

Uncertainty Worksheet**Name:** _____

You will receive either a 100% or a zero for this assignment. Only perfect worksheets will be accepted. If your worksheet is not perfect, you will be permitted to retry a similar assignment for reduced credit.

1. Complete the following table.

Measured Value	Uncertainty (Error)	How to write in abstract
9.81254078 m/s	0.25201 m/s	9.81 ± 0.25 m/s
2644.377 mm	48.62 mm	
2.456930×10^{-15} N m ² /kg ²	2.85739×10^{-17} N m ² /kg ²	
0.00006543 kg	0.0000006388 kg	
6734.911 g	28.27 g	
82.661 s	3.071×10^{-3} s	

2. Do Jill's measurements agree with Jack's value within 1 standard deviation, 2 standard deviations, or not at all?

Jill's value	Jack's value	Agree (1, 2, or N)?
3.14 ± 0.19 s	2.87 s	
$(67.303 \pm 0.044) \times 10^{-13}$ m	67.342×10^{-13} m	
0.08223 ± 0.00052 kg	0.08351 kg	
4488 ± 26 N	4438 N	

3. 5 people make the following measurements for the length of a street: 732.9 m, 719.2 m, 736.1 m, 724.4 m, and 727.7 m. For each part, make sure you include the appropriate unit.

- What is the "best value" for the length of the street?
- What is the uncertainty for this group of measurements?
- Using your results to parts (a) and (b), write the length of the street in the appropriate format.