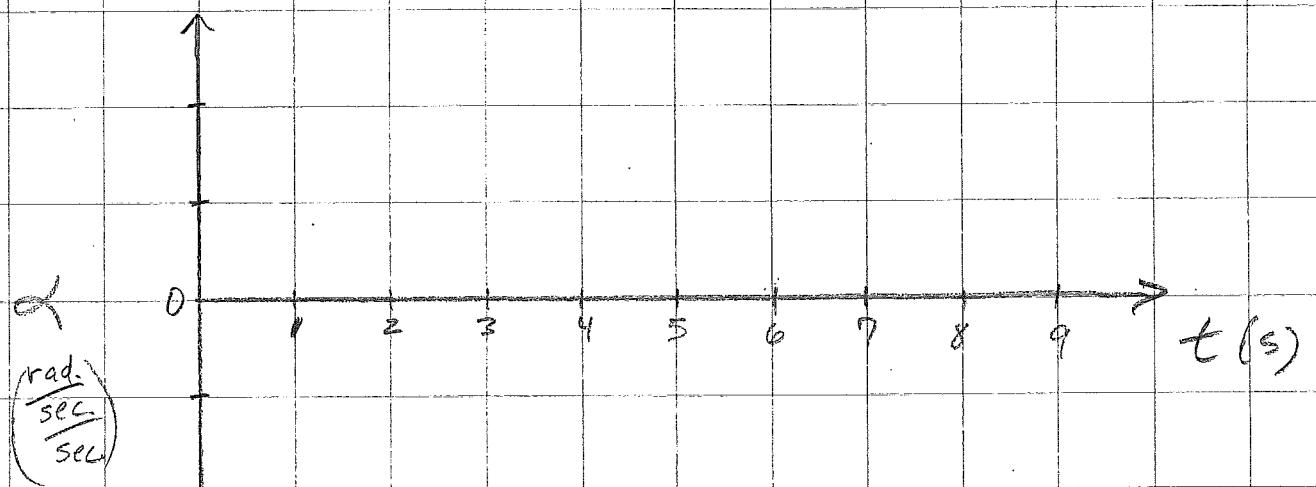
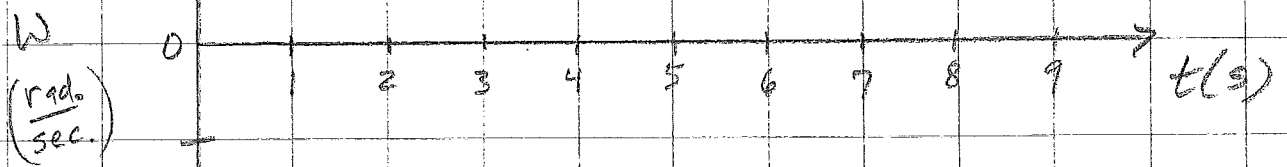
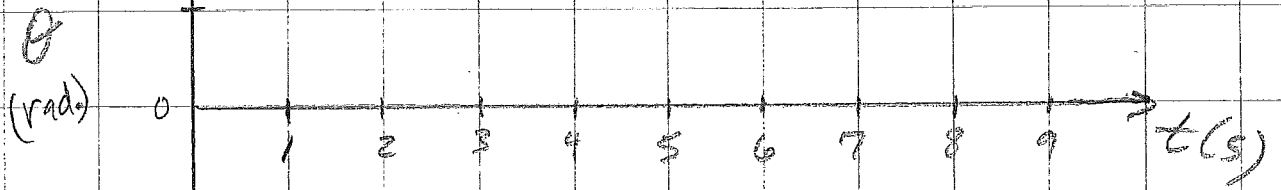
