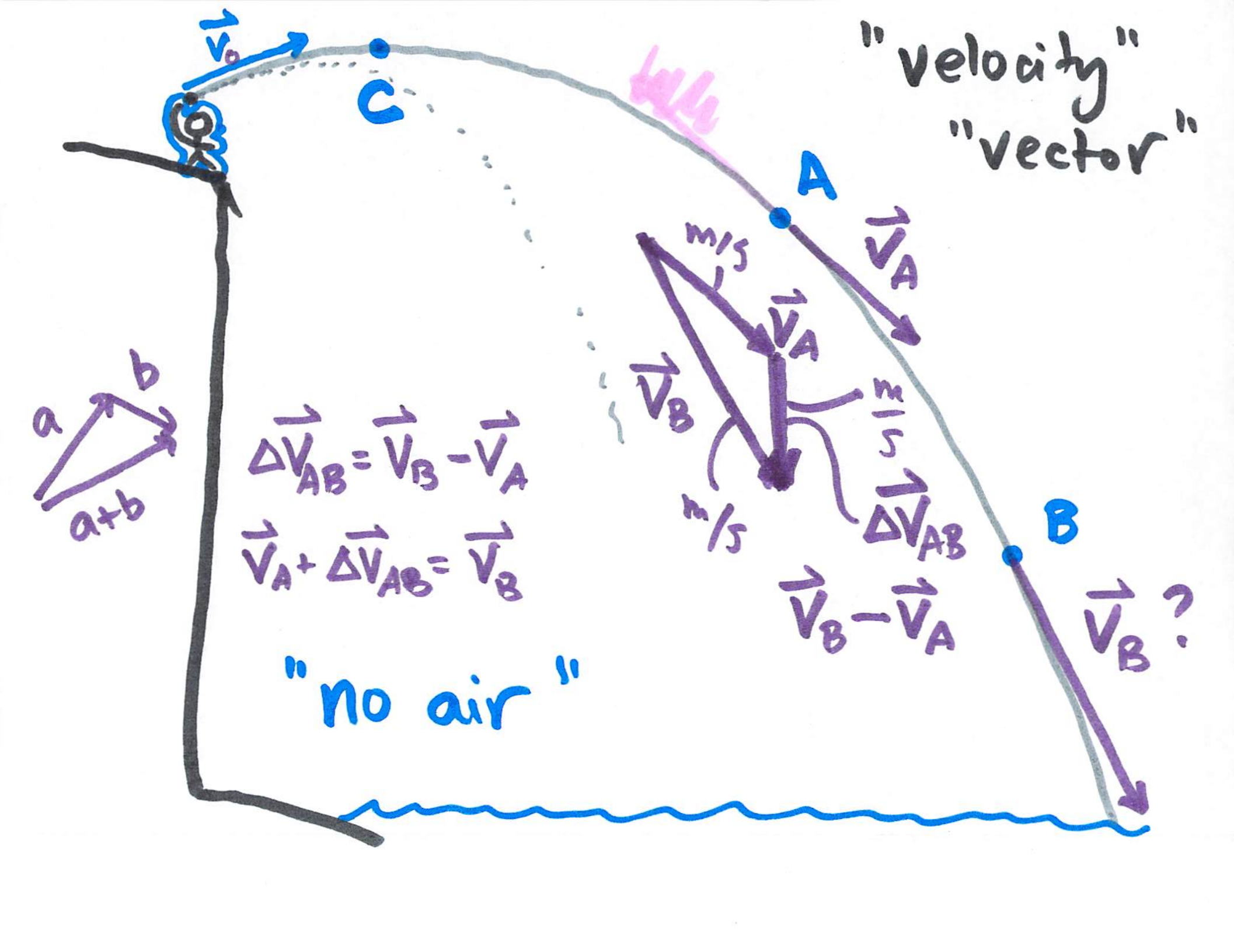
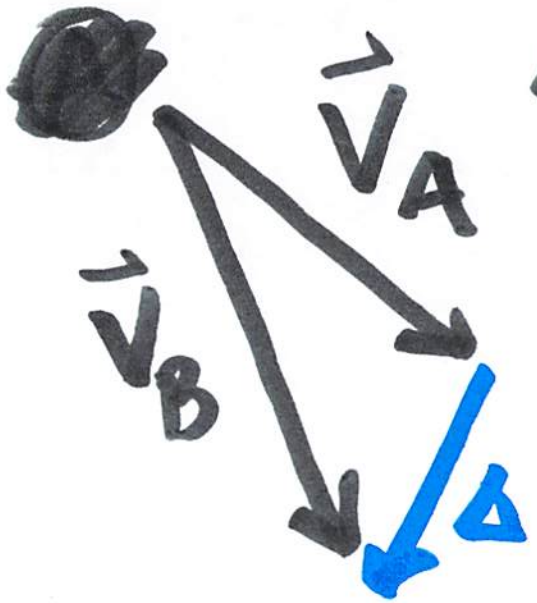
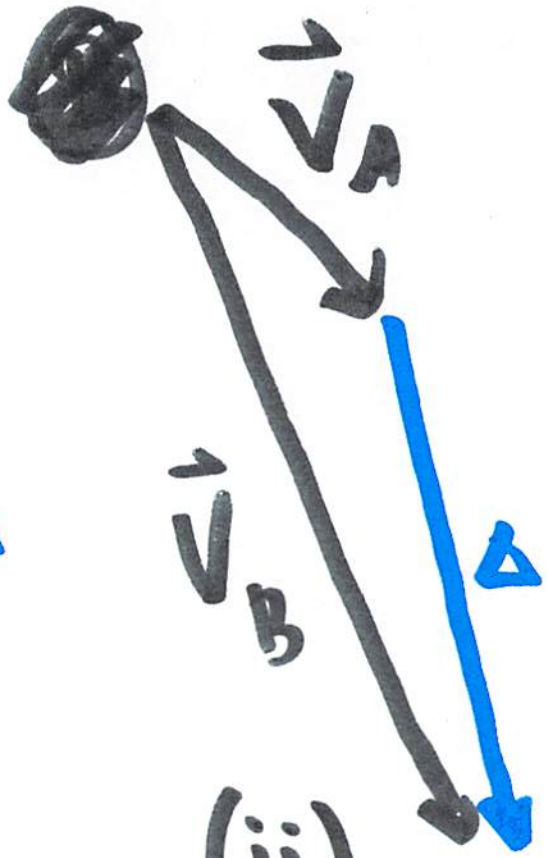
2013-09-10

