

# Physics

# PHY6T/P10/task

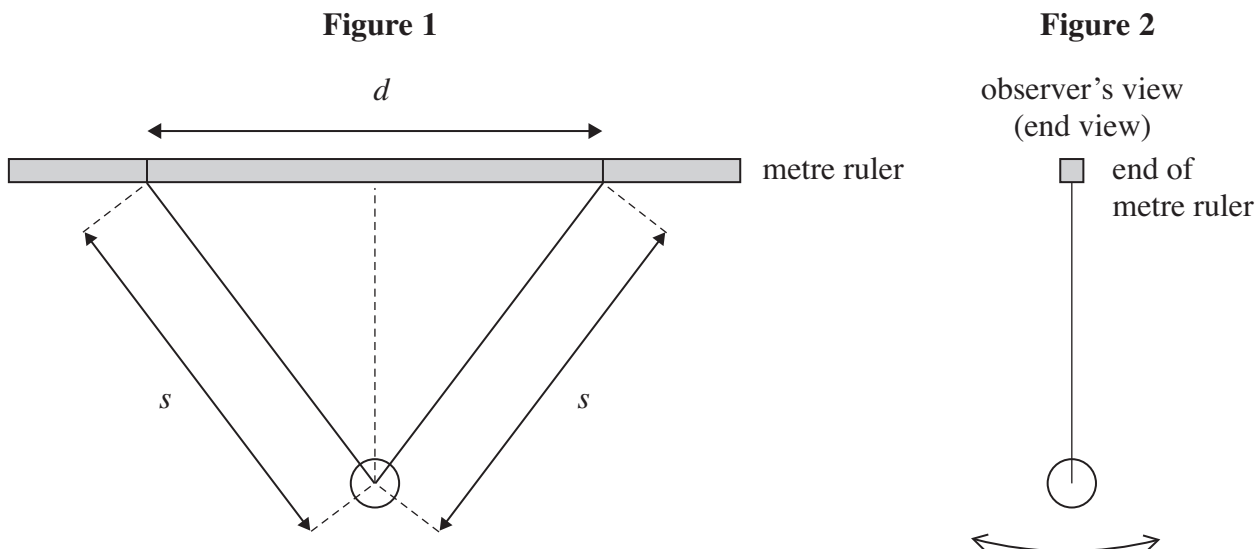
## Unit 6 Investigative and Practical Skills in A2 Physics ISA (P) Simple Harmonic Motion (SHM)

### Task Sheet

This task is worth 8 marks

You are advised to read through these instructions before beginning your work.

You are going to investigate how the time period of a V-shaped pendulum varies with distance  $d$ .



- You are provided with a V-shaped pendulum set up as shown in **Figure 1**.
- The length  $s$  should remain constant throughout the experiment.
- Initially set distance  $d$  to 10.0 cm.
- When the pendulum bob is displaced and released in the direction shown in **Figure 2**, it oscillates with SHM, provided the amplitude is small.
- Make suitable measurements to determine accurately the time period,  $T$ , of the oscillations.
- The mounted pin is available as a reference marker (sometimes called a fiducial marker) for use in timing the oscillations.
- Repeat the time measurements for a range of values of distance  $d$ .
- Use your results to plot a graph of  $T$  against  $d$ .

### After the Investigation

At the end of the investigation, hand in all your written work, including the graph, to the supervisor.

This documentation will be required for Stage 2 of the ISA. Ensure that you have entered your centre details, candidate number and name on all the sheets you have completed.