

# NYU Physics I

- The web.
- Confusion.
- Tutoring.
- Questions.
- R.C.D.S.

2018-09-27.

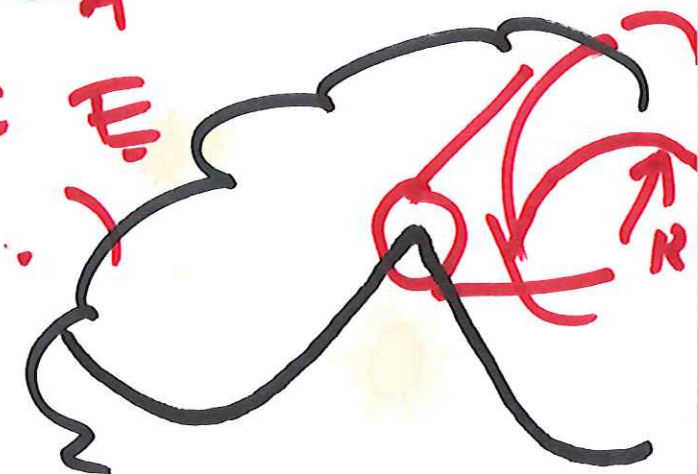
- energy!
- etc.

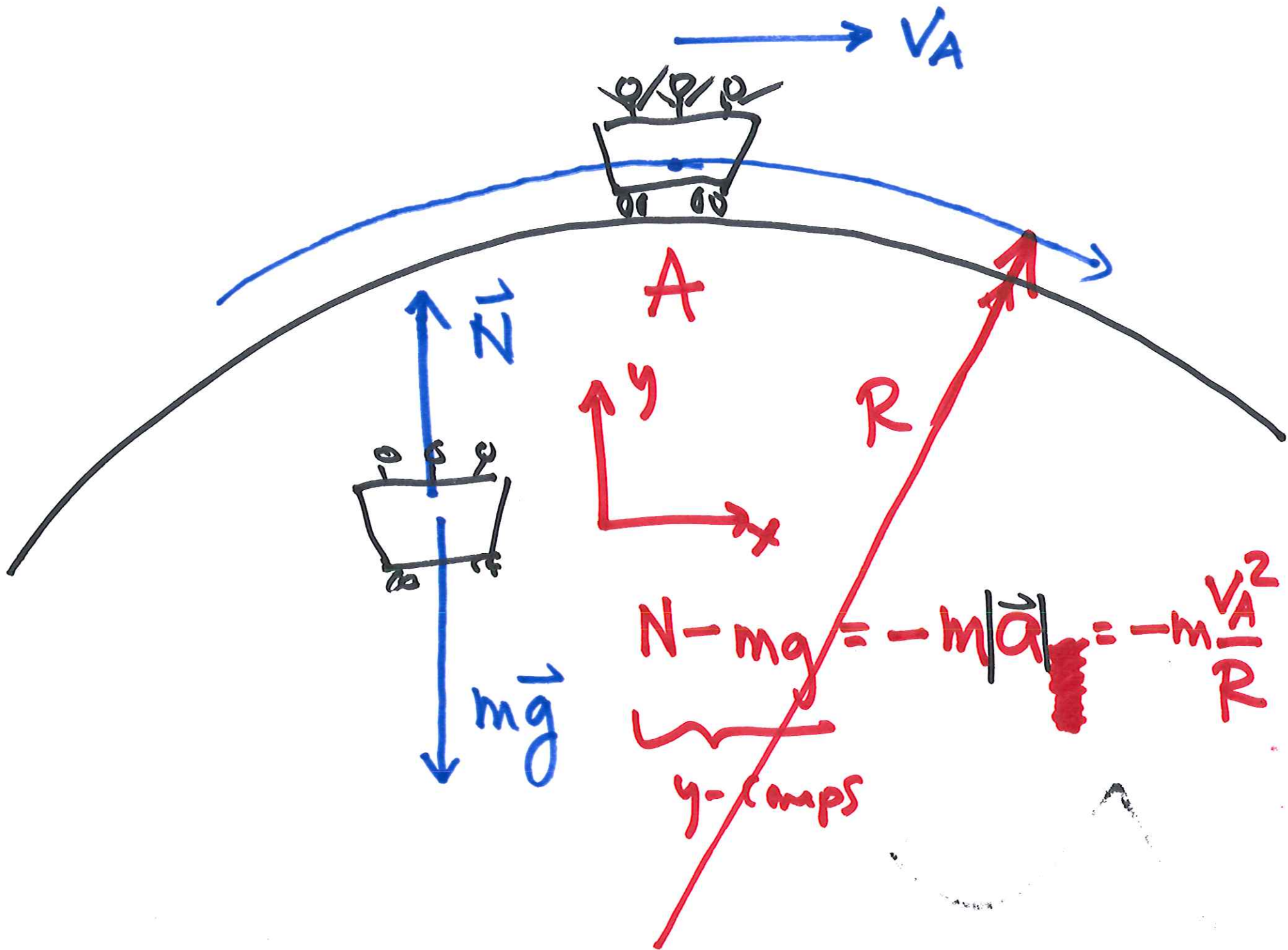


reference point.  
 launch @ zero energy.

⊙ A:  $PE_A = -mgh_A$        $KE_A = \frac{1}{2}mV_A^2$

$PE_A + KE_A = 0 \leftarrow$  cons. of  $E$   
 (plus...)



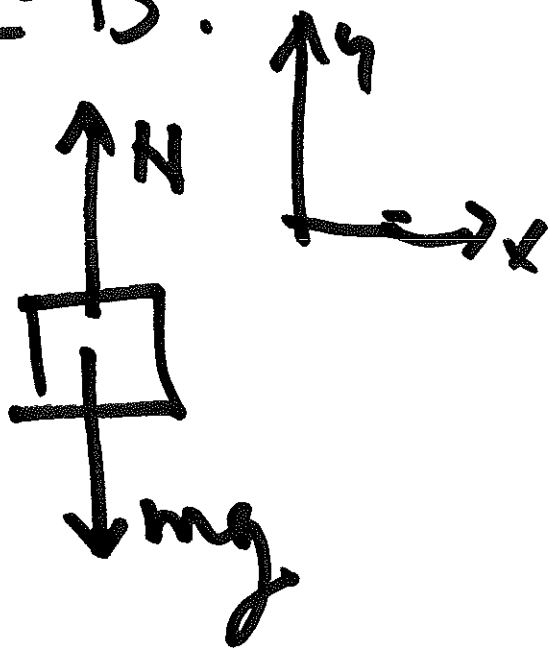


$$\textcircled{a} A: N = mg - m \frac{v_A^2}{R}$$

invalid @  $mg - m \frac{v_A^2}{R} < 0.$

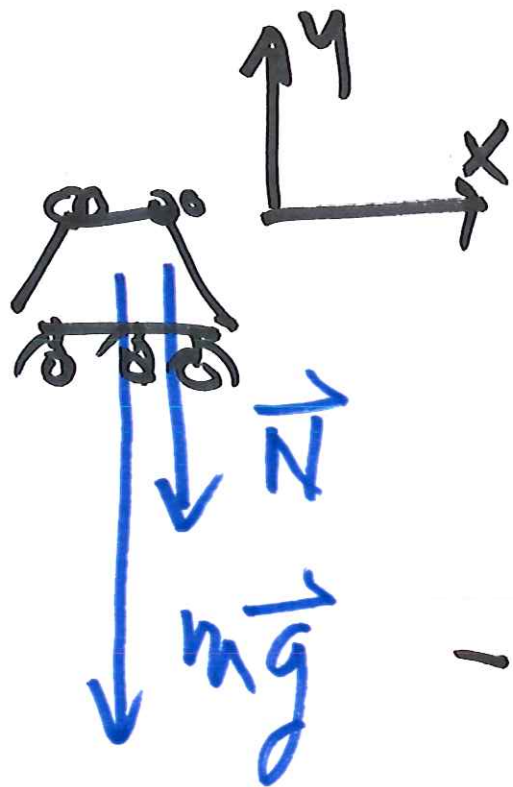
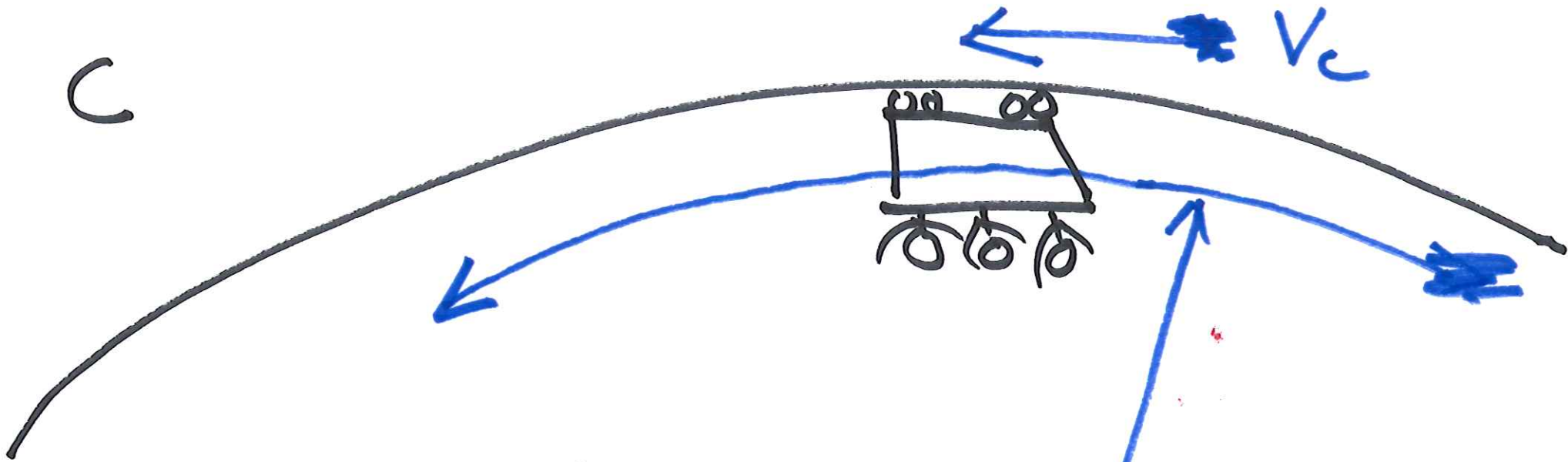
(jump!)

$\textcircled{b} B:$



$$y: N - mg = + m \frac{v_B^2}{R}$$

$$N = mg + m \frac{v_B^2}{R}$$



$$-N - mg = -m \frac{v_c^2}{R}$$

$$N = m \frac{v_c^2}{R} - mg.$$

$$\textcircled{a} \text{ C: } N = \frac{mv_c^2}{R} - mg$$

invalid if  $\frac{mv_c^2}{R} - mg < 0$

(plummet!)

Normal force must point

towards the car.