MEASUREMENTS OF DIMENSIONS OF SMALL OBJECTS BY MICROSCOPE

Name: .....

Group:.....

Date: .....

1. Goal of the experiment:.....

   .....

2. Smallest dimension of a structure that can be observed by the microscope:

   - numerical aperture: A = ...
   - wavelength of light used for observation: λ = ...
   - resolving power of the microscope: RP = ...
   - length of the smallest structure: .....

3. Calibration procedure - determination of the numerical factor k:

	unit	numerical value	error of measurement
smallest division b			
distance s			
reading r_1			
reading r_2			
number of divisions N_1 $N_1 = (r_2 - r_1)$			
numerical factor k			

4. Determination of the mean value of erythrocytes' diameter D:

	r_1	r_2	$N_1 = (r_2 - r_1)$	$D = k \cdot N_1$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Mean value: $\overline{D} =$ .....

Standard deviation: $s_D =$ .....

Maximal error of the mean $\Delta\overline{D} = \pm 3 s_D =$ .....

$\overline{D} \pm \Delta\overline{D} =$ .....

Conclusions: .....