## Homework H.3.G

Given: A caster wheel is supported by an L-shaped bracket. The bracket is rotating about a fixed vertical axis with a constant rate of $\omega_{1}$. The wheel rotates with respect to the bracket with a constant rate of $\omega_{2}$.

Find: For this problem, determine:

1. The angular velocity and angular acceleration of the wheel. Write your answers as vectors.
2. The acceleration of point A on the wheel at the instant shown when A is immediately to the right of the center O of the wheel.
3. The acceleration of point B on the wheel at the instant shown when B is immediately above the center O of the wheel.


Use the following parameters in your analysis: $\omega_{1}=2 \mathrm{rad} / \mathrm{s}, \omega_{2}=5 \mathrm{rad} / \mathrm{s}, r=200 \mathrm{~mm}$ and $d=$ 100 mm .

