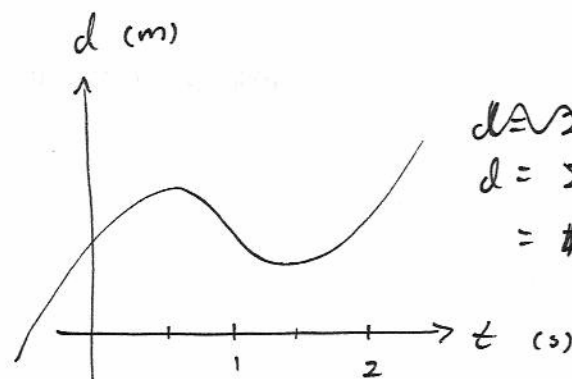


②

MAT 122

2/8 + 2/9

$$\text{Average velocity} = \frac{\text{change in disp}}{\text{change in time}} = \frac{\Delta d}{\Delta t} = \frac{\Delta y}{\Delta x}$$



$$\begin{aligned} d &= 2t^3 - 3t^2 + 2t + 2 \\ d &= 2t^3 - 3t^2 + 4t + 2 \\ &= t^3 - 3t^2 + 2t + 2 \end{aligned}$$

Find average velocity on the intervals

(a) $[0, 3]$

(b) $[\frac{1}{2}, 2]$

(c) $[0, 1]$

(d) $[\frac{1}{2}, 1]$

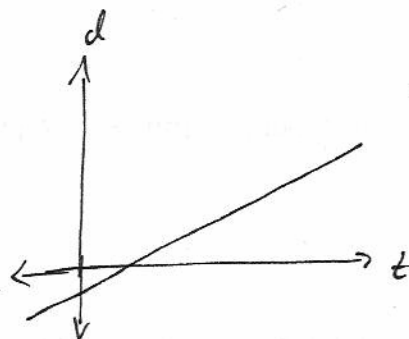
$$v_{AVE} = -\frac{3}{8} \text{ m/s}$$

Review: $v_{AVE} = \frac{\Delta d}{\Delta t} = \text{slope of secant line.}$

Graph $h = 40t - 10t^2$
compute v_{AVE} for
 $[0, 1]:$
 $[1, 2]:$
 $[2, 4]:$
 $[0, 4]:$

① 2/9 Practice See ball toss example on next sheet.

Instantaneous velocity



$$d = \frac{1}{2}t - 1$$

Find average velocity on the intervals:

(a) $[0, 3]$

(b) $[1, 2]$

(c) $[-4, 4]$