OCR
RECOGNISING ACHIEVEMENT

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

MATHEMATICS SPECIFICATION A/B/C 1962/08/2345/2318
OPTION B (OCR-MARKED TASKS) **1969/05**
INTERMEDIATE/HIGHER TASK A **I/H TASK A**

TO BE COMPLETED BY 19 APRIL 2005

Additional materials:
Answer booklet
Electronic calculator
Geometrical instruments

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces provided on the answer booklet and in the spaces on any graph or squared paper used.

Write your answers on the answer booklet and any graph or squared paper provided.

If appropriate you may fasten notes and computer printout securely to the answer booklet, graph and squared paper with the answer booklet, graph and squared paper **on top of** any such attached materials.

INFORMATION FOR CANDIDATES

You may use an electronic calculator.

GUIDANCE FOR CANDIDATES

To gain the highest mark possible, you should attempt to include as many of the following features as possible.

Plan the task
- Use a clear method.
- Break the task into stages.
- Write down questions which, as you answer them, help you find out more about the work.
- Explore as many aspects of the task as possible, explaining why and how you do this.
- Develop the task into new situations and explore these thoroughly.

Explain your work
- Use words, suitable tables, diagrams, graphs, calculations, etc.
- Link as much of your work together as possible, **explaining why you chose** the tables and charts you used and rejected others.
- Use algebra or symbols to give efficient and clear explanations.
- Present results and conclusions in the clearest way possible.

State your findings
- Show how patterns have been used and test conclusions.
- State general results in words and explain what these mean.
- Write formulae where appropriate and explain how they have been found from the situations you have explored.
- Prove or justify the results using efficient mathematical methods.
- Develop new results from work previously done and use clear reasoning to prove or justify conclusions. Make sure your reasoning is accurate and draws upon the evidence you have presented.

This question paper consists of 2 printed pages, 2 pages of numbered grids and 4 pages of blank grids

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Registered Charity Number: 1066969
[Turn over

OCR-marked Task [AO1]
Suitable for Intermediate and Higher Tiers

Anyone for T?

A 10 by 10 grid is numbered consecutively from 1 to 100.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

The grid has a letter T placed upon it, as shown on the diagram.
This T has a horizontal bar of length 3 and a vertical bar of length 2.

The number at the bottom of the vertical bar is squared and the numbers at each end of the horizontal bar are multiplied. One answer is then subtracted from the other. This result is called the T value.

This is the working for T_{13}

$34^2 = 1156$

$13 \times 15 = 195$

so T_{13} is $1156 - 195 = 961$

1 Investigate T values found in this way.

2 Extend your investigation, making clear the rules and methods that you use.

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MATHEMATICS SPECIFICATION A/B/C Pilot **1962/08/2345/2318/1969/05 OPTION B**

Grids for use with 'Anyone for T?'

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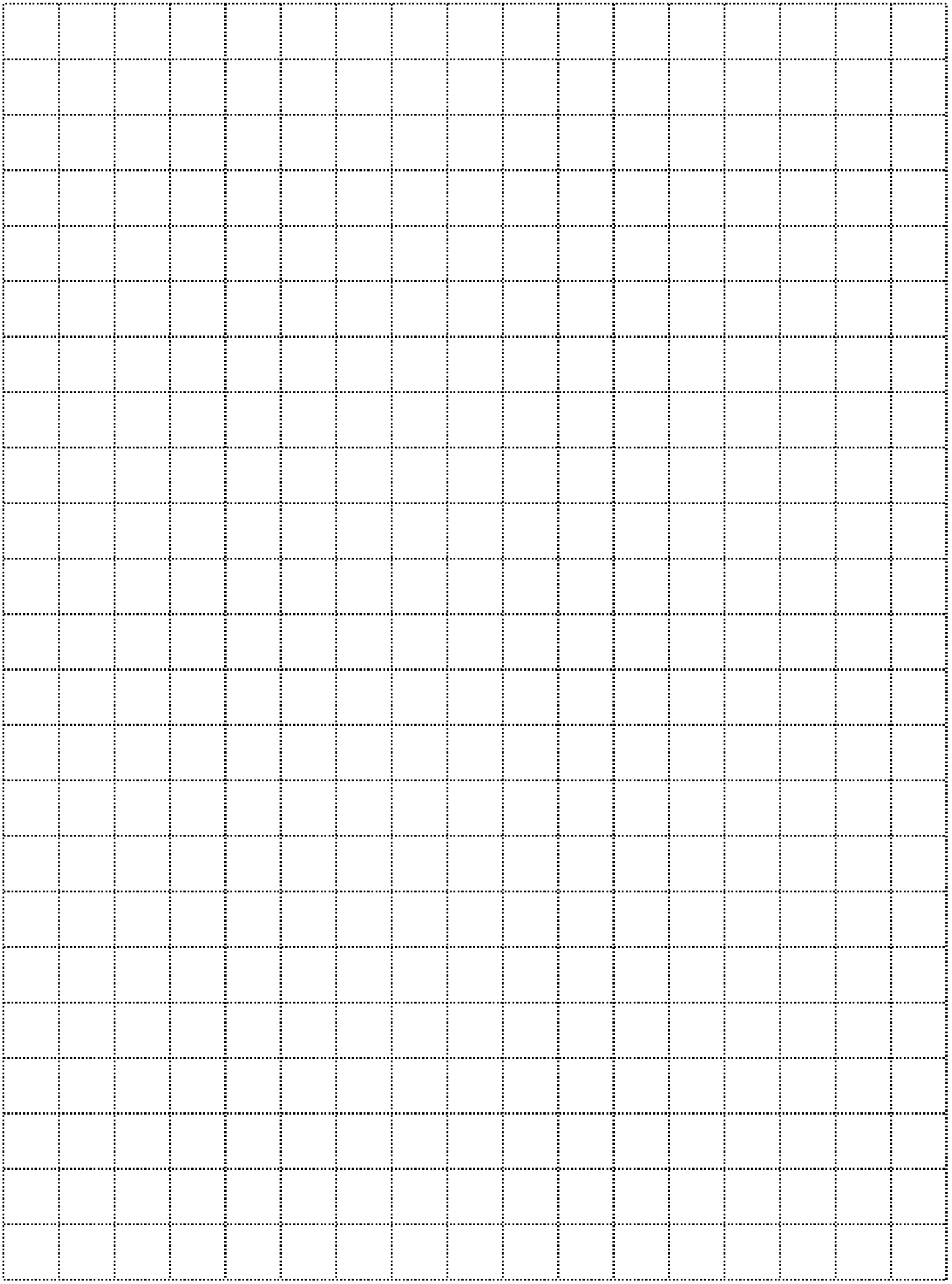

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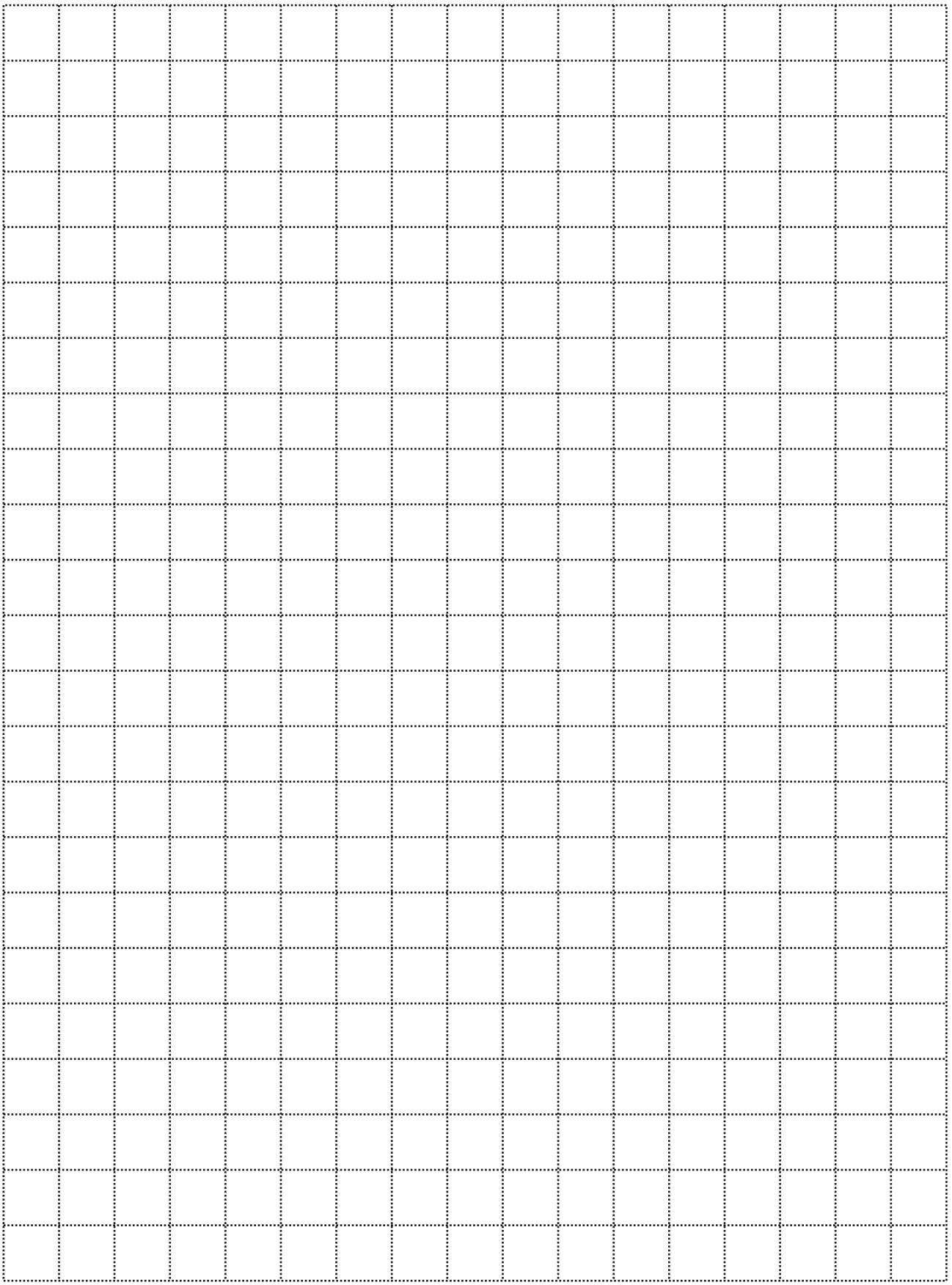

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