

Names: _____ , _____

Table W1. Numerical simulation results for a pendulum at the bottom of its swing.

Circular weight position, $L_{w,cg}$ (cm)	Angular velocity magnitude (rad/s)	Swing time (s)
4		
9		
14		
19		
24		
29		
34		

Attach the following to this worksheet:

1. Printouts of the following plots:
 - a. A plot that shows how the pendulum's angular velocity magnitude at the bottom of the swing varies with the circular weight's location *in centimeters* along the rod (that is, you should have angular velocity magnitude on the vertical axis and weight location in centimeters on the horizontal axis).
 - b. A plot that shows how the corresponding swing time varies with the circular weight's location *in centimeters* along the rod (i.e., plot the swing time on the vertical axis and weight location in centimeters on the horizontal axis).

Be sure to do the following:

- Properly label your axes with units and use markers that are not connected with a line.
- Include your initials and the date in the title of each figure.
- Remove the gray border around your plots by including the code

```
set(gcf, 'color', 'w')
```

after the plot command.

- Copy your plots into a single Word file by selecting **Edit** → **Copy Figure** in each figure window and pasting the plot into your Word file.

2. A printout of your Simulink model used for simulation in Part C.
3. A printout of your MATLAB m-file used to run your simulation in Part C and to plot the simulation results.