ME 481 - H08 **Name** _____

1) Develop a SolidWorks (SW) kinematic simulation for the four bar shown below with crank link 2 rotating at constant 30 rpm CCW. Attach a screen shot of your mechanism. Create three MATLAB graphs from your results. Be certain to start each plot at $\theta_2 = 0°$. Do not plot $-180° \leq \theta_2 \leq 180°$.

a) θ_4 [deg] as a function of θ_2 [deg] (only one full revolution)

b) $\dot{\theta}_4$ [rad/sec] as a function of θ_2 [deg] (only one full revolution)

c) $\ddot{\theta}_4$ [rad/sec^2] as a function of θ_2 [deg] (only one full revolution)

2) Use simple trigonometry to determine θ_{4_MAX} and θ_{4_MIN} and compare to SW values. Show your work.

trig θ_{4_MAX} _____ trig θ_{4_MIN} _____

SW θ_{4_MAX} _____ SW θ_{4_MIN} _____

3) Explicitly verify your SW results and provide documentation including screen plots and hardcopy of code.