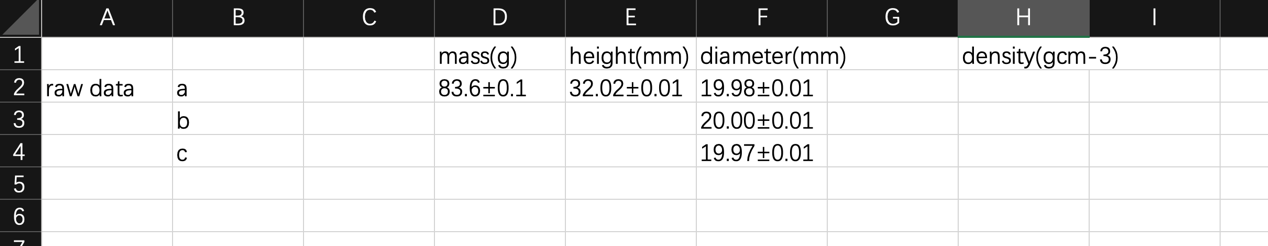
Lab report of investigation 1

——10.7 张奕恒 27

Investigation 1: Measuring

* 1. The length of a pen

1. (145.110.01) mm.
   1. The inner width and outer width of a measuring cylinder
2. Inner width (26.970.01) mm.
3. Outer width (29.800.01) mm.
   1. The diameter of a piece of wire
4. (1.2960.001) mm.
   1. The mass of water in a measuring cylinder
5. Mass of cylinder (81.00.1) g.
6. Mass of cylinder and water in total (158.10.1) g.
   1. The volume of water in measuring cylinder
7. Volume (69.50.5) ml.
   1. The temperature of running water
8. (25.50.5) ℃.
   1. The time for a piece of paper to fall from the desk
9. (0.590.03) s.
   1. Determine the density of a metal cylinder
10. Raw data table



1. Calculation of mean value of the diameter:

(19.98+20.00+19.97)/3 19.98±0.03 mm.

1. Mean volume

Mean diameter^2\*π\*height/4 = 19.98^2\*π\*32.02 = 40157mm3 = 40.157cm3

1. Mean density

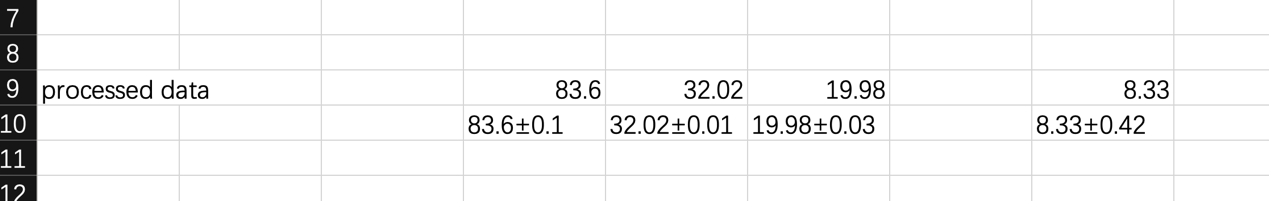
Mean mass/mean volume = 83.6/40.157 8.33gcm-3

1. Uncertainty

0.1/83.6+0.01/32.02+0.03/19.98\*2 0.0045 = 5%

8.33\*5% = 0.42gcm-3

1. Processed data table



1. Result

The density with uncertainty we get from the data is 8.33±0.42gcm-3