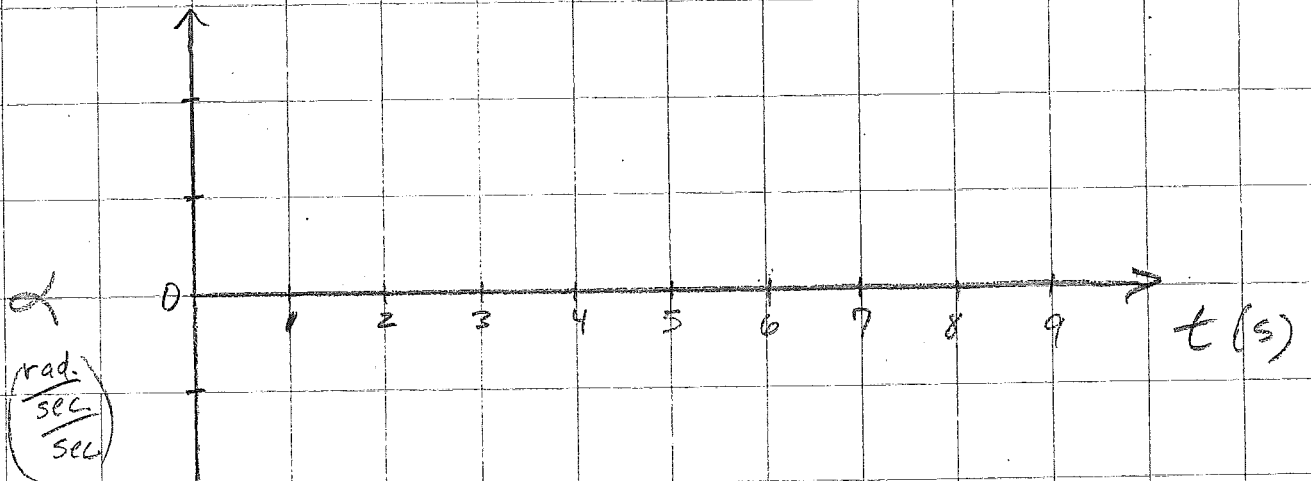
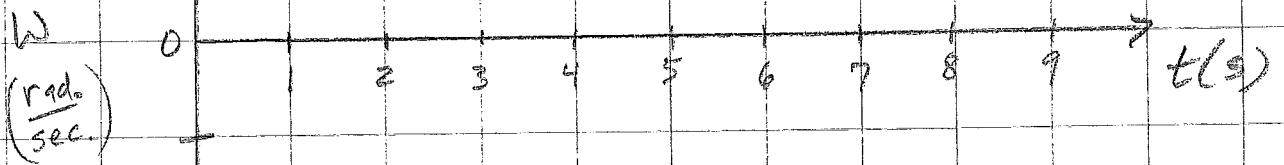
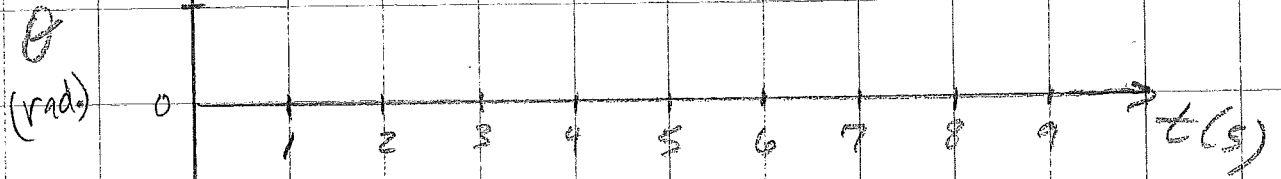


