



General Certificate of Education  
Advanced Subsidiary Examination  
June 2010

## Physics

**PHY3T/Q10/TN**

**Unit 3 Investigative and Practical Skills in AS Physics**

**Investigative Skills Assignment (ISA) Q**

## Instructions to Supervisors

### Confidential

- These instructions are provided to enable centres to make appropriate arrangements for the Unit 3 ISA Q test.
- For further details of the administration of the ISA and for information about these instructions, please see the document *Guidance Instructions for the Administration of Investigative Skills Assignment (ISA): GCE Physics*

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## **ISA (Q) Motion down an Inclined Plane**

### **Centre instructions for the investigation**

In this ISA, candidates will be investigating the motion of a small solid cylinder rolling down an inclined plane.

### **Information for centres**

Candidates should be told approximately one week before undertaking Stage 1 of the ISA that they will be investigating the motion of a solid cylinder rolling down an inclined plane. This will involve considering uniformly accelerated motion, air resistance and manual and electronic timing methods.

Stage 2 of the ISA (the written test: Sections A and B) should be given as soon as possible after the practical investigation.

### **Apparatus**

Centres should ensure that the apparatus provided can be used safely. Each candidate will need:

- (a) a small solid cylinder, such as a 5 cm long wooden dowel about 1 or 2 cm in diameter
- (b) a dynamics trolley track, or a piece of shelving or a wooden plank at least 1 m in length
- (c) a suitable secure method for supporting one end of the track to make a ramp; the angle of incline should be such that the cylinder takes about 2 s to roll down the full length of the track
- (d) a stopclock or stopwatch reading to at least  $\pm 0.01$  s

The apparatus should be set up ready for each candidate at the start of the investigation.