- problem sets — tutoring
- textbook - this week:
  - "motion along a line"
  - "motion in 3 dimensions"
  - "prediction" kinematics - $\vec{v}, \vec{a}, \vec{x}$
- calculus + vectors

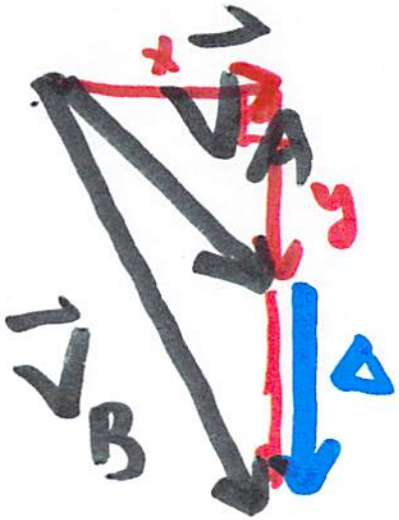

"velocity"
"vector"
$\vec{v}_0$
C
A
B
$\vec{v}_A$
$\vec{v}_B$
m/s
$\Delta\vec{V}_{AB}$
$\vec{V}_B - \vec{V}_A$
$\vec{V}_B$?
a
b
a+b
$\Delta\vec{V}_{AB} = \vec{V}_B - \vec{V}_A$
$\vec{V}_A + \Delta\vec{V}_{AB} = \vec{V}_B$
"no air"



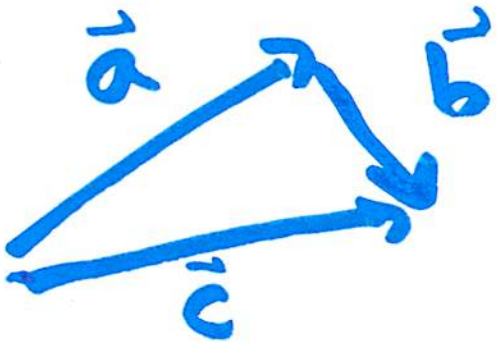
(i)



(ii)



(iii)



$\vec{c} = \vec{a} + \vec{b}$

$|\vec{c}| \leq |\vec{a}| + |\vec{b}|$

velocity: rate of change of position

acceleration: rate of change of velocity

(to write down a value — need a coordinate system.