SANGAM SKM COLLEGE NADI

YEAR 13 PHYSICS

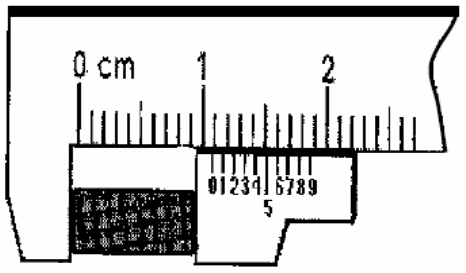
WORKSHEET 1: WEEK 2 MEASUREMENTS

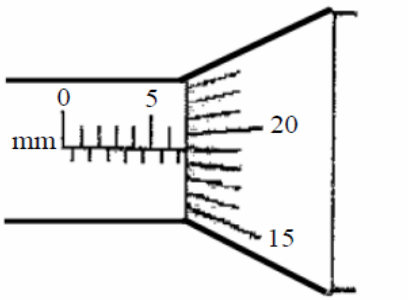
1. A group of students measured the length of a glass slide as 6.8 ± 0.1 cm and the width as 2.6 ± 0.1 cm. Calculate the area of the glass slide with the correct **absolute** uncertainty.

2. The radius of the circular base of a cone has the measurement 3.5 ± 0.1 cm. The cone is 2.4 ± 0.1 cm high. Calculate the volume of the cone, giving your answer with the uncertainty.

   [Volume of cone = $\frac{1}{3}\pi R^2 h$]

3. Write the correct readings for each instrument below.

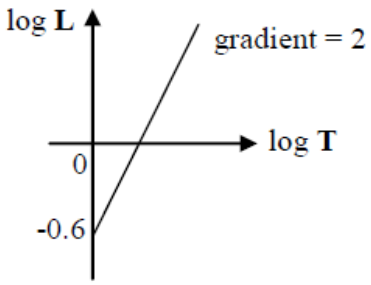




4. A power relationship relating the variable **L** and **T** is given by the equation $\mathbf{L} = a\mathbf{T}^n$ where a and n are constants.

   (i) Express the equation $\mathbf{L} = a\mathbf{T}^n$ in the logarithmic form that can be used to draw a straight line graph.

   (ii) A graph of log **L** vs log **T** is shown below. Use the information on the graph to determine the values of the constants a and n.



5. Show that the equation $V_f = V_i + at$ is dimensionally consistent when the object initially is at rest.