Surname	Centre Number	Candidate Number
First name(s)		2

GCE A LEVEL

1420U50-1A

Z22-1420U50-1A

TUESDAY, 3 MAY 2022

PHYSICS – A2 unit 5
Practical Examination

Experimental Task
TEST 1

1 hour 30 minutes

For Teacher's use only Award a mark of 0 or 1 for each of the following	
Description of graph – (a)(i)	
Risk assessment correct – (a)(ii)	

For Examiner's use only	
Mark awarded	
Total	

1420U501A
01

ADDITIONAL MATERIALS

In addition to this examination paper you will require a calculator and a **Data Booklet**.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Pencil may be used to draw tables and graphs.
Write your name, centre number and candidate number in the spaces at the top of this page.
Write your answers in the spaces provided in this booklet.

INFORMATION FOR CANDIDATES

The total number of marks available for this task is 25.
Your teacher will directly assess your practical skills in parts **(a)(i) and (ii)**.
The number of marks is given in brackets at the end of each question or part question.
You are reminded of the necessity for orderly presentation in your answers.

Examiner only

Answer **all** questions.

You are asked to investigate the rebound of a table tennis ball. The rebound height, h_2, is linked to the drop height, h_1, by the equation:

$$h_2 = kh_1{}^n$$

where k and n are the unknown constants.

(a) (i) Write a plan of how you will carry out this investigation including a description of the graph you will draw and how you will use it to determine k and n. [6]

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(ii) Provide a risk assessment for your investigation. [1]

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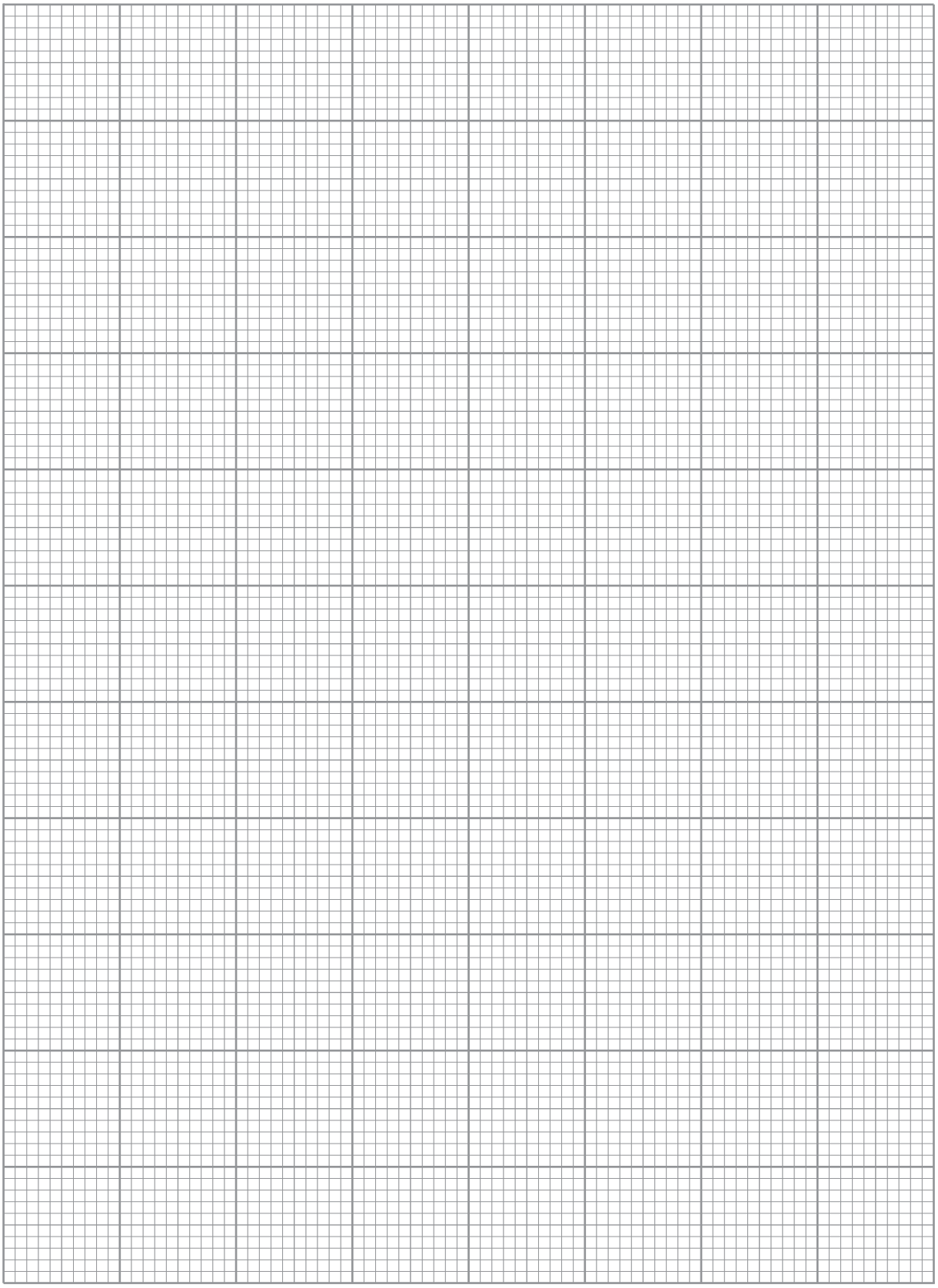
BEFORE MOVING ON TO THE REST OF THE EXPERIMENT PLEASE SHOW YOUR ANSWERS TO PARTS (a)(i) AND (ii) TO YOUR TEACHER.

Examiner only

(b) Using the apparatus available take sufficient readings to obtain values for k and n. Record your results in a table below. State the resolution of any measuring instrument used. **All heights should be recorded to the nearest centimetre**. [6]

Examiner only

(c) (i) Plot your data on a suitable graph to determine values for k and n. **Error bars are not required on the graph**. [4]



Examiner only

(ii) Use your graph to determine a value for n. **You are not required to calculate any uncertainties**. [3]

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(iii) Determine a value for k. **You are not required to calculate any uncertainties**. [3]

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(d) Describe **two** ways in which you could improve the experiment. [2]

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END OF PAPER

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