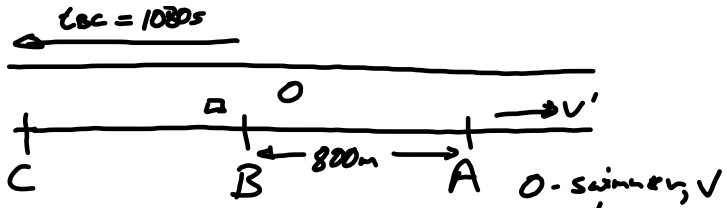
Chillax Break

1. Read the Problem
2. Draw a picture(s) with a coordinate system. Origin(s), axis
3. Write down the known information and assign unique variables.
4. Write down the unknown information and assign unique variables.
5. Write down any potentially relevant equations.
6. Solve.
7. Does the answer make sense?
   a) Magnitude (Size)
   b) Sign (+/-)
   c) Units



$t_{BC} = 1080s \quad d_{AB} = 800m$

$V' = ? \quad V = \frac{d}{t}$

$t_{BC} = \frac{d_{BC}}{V - V'} \qquad t_{AC} = \frac{d_{BC} + d_{AB}}{V + V'}$

log $t_{BA} = \frac{d_{AB}}{V'}$

$t_{BA} = t_{BC} + t_{AC}$

$V'(V+V') \quad \frac{d_{AB}}{V'} = \left(t_{BC} + \frac{d_{BC} + d_{AB}}{V+V'}\right) V'(V+V')$

$d_{AB}(V+V') = t_{BC} V'(V+V')$

$+ d_{BC} V' + d_{AB} V'$

$d_{BC} = t_{BC}(V - V')$

$d_{AB}(V+V') = t_{BC} V'(V+V') + t_{BC} V'(V-V') + d_{AB} V'$

$d_{AB} V + d_{AB} V' = t_{BC}(V'V + V'^2) + t_{BC}(V'V - V'^2) + d_{AB} V'$

$d_{AB} V = t_{BC}(V'V + V'^2 + V'V - V'^2)$

$d_{AB} V = t_{BC}(2V'V)$

$d_{AB} = 2 t_{BC} V'$

$V' = \frac{d_{AB}}{2 t_{BC}} = \frac{800m}{2(1080s)}$

$V' = 0.37 m/s$