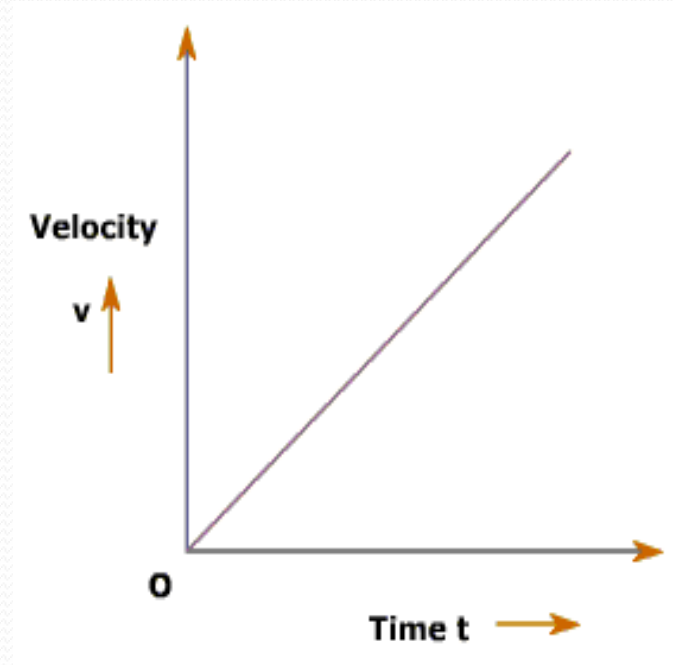
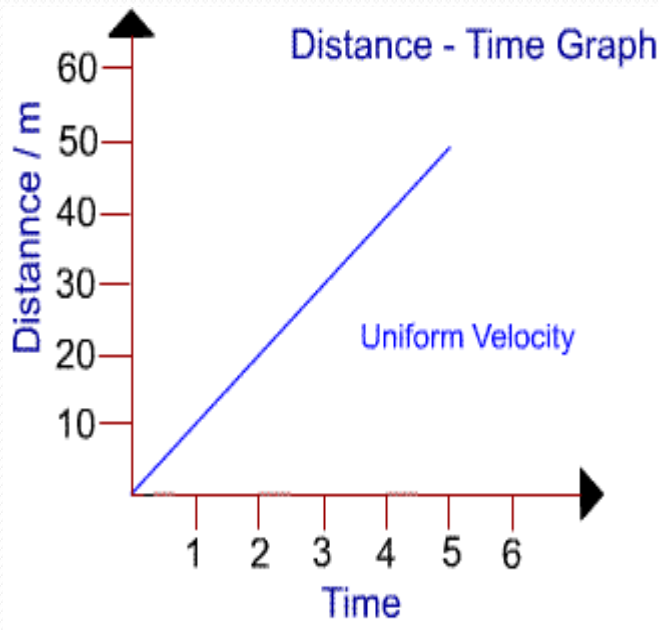


