NYU Physics I

2018-09-13

- Tutoring.

- Questions

- "Finishing" problems.

- Turning the car.

| - motion in 2d, 3d.
- parabola
- uniform circular motion

PUMP

Peer Undergraduate Mentoring Program

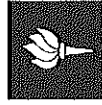## All women STEM majors in CAS are welcome!

o Be paired with a mentor or mentee in a STEM major

o Join a supportive scientific community

o Receive advice from an experienced STEM student

Apply to be a mentee at | **Apply to be a mentor at**
http://bit.ly/2x0JXLc | **http://bit.ly/2gsLzmr**

Application Deadline **Contact Information**
September 21 nyupump@gmail.com

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WOMEN IN SCIENCE
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constant speed.
speed v.

$\vec{v}_{later}$

$\vec{v}_{now}$

front

back

$\vec{a}_{now}$

R

guess !!

$|\vec{a}| = \bigodot |\vec{v}|$
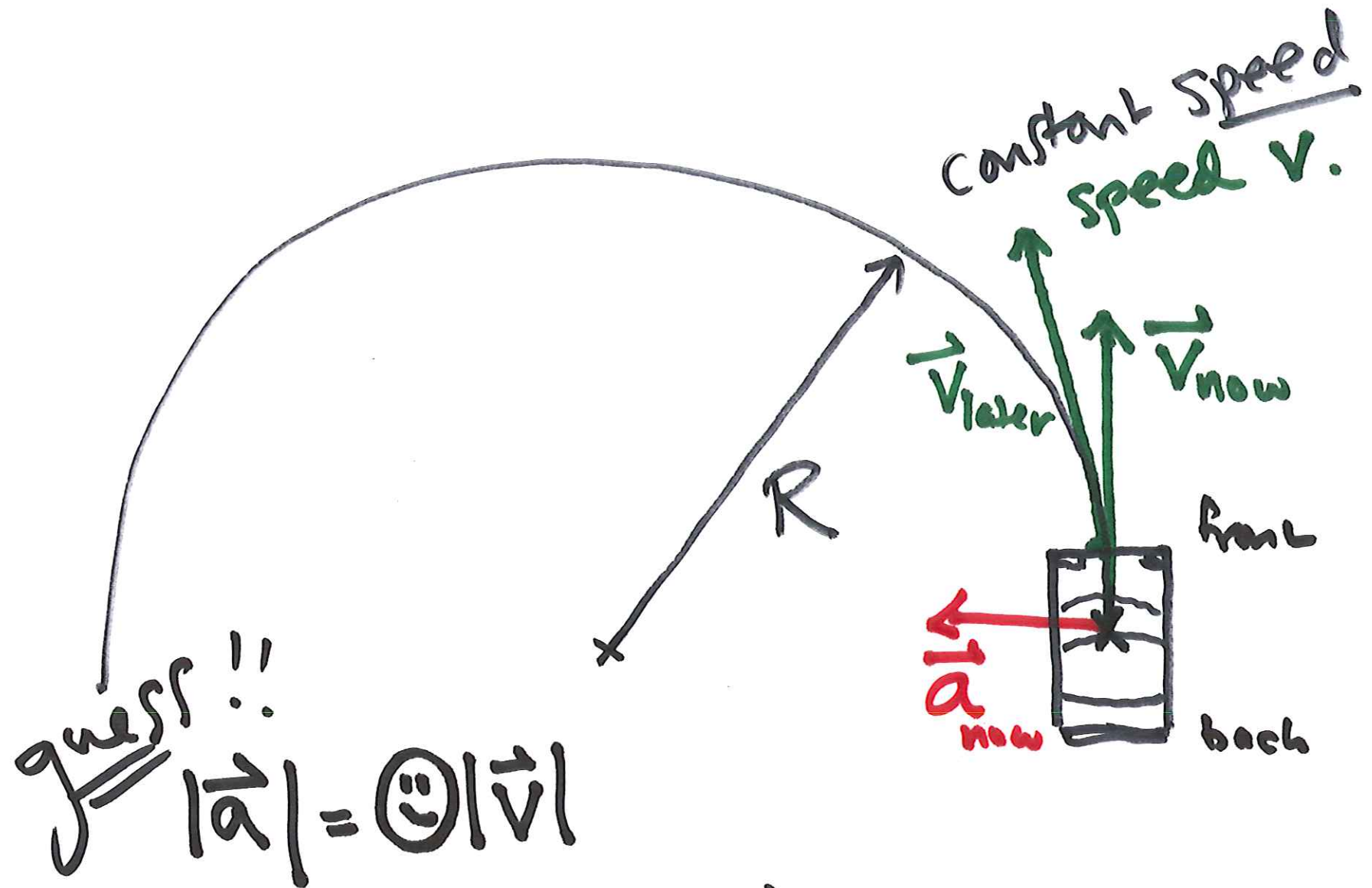
$\bigodot \sim \omega$ or $\frac{1}{T}$ or something.

period T = time to go 1 cycle.

