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PHYSICS LAB

(20147)

Experiment No. 2

Basic Measurements
A. Vernier Caliber
B. Micrometer Caliper

Name: ……. Reg. No. ( )

Partner name:…….. Class ( )

Date / / 2021 Mark ( )

1. Objectives:

2. Apparatus

Sample:

3. Data:

A. The Vernier Caliber

Complete the following table

Table 1: Diameter of a thin tube

NO.	Main Scale mm	Vernier Scale mm	Diameter mm
1.			
2.			
		Mean value =	

Table 2: Diameter of a thick tube.

Term		Main Scale mm	Vernier Scale mm	Count Value mm	Mean Value mm
Outside Diameter	1.				
	2.				
Inside Diameter	1.				
	2.				
Length	1.				
	2.				

a) Measure the mass of the tube using the electronic balance.

_____

b) Calculate the average internal volume of the tube

_____

_____

_____

c) Calculate the density of the material of the tube in SI-units

_____

_____

_____

B. The Micrometer Caliber

Complete the following tables

Table 3. Diameter of different wires.

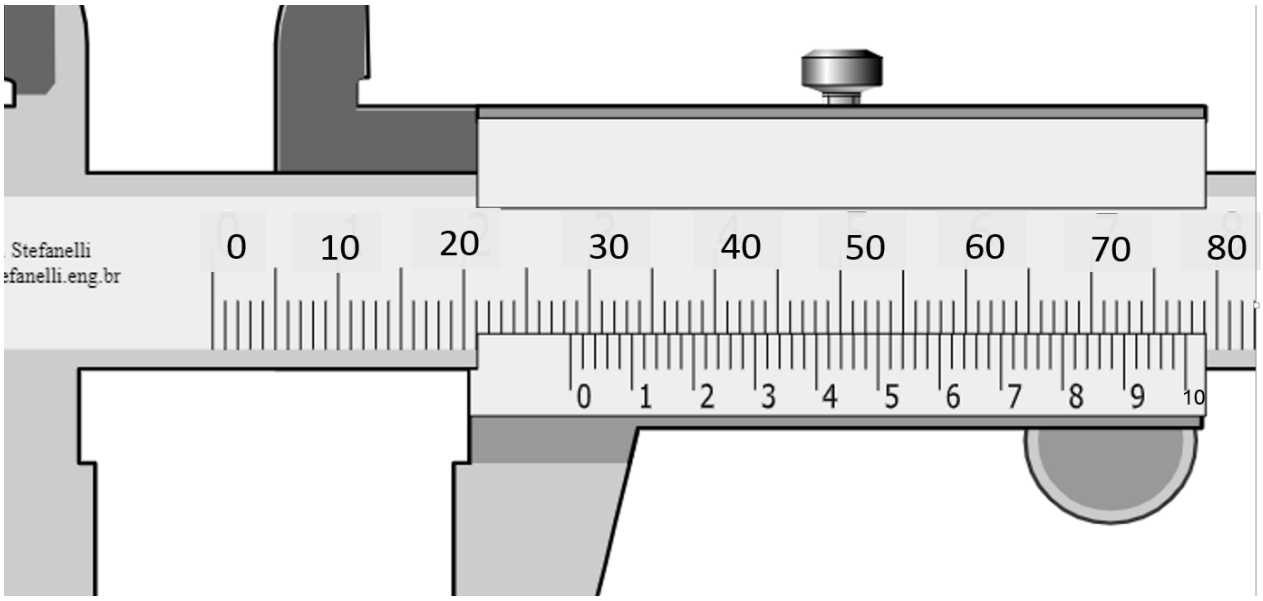
Term		Main Scale mm	Vernier Scale mm	Count Value mm	Mean Value of mm
Thick wire	1.				
	2.				
Mid. wire	1.				
	2.				
Thin wire	1.				
	2.				

Table 4: Thickness of a plate.

NO.	Main Scale mm	Vernier Scale mm	Thickness mm
1.			
2.			
		Mean value=	

4. Questions

1) The Figure below shows a new Vernier that differ than the one used in our lab



a) Determine the least count of this vernier.

_____

_____

_____

b) Write the reading of this vernier.

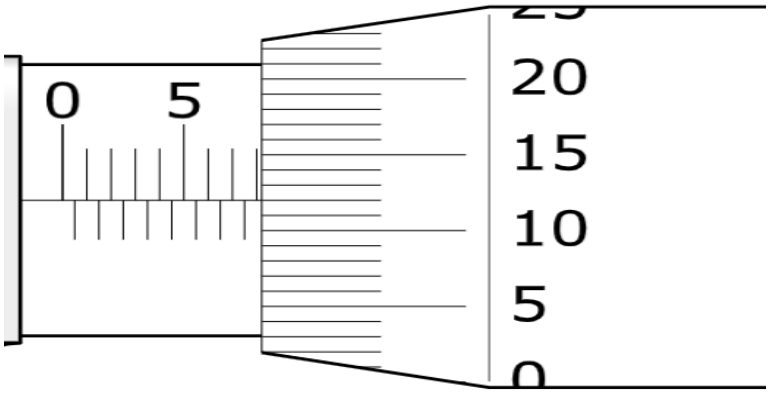
Main reading (mm)	Vernier reading (mm)	Count Value (mm)

c) What is the error in the reading of this Vernier?

_____

_____

2) One measurement for thickness of a plate was taken using micrometer and shown below



a) Write the reading of this micrometer.

Main reading (mm)	Vernier reading (mm)	Count Value (mm)

b) What is the thickness of the plate?

_____

c) What is the error of the thickness?

_____

d) The final answer of the thickness is _____