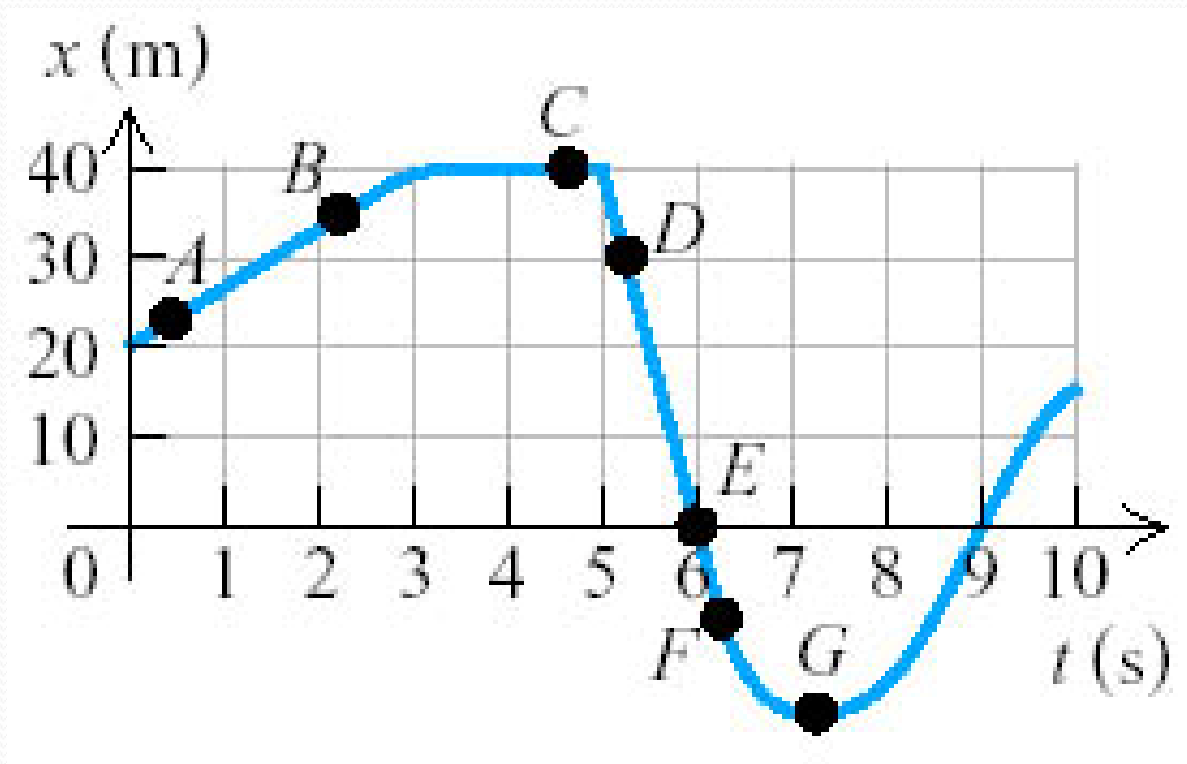
# Kinematics

The study of how things move

# Recall: Graphs



# Example



# Example

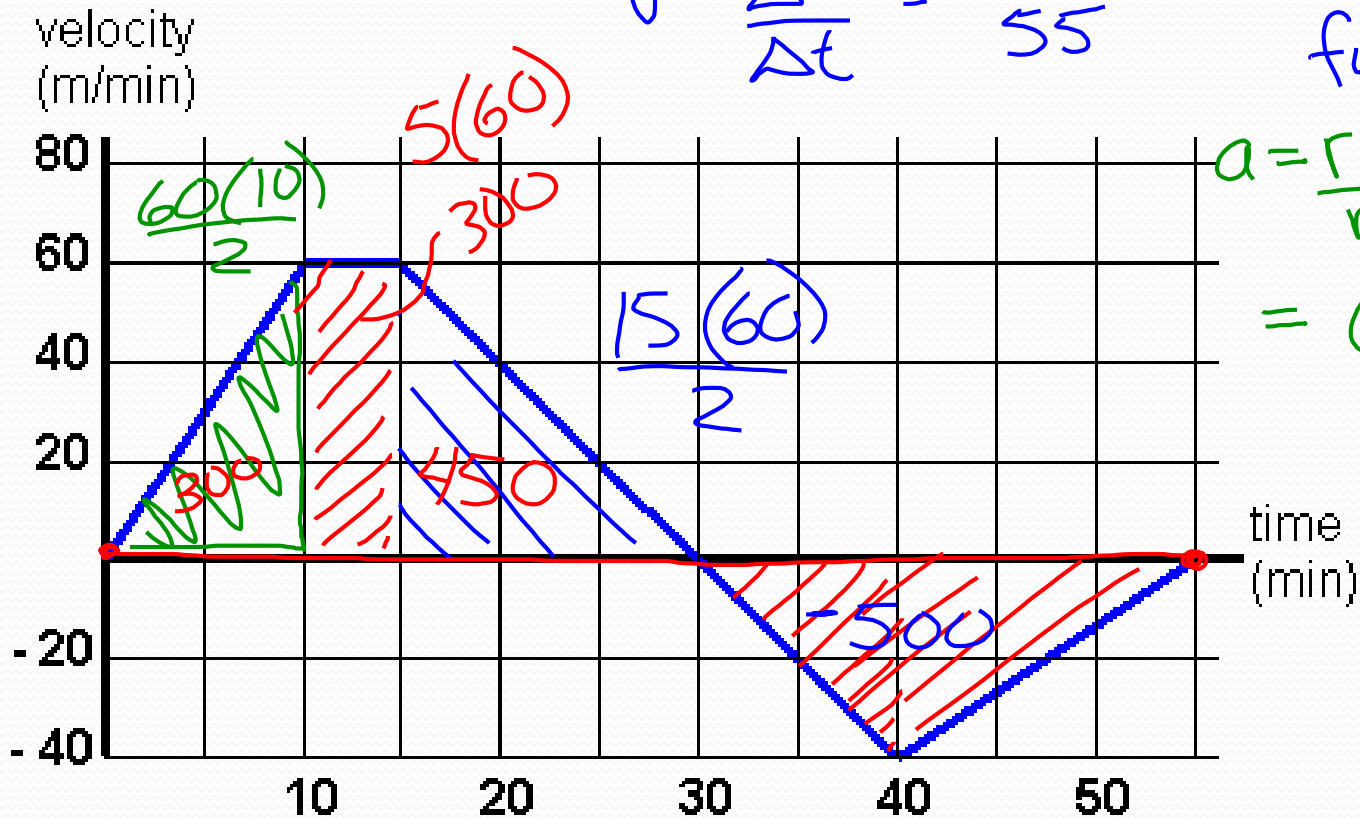
$$\Delta d = 300 + 300 + 450 - 500$$

$$\Delta d = 550 \text{ m fwd}$$

$$V = \frac{\Delta d}{\Delta t} = \frac{550}{55} = 10 \text{ m/s fwd}$$

$$a = \frac{\text{rise} - \text{run}}{55} = 0$$

$$= 0 \text{ m/s}^2$$





# Motion Sensor

# Recall: Equations

$$v = \frac{\Delta d}{\Delta t} \quad * \text{ constant velocity}$$

$$a = \frac{v_2 - v_1}{\Delta t} \quad v_2 = v_1 + at$$

$$d = \left( \frac{v_1 + v_2}{2} \right) t$$