$$T = \frac{2\pi R}{V}$$

angular frequency

$$\omega = \frac{radians}{time} = \frac{2\pi}{T}$$

ω units $\frac{1}{time}$
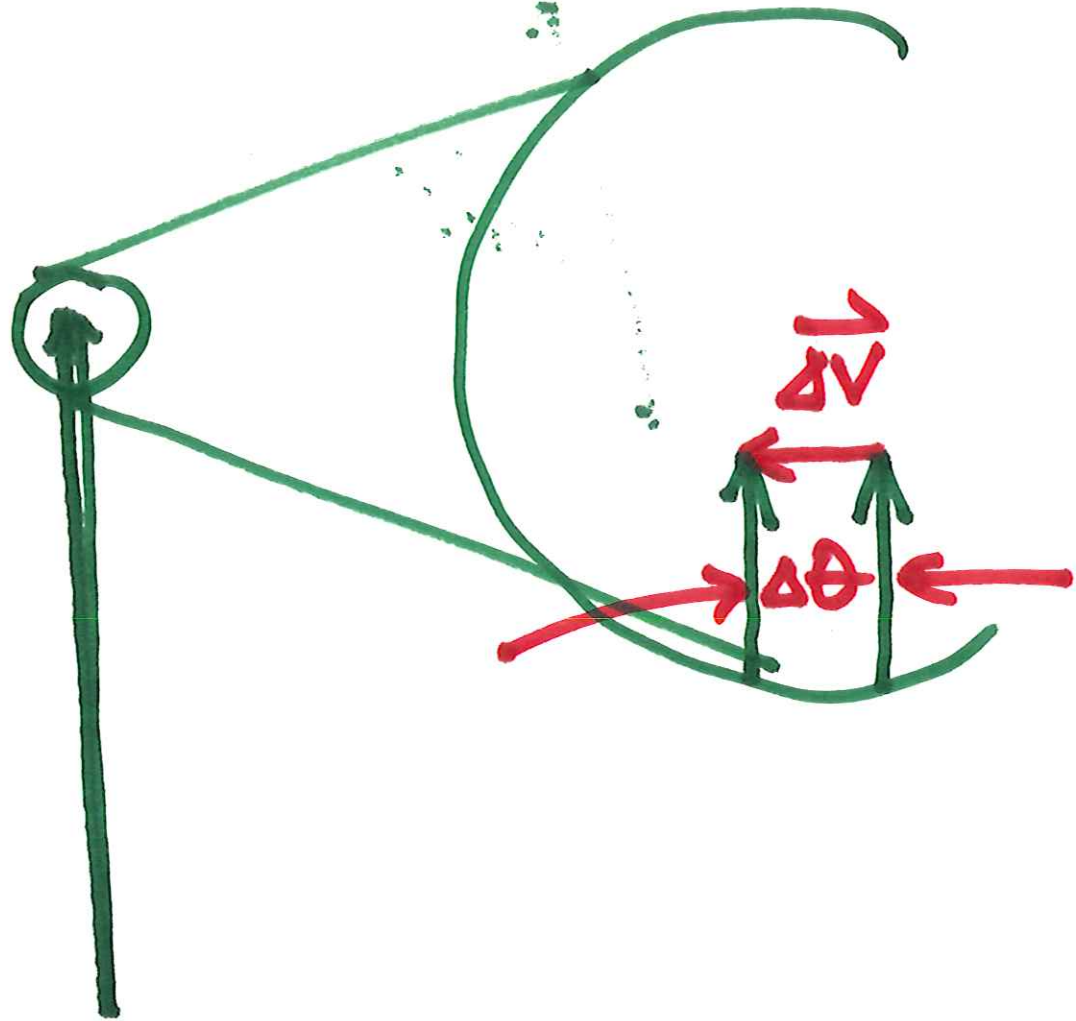
Ω

$$\omega = \frac{V}{R}$$

"angular velocity"

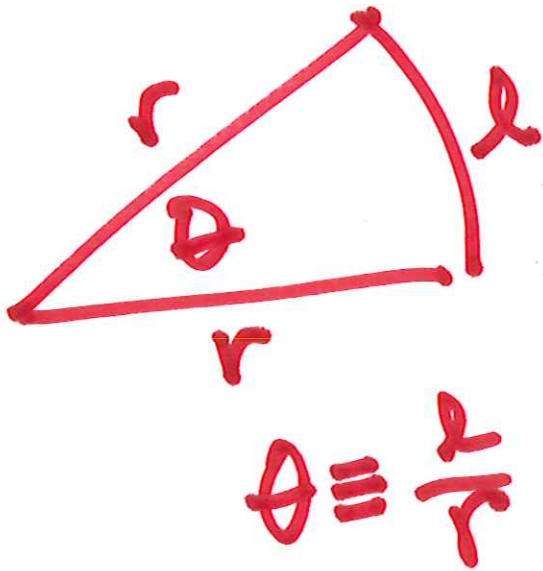$$\vec{a}(t) = \lim_{h \to 0} \frac{\vec{v}(t+h) - \vec{v}(t)}{h}$$

$\vec{\Delta v}$

$\vec{V}_{later}$ $\vec{V}_{now}$

$\vec{V}_{now}(t)$

$\vec{V}_{later}(t+h)$

$\Delta\theta = \omega h = \frac{v}{R} h$

$\vec{\Delta v}$

$\Delta\theta$

$$\theta = \frac{\ell}{r}$$

$$|\Delta \vec{r}| = \Delta\theta\,|\vec{r}|$$

$$|\vec{v}| = \frac{\Delta r}{h}$$

$$\Delta\theta = \omega\, h$$

$$\frac{|\Delta\vec{v}|}{h} = |\vec{a}| = \omega\,|\vec{v}|$$