LAWS OF FLOW (A)

Name:..

Group: ....

Date:...

1. Goal of the experiment: ....

2. Initially set values of the:

a) rate of flow Q = ...

b) viscosity of fluid η = ...

c) density of fluid ρ = ...

3. The lateral and the total pressure in the tube:

	Tube radius, r	Lateral pressure, p_{L1}	Total pressure, p_1	Lateral pressure, p_{L2}	Difference in lateral pressures $\Delta p = p_{L1} - p_{L2}$
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

4. Calculations of the vascular resistance, the average speed of flow and the Reynolds number:

lp.	vascular resistance, R_V	dynamic pressure, p_d	average speed of flow, $\bar{v}$	Reynolds number, Re
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

5. Conditions in which the turbulent flow progresses:

r = ..., Q = ..., η = ...

Re = ..., $\overline{v}$ = ...

Make graphs of the dependencies $R_v = f\left(\dfrac{1}{r^4}\right)$ and $\overline{v} = f(r)$. On the graph $\overline{v} = f(r)$ plot the point of coordinates $(r,\ \overline{v})$ corresponding to the turbulent flow (point 5 of this report)

Conclusions: ....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....

Laws of Flow (B)

Name:...

Group: ....

Date:..

1. Goal of the experiment: ....

2. Set values of the:

    a) radius of the tube r = ...

    a) viscosity of fluid η = ...

    b) density of fluid ρ = ...

3. The lateral and total pressure in the tube:

lp.	Rate of flow, Q	Lateral pressure, p_{L1}	Total pressure p	Lateral pressure, p_{L2}	Difference in pressures $\Delta p = p_{L1} - p_{S2}$
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

4. Calculations of the vascular resistance, the average speed of flow and the Reynolds number:

lp.	Vascular Resistance, R_V	Dynamic pressure, p_d	Average speed of flow, $\bar{v}$	Reynolds number, Re
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Make a graph of the dependencies $v = f(Q)$

Conclusions: ....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....