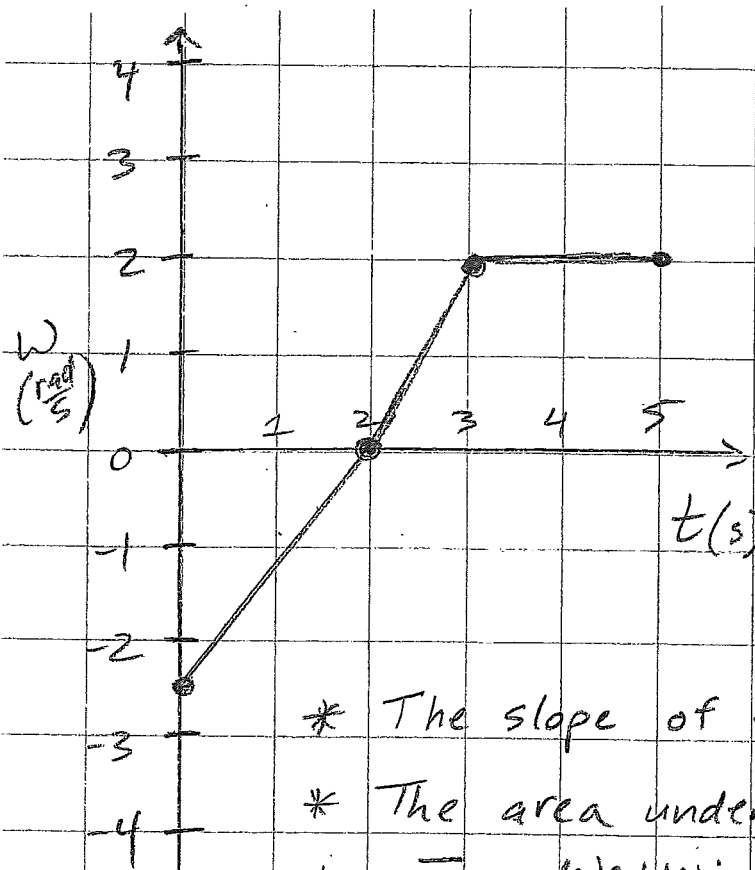
K2

Stacked Rotational Kinematic Graphs.



Stacked Rotational Kinematic Graphs.



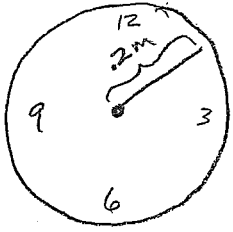


1. Find $\Delta\theta$ for $t=0$ to $t=2$
2. Find $\Delta\theta$ for $t=0$ to $t=3$
3. Find $\Delta\theta$ for $t=0$ to $t=5$
4. Find α at $t=2.5$ sec
5. Find α at $t=4$ sec
6. Find $\bar{\omega}$ from $t=0.5$ to $t=4$
7. Find $\bar{\alpha}$ from $t=0.5$ to $t=1.5$

* The slope of the $\omega-t$ graph is α

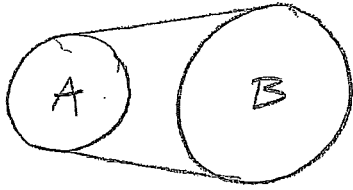
* The area under the $\omega-t$ graph is $\Delta\theta$

* $\bar{\omega} = \frac{\omega_f + \omega_i}{2}$ and $\bar{\alpha} = \frac{\alpha_f + \alpha_i}{2}$



The second hand on a clock is 0.2 m in length - it takes 1 minute for the second hand to complete a 2π radian revolution.

1. Find $\bar{\omega}$, $\bar{\alpha}$, \bar{v} , $a_{\text{tangential}}$, $a_{\text{centripetal}}$ and a_{total} for the tip of the second hand. Use radians, not degrees.
 2. Find $\bar{\omega}$, $\bar{\alpha}$, \bar{v} , $a_{\text{tangential}}$, $a_{\text{centripetal}}$ and a_{total} for the midpoint of the second hand. Use radians, not degrees.
- * Report your answers as decimals.



radius of A: 1 meter
radius of B: 2 meters

Wheels A and B are connected by a belt that does not slip.

From rest wheel A accelerates at a constant $\alpha_A = .5 \text{ rad/s}^2$.
How long does it take wheel B to reach an angular velocity of 30 rad/sec ? $\omega_i = 0 \text{ rad/sec}$.

Hint: The tangential velocity of A and B are equal, and so are the tangential accelerations.