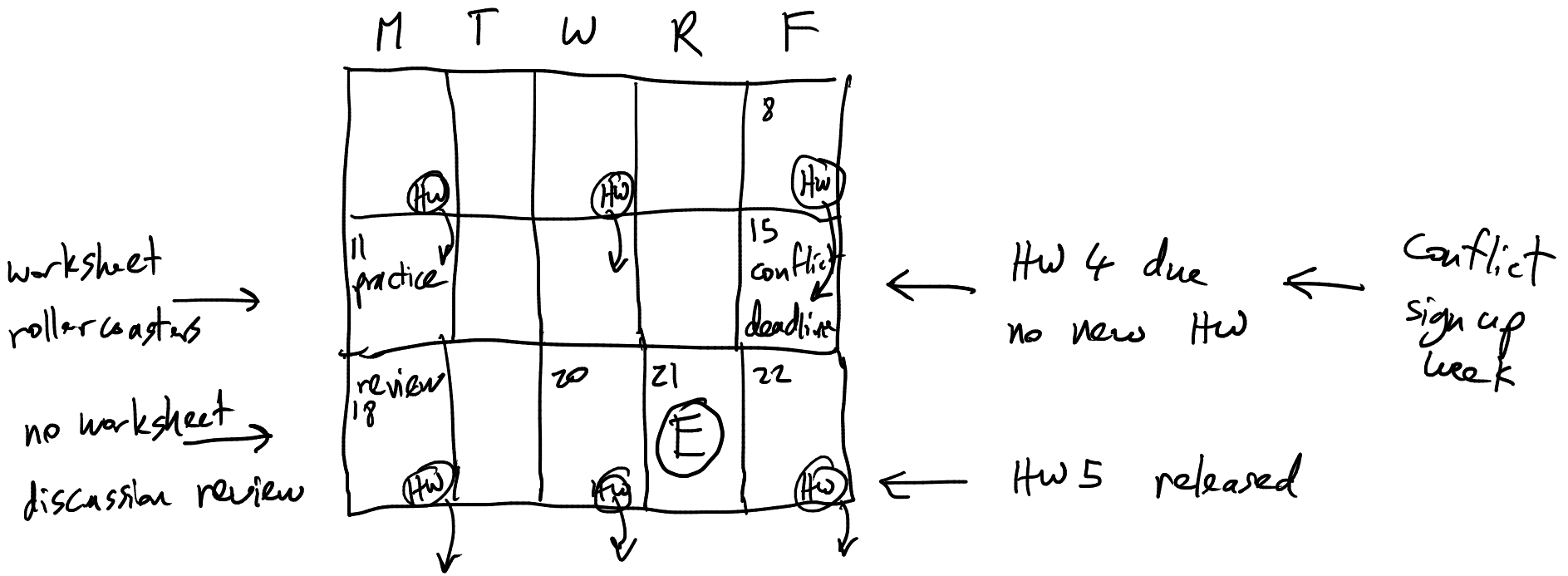
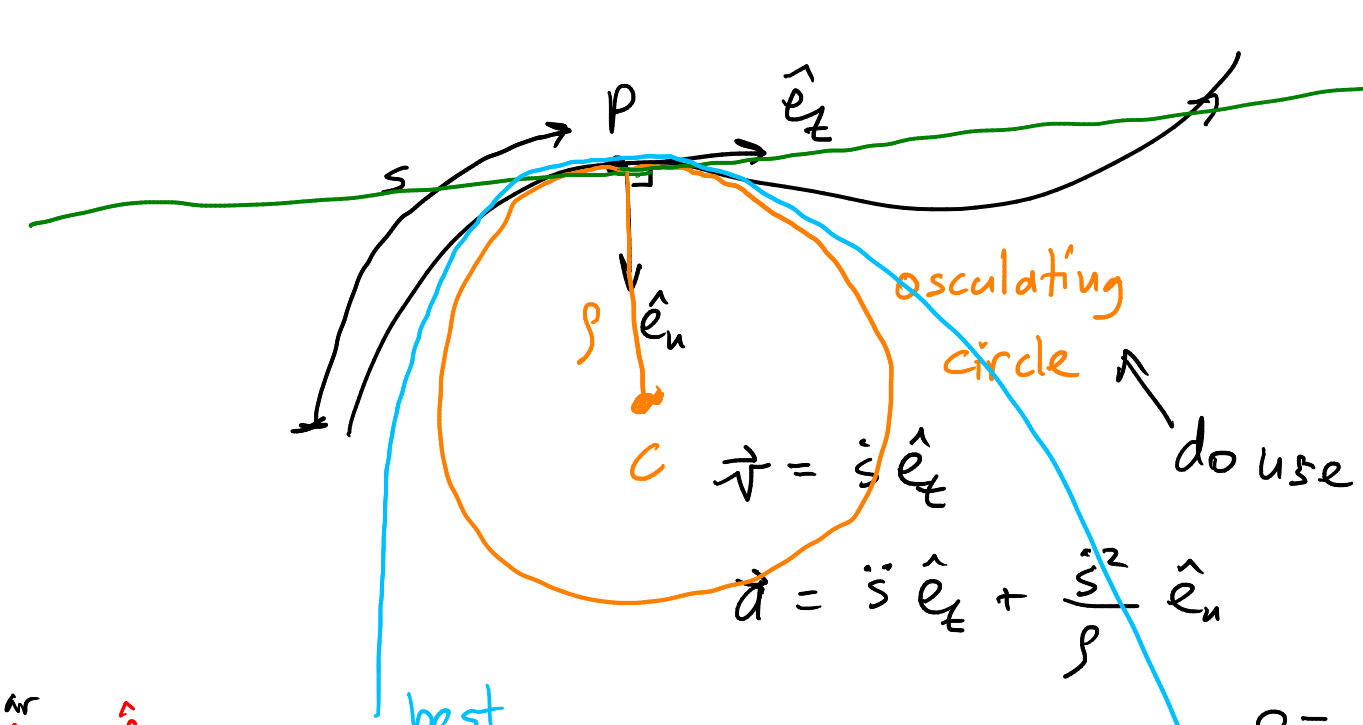
Plan for next two weeks

no canceled lectures



Tangential / Normal Basis



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

speed

$\ddot{s}$ = tang. acc.

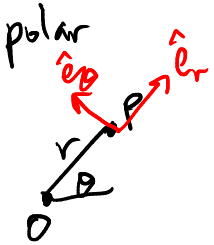
$\vec{v} = \dot{s}\,\hat{e}_t$

$\vec{a} = \ddot{s}\,\hat{e}_t + \frac{\dot{s}^2}{\rho}\,\hat{e}_n$

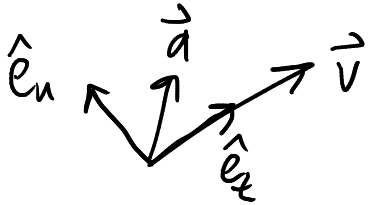
do use

don't use

$\rho = \frac{1}{\kappa}$ = radius of curvature



TN in 3D



$\hat{e}_t$ = velocity dir $\quad \hat{e}_t = \hat{v}$

$\hat{e}_n$ = remaining acc. dir $\quad \hat{e}_n = \hat{a}_n$

$\hat{e}_b = \hat{e}_t \times \hat{e}_n$ binormal unit vector

$\hat{e}_t, \hat{e}_n, \hat{e}_b$ right handed basis