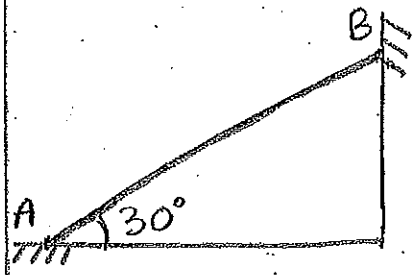
I. Let $\vec{a}_B = 2\ ft\,s^{-2} \downarrow$ and $\vec{v}_B = 4\ ft/s \downarrow$

Find $\vec{a}_A$ and α_{bar}. AB = 16 ft.



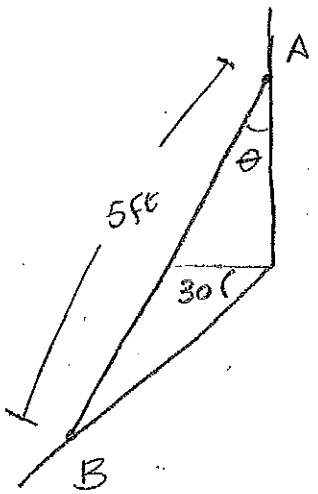
CAMPAD

$\alpha = .0962\ rad/s^2$

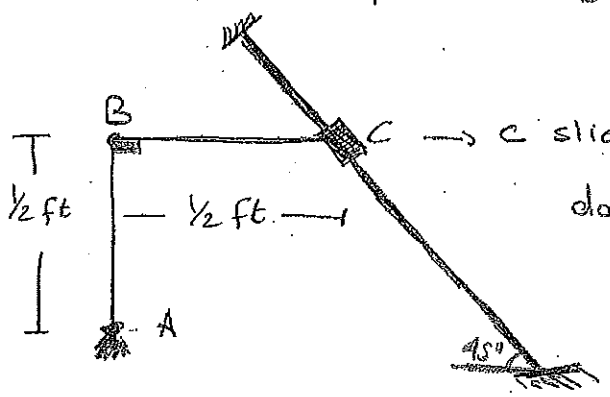
$a_A = .385\ ft/s^2$

If $v_A = 6\ ft\,s^{-1} \downarrow$ $\theta = 45°$

Find ω_{AB} and v_B



III Find α_{AB}. Let $v_c = 4$ ft/s ↖ $a_c = 3$ ft/s² ↘



→ c slides up & down on the bar

A & B are pins.

$\alpha_{AB} = 36.2$ rad/s²

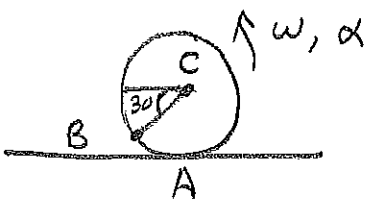
$\alpha_{BC} = 27.8$ rad/s²

IV

$\alpha_{disk} = 8\ rad/s^2$ $\omega_{disk} = 3\ rad/s$. Find $\vec{a}_B$

assume no slipping. leave R as such.

= show your work =



$|\vec{a}_B| = 2.25\ m/s^2$

$V_B = 8$ ft/s ⟶ $V_C = 4$ ft/s ⟵

Find ω_{gear} and V_A