

**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 2006**

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.

- |                            |  |
|----------------------------|--|
| <b>Plan the task</b>       | <ul style="list-style-type: none"><li>• Use a clear method.</li><li>• Break the task into stages.</li><li>• Write down questions which, as you answer them, help you find out more about the work.</li><li>• Explore as many aspects of the task as possible, explaining why and how you do this.</li><li>• Develop the task into new situations and explore these thoroughly.</li></ul>   |
| <b>Explain your work</b>   | <ul style="list-style-type: none"><li>• Use words, suitable tables, diagrams, graphs, calculations, etc.</li><li>• Link as much of your work together as possible, <b>explaining why you chose</b> the tables and charts you used and rejected others.</li><li>• Use algebra or symbols to give efficient and clear explanations.</li><li>• Present results and conclusions in the clearest way possible.</li></ul>  |
| <b>State your findings</b> | <ul style="list-style-type: none"><li>• Show how patterns have been used and test conclusions.</li><li>• State general results in words and explain what these mean.</li><li>• Write formulae where appropriate and explain how they have been found from the situations you have explored.</li><li>• Prove or justify the results using efficient mathematical methods.</li><li>• 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.</li></ul> |

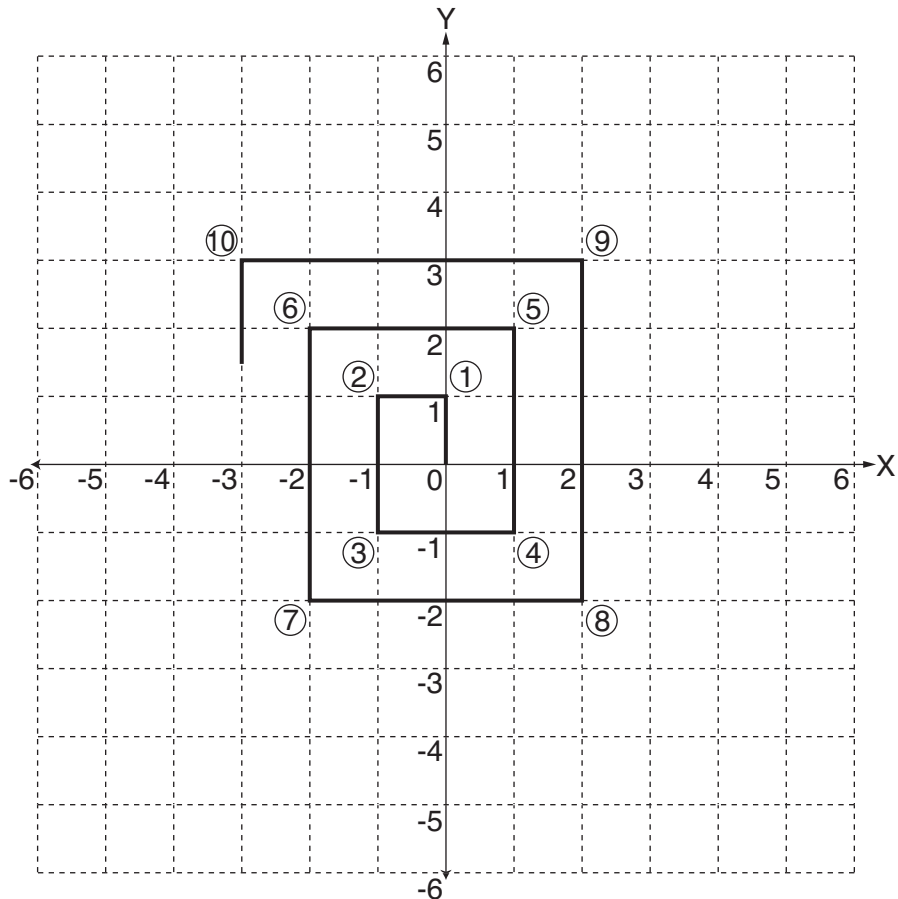
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**This question paper consists of 2 printed pages, 4 pages of blank grids and 2 blank pages.**

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

### Spiral Bound

A spiral is drawn on a square grid. Part of the spiral is shown on this diagram.



The spiral starts at  $(0,0)$  and its corners are labelled ①, ②, ③, ....  
The length of the spiral from the origin  $(0,0)$  to corner ⑤  $(1,2)$  is 9 units.

- 1 What is the length of the spiral from the origin  $(0,0)$  to corner ⑩  $(-3,3)$ ?
- 2 Investigate the length of the spiral from the origin to different corners.
- 3 Extend your investigation, making clear the rules and methods that you use.



RECOGNISING ACHIEVEMENT

Centre Number

Candidate Number

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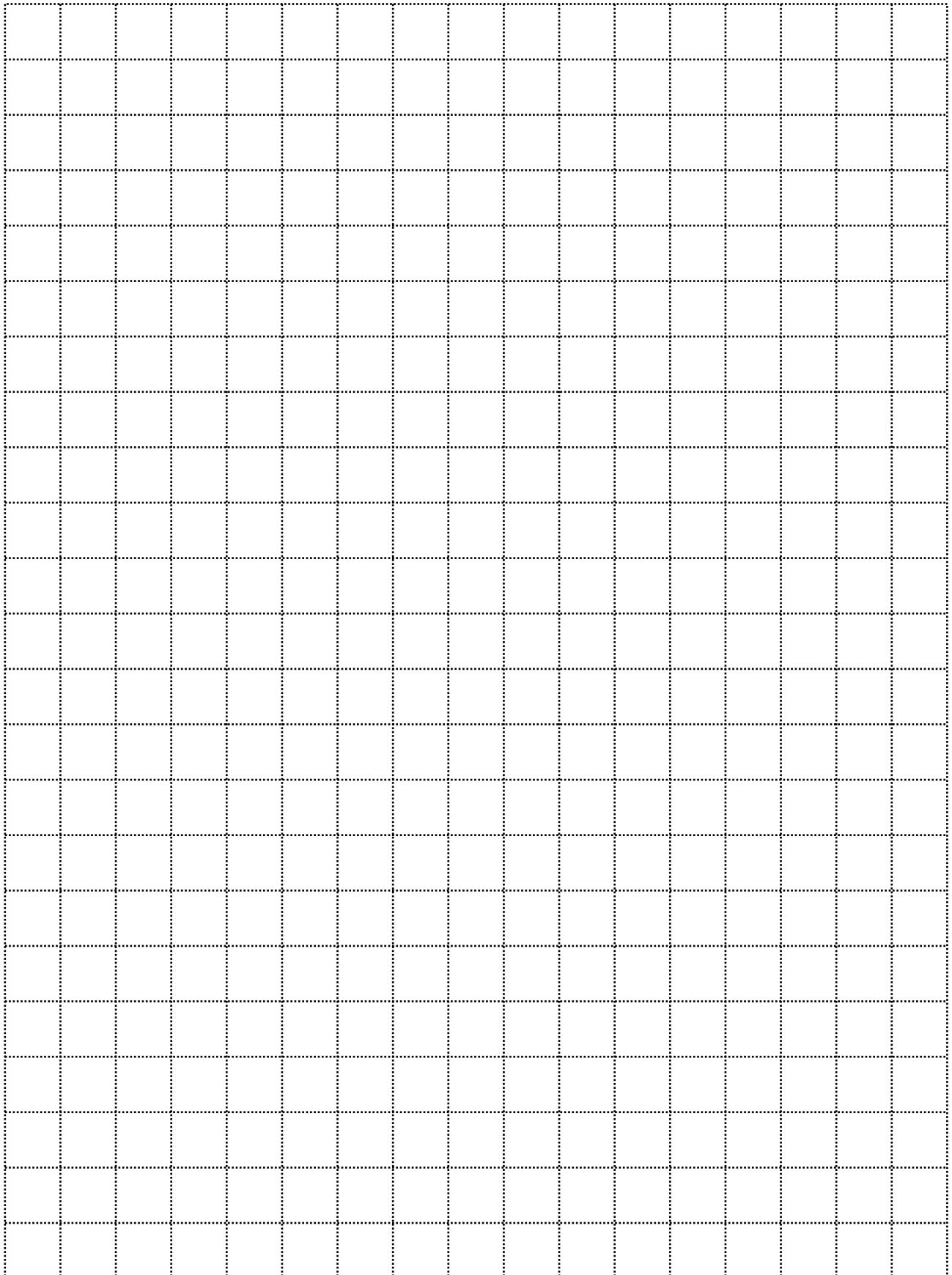
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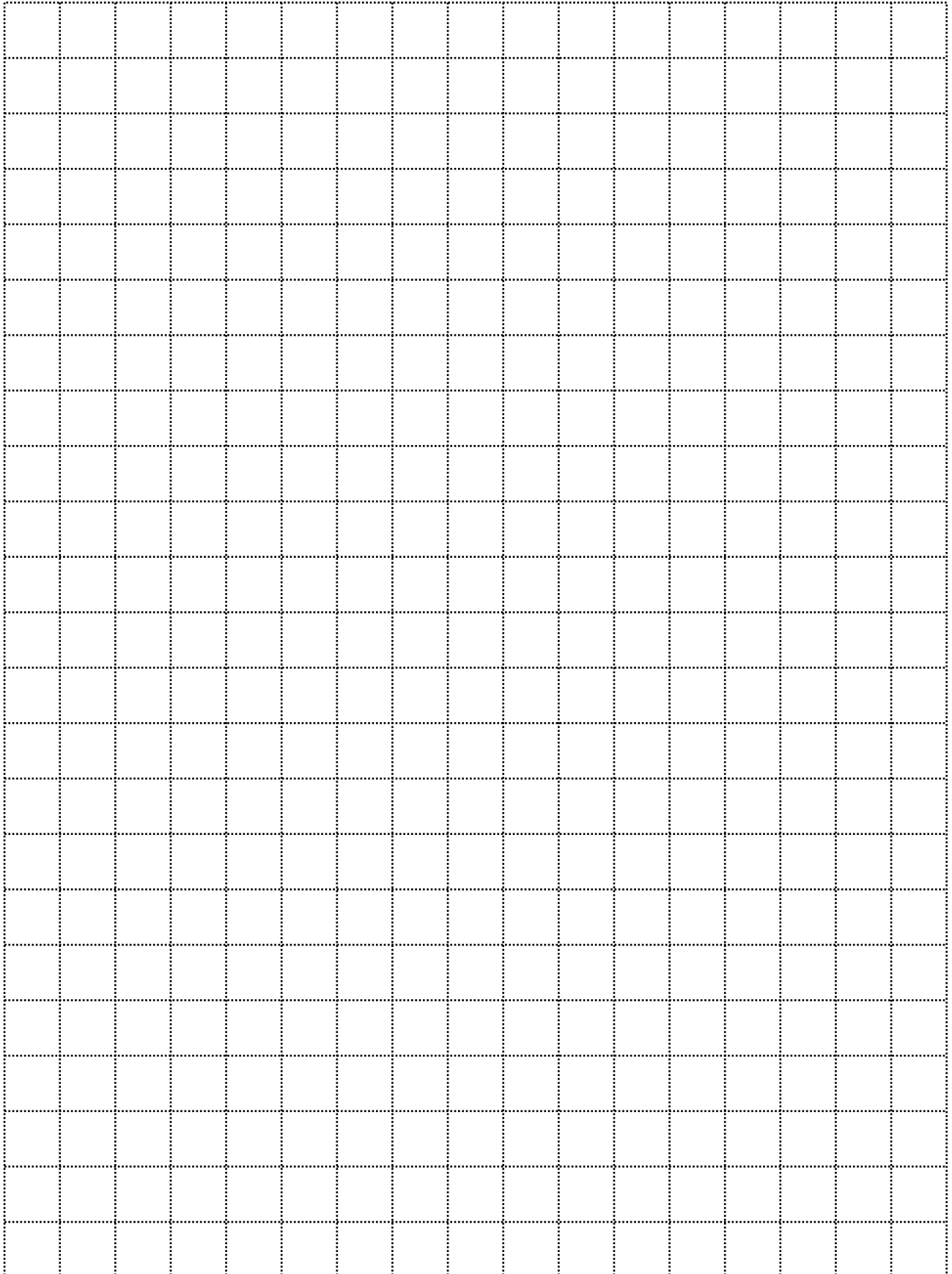
**Detach this sheet.**

**Read the Instructions on the front page of your question paper. Use both sides of this sheet.**

**MATHEMATICS SPECIFICATION A/B/C Pilot**

**1962/08/2345/2318/1969/05 OPTION B**







RECOGNISING ACHIEVEMENT

Centre Number

Candidate Number

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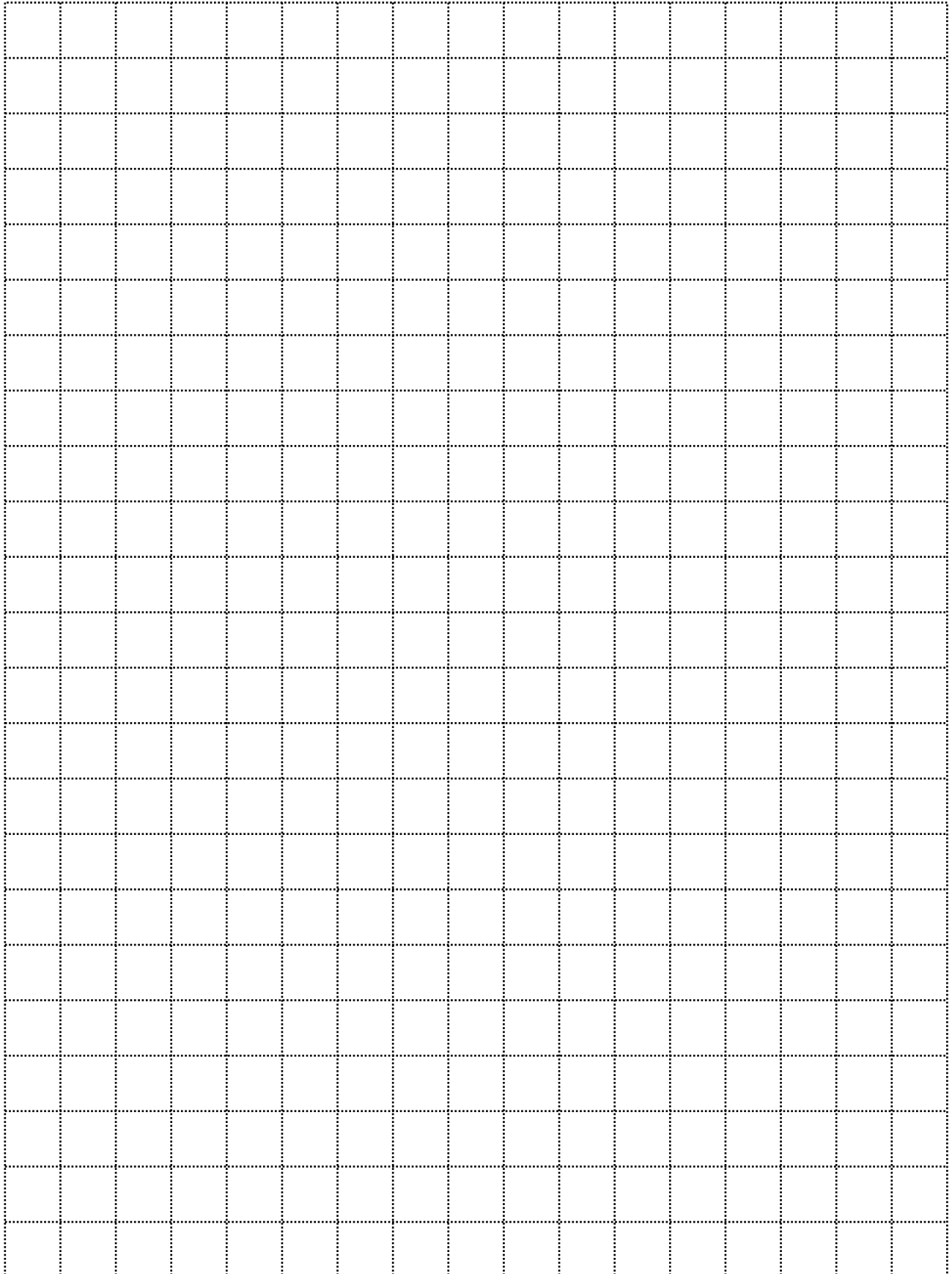
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