

UM-SJTU JOINT INSTITUTE
PHYSICS LABORATORY
DATA SHEET (EXERCISE 2)

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Group: 18

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NOTICE: Please remember to show the data sheet to your instructor before leaving the laboratory. The data sheet will not be accepted if the data are recorded with a pencil or modified with a correction fluid/tape. If a mistake is made in recording a future item, cancel the wrong value by drawing a line through it, record the correct value legibly, and ask your instructor to confirm the correction. Please remember to take a record of the precision of the instruments used. You are required to hand in the original data with your lab report, so please keep the data sheet properly.

distance x		cm	\pm ABS	cm	
$x_{A,1}$	21.720	$x_{B,1}$	9.645	S_1	12.075
$x_{A,2}$	21.720	$x_{B,2}$	9.675	S_2	12.045
$x_{A,3}$	21.70	$x_{B,3}$	9.65	S_3	12.05

Table 1. Distance measurement data.

time t	S	\pm 0.01	S
t_1	4.58		
t_2	4.56		
t_3	4.55		
t_4	4.60		
t_5	4.52		
t_6	4.58		

Table 2. Time measurement data.

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diameter d mm		± 0.005 mm
d_1	1.997 2.000	d_6 1.997 2.000
d_2	1.996 1.995	d_7 1.996 1.995
d_3	1.996 1.995	d_8 1.995 2.000
d_4	1.996 2.000	d_9 1.997 1.995
d_5	1.997 2.000	d_{10} 1.998 2.000

Table 3. Measurement data for the diameters of the balls.

diameter D mm	± 0.02 mm
D_1	61.58
D_2	61.68
D_3	61.54
D_4	61.64
D_5	61.62
D_6	61.60

Table 4. Measurement data for the inner diameter of the flask.

density of the castor oil ρ g/cm ³	± 0.005 g/cm ³
mass of 40 metal balls m g	± 0.001 g
temperature in the lab T °C	± 0.1 °C
acceleration due to gravity in the lab g m/s ²	

Table 5. Values of other physical quantities.

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