_\Delta = 99\ m$



b. Calculate the area under the curve for the a-t graph between 0-6 seconds. What does this quantity represent?

$A_{\square} = lw = (6s)(5.5\frac{m}{s^2})$

$= 33\ m/s$