Small bob

Sr No	object	x (m)	y m	θ	$\mu = \tan\theta$	$\mu_s = y/x$
01	Wooden Block	25.3 0.253m	13.9cm 0.139m	24°	$\mu = \tan(24)$ $= 0.4$	$\frac{0.139}{0.253}$ $= 0.54$
02	metallic sphere	25.3 0.253m	5.4cm 0.054m	1°	$\mu_s = \tan(1)$ $= 0.12$	$\frac{0.054}{0.253}$ $= 0.12$

Big Bob

Sr No	obj	x (m)	y (m)	θ	$\mu = \tan\theta$	$\mu_s = \frac{y}{x}$
01	Wooden Block	25.3cm 0.253m	13.4cm 0.139m	24°	$\tan(24)$ $= 0.4$	$\frac{0.139}{0.253} = 0.54$m
02	metallic Bob	25.3 0.253m	5.4cm 0.054m	1°	$\tan(1)$ $= 0.12$	$\frac{0.054}{0.253} = 0.12$

LAB REPORT # 03

Title :-
Static friction.

Experiment :-
Find the coefficient of static friction of a moving body on an inclined art.

Objective :-
The objective of this experiment is to find coefficient of static friction and than $\mu_s = y/x$

Apparatus :-

- Metallic Sphere.
- Wooden Block.
- Inclined Plane.
- Magnetic Board.
- Meter Stick.

Procedure :-

1. Place the incline plane on magnetic board.
2. Make sure the degree on plane is 0°
3. Measure the value of x in meters.
4. Place the wooden box on the inclined plane and start moving the plane upward.
5. Mark the point where the wooden box

Average of wooden Ball :-

$$\text{Average} = \frac{R_1 + R_2}{2}$$

$$= \frac{0.549 + 0.549}{2}$$

$$\text{Average} = 0.549 \text{ m}$$

Average of Metallic Sphere :-

$$\text{Average} = \frac{R_1 + R_2}{2}$$

$$= \frac{0.12 + 0.12}{2}$$

$$\text{Average} = 0.12$$

started moving.

6. Then measure the length of y from x to the moving point of wooden box.
7. Also note the angle where the box started to move.
8. Then find the coefficient of static friction and take two readings of wooden.
9. Repeat the same steps for metallic sphere.
10. At the end calculate the average of both wooden box and metallic sphere.

Conclusion :-

→ The wooden box started moving on a high angle, due to its rough surface.

→ The metallic sphere started moving on very low angle, due to its flat or polish surface.