

Name		LA ( )
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**B. Results and data analysis (52 pts)**

**Part I. Centripetal force vs. Angular velocity at fixed values of  $M$  and  $R$  (26 pts)**

Mass of the free mass holder = \_\_\_\_\_

Paste the logarithm of the centripetal force versus the logarithm of the angular velocity graph here and record the fitting results.

**Part II. Centripetal force vs. Radius at fixed values of  $M$  and  $\omega$  (26 pts)**

**Table 1**

Radius (m)	Centripetal force (N)	
	Mean	Standard deviation

Paste the centripetal force versus radius graph here and record the fitting results.

TA signature:

**C. Answer the following questions after the experiment (6 pts each)**

5. In Part I of the experiment, compare the fitted values of the intercept and slope with the expected theoretical values. Calculate the percent error.
  
  
  
  
  
  
  
  
  
  
6. Discuss the possible sources of error in this part of the experiment.
  
  
  
  
  
  
  
  
  
  
7. In Part II of the experiment, compare the fitted values of the slope and the intercept with the expected theoretical values. Calculate the percent error of the slope.
  
  
  
  
  
  
  
  
  
  
8. Would the percent error of the slope and intercept decrease if the free mass was increased (in the experiment, the value of the free mass is fixed)? Explain your answer.