

Today: -TAs

- GCAS

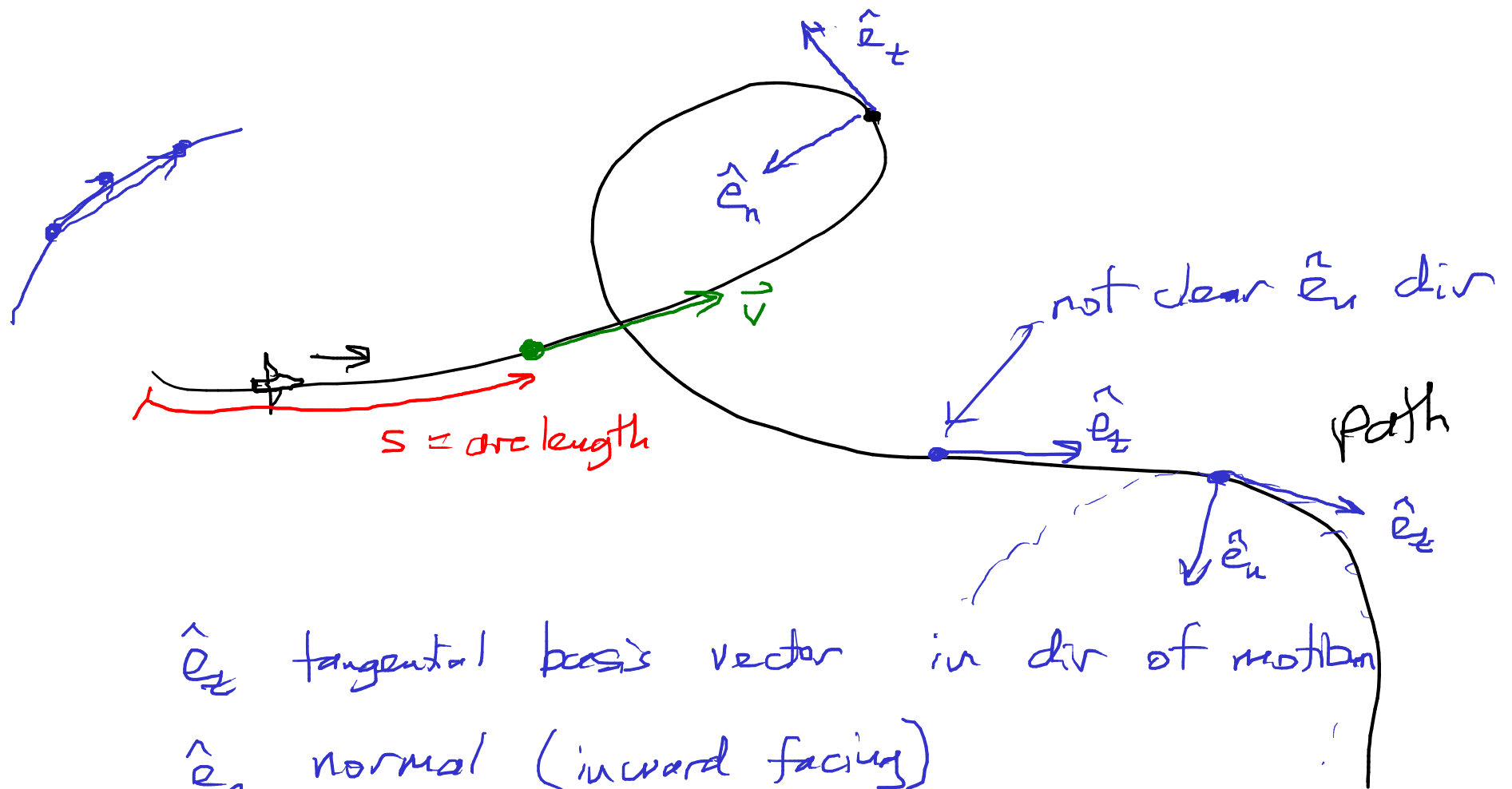
- Tangential / normal

- Report format

Coords / Bases

	Cart	polar	cyl	sph	T/N
Coords					no coords
pos $\vec{r}$					just basis
vel $\vec{v}$					
acc $\vec{a}$					

T/N = tangential / normal basis
defined by the path



$\hat{e}_t$ tangential basis vector in dir of motion

$\hat{e}_n$ normal (inward facing)

$\vec{v}$ velocity vector

$$\hat{e}_t = \frac{\vec{v}}{v} = \hat{v}$$

$s = \text{arclength}$

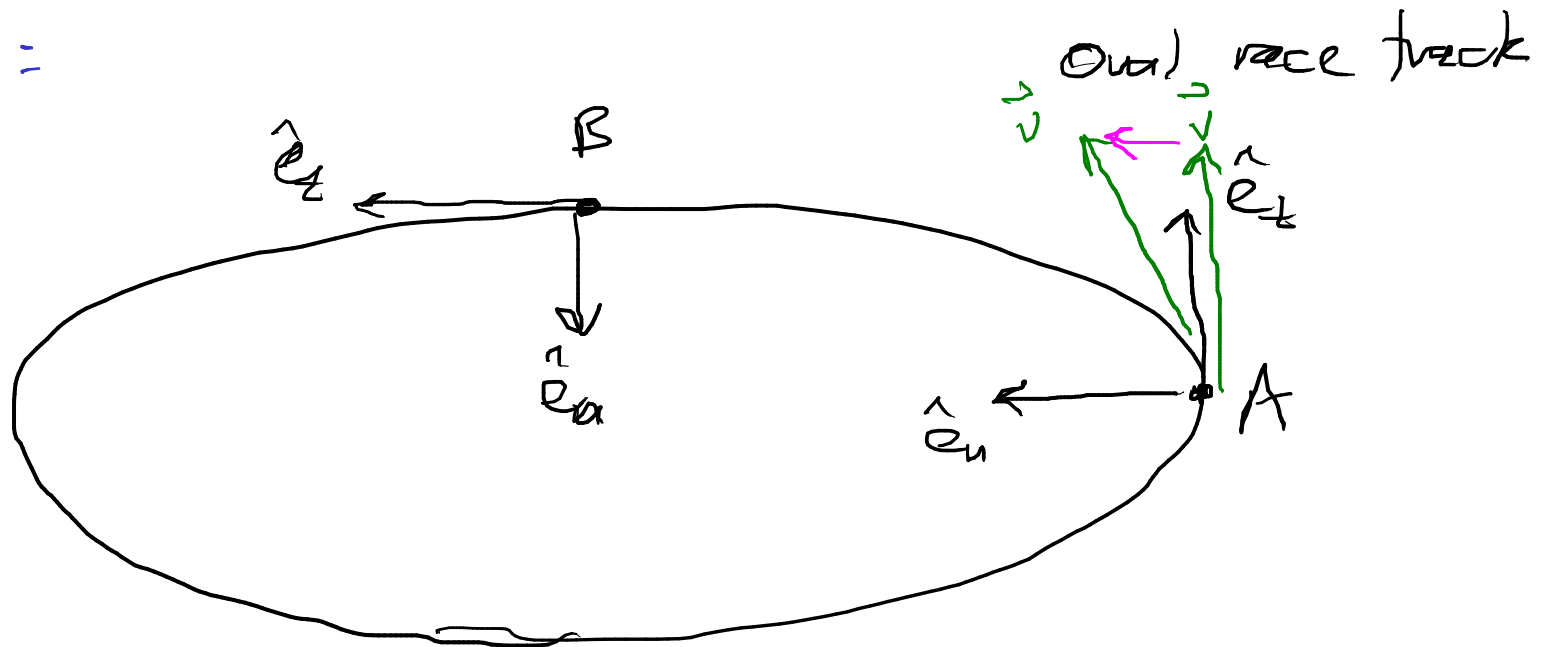
$$\dot{s} = v = \|\vec{v}\|$$

$$\vec{v} = v \hat{v} \Rightarrow$$

$$\boxed{\vec{v} = \dot{s} \hat{e}_t}$$

acceleration =

car has
constant
speed
CCW



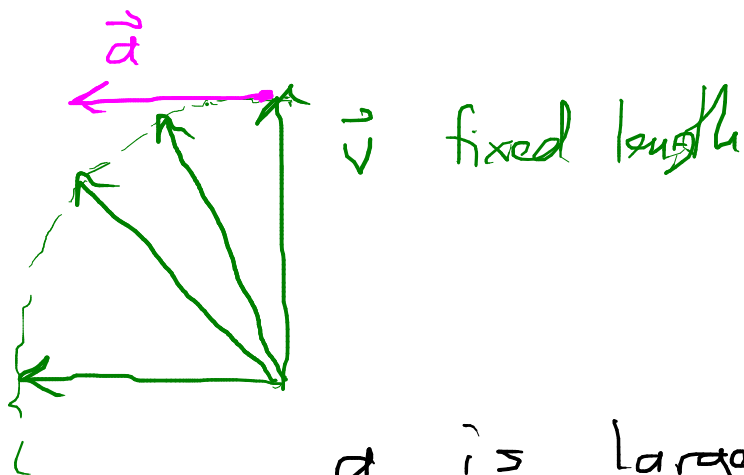
At A, $\vec{a}$ has comp in A. $\hat{e}_t$

B. $\hat{e}_n$

C. both

D. can't tell

E. zero



a is larger at A. A

B. B

C. same

D. can't tell