

Taleeya Thomas 009L

Name: _____ Date: 1/27/21 Section: _____

Partners' Names: _____

Experiment 1 Worksheet

Table 1. Measurement of Period of Pendulum (Steel Sphere, 10° , $l = 1$ m)

Amplitude	Time for 10 Periods (s)	Period (s)
10°		

1. What will happen if you increase the amplitude of the pendulum?
If you increase the amplitude of the pendulum it will have a longer period. Meaning the frequency decreases.
2. What will happen if you decrease the mass of the pendulum ball?

Table 2. Effect of small changes of amplitude on period. (Steel Sphere, $l = 1$ m)

Amplitude	Time for 10 Periods (s)	Period (s)
20°		
30°		

3. How does the period depend on changes of amplitude?

Table 3. Effect of mass of ball on period. (Aluminum Sphere, 10° , $l = 1$ m)

Amplitude	Time for 10 Periods (s)	Period (s)
10°		

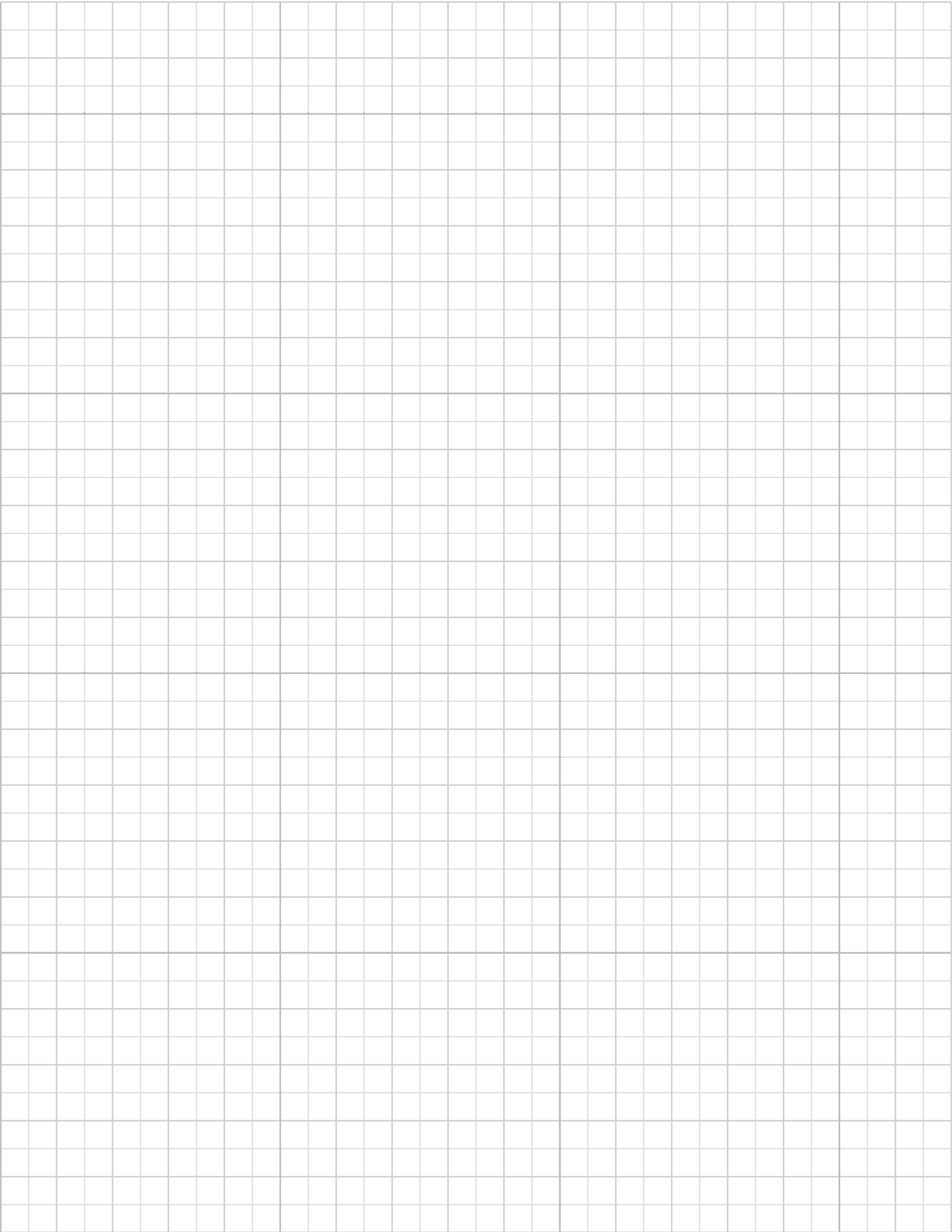
4. How does the period depend on the mass of the ball?

Table 4. Effect of length on period. (Steel Sphere, 10°)

Length (m)	(Measured) Time for 10 Periods (s)	(Calculated) Period (s)	(Measured) Period (s)	Square of (Measured) Period (s^2)
0.50				
0.60				
0.70				
0.90				
1.20				
1.50				

5. Compare the calculated period to the measured period?
6. What is the slope of the line you drew as a number? Include units.
7. Solve Eq. 1.4 for g in terms of variables.
8. Using your answer from bullet 6 above, compute a value for g . How does it compare with the known value of 9.81 m/s^2 ?

Graph 1. _____



Graph 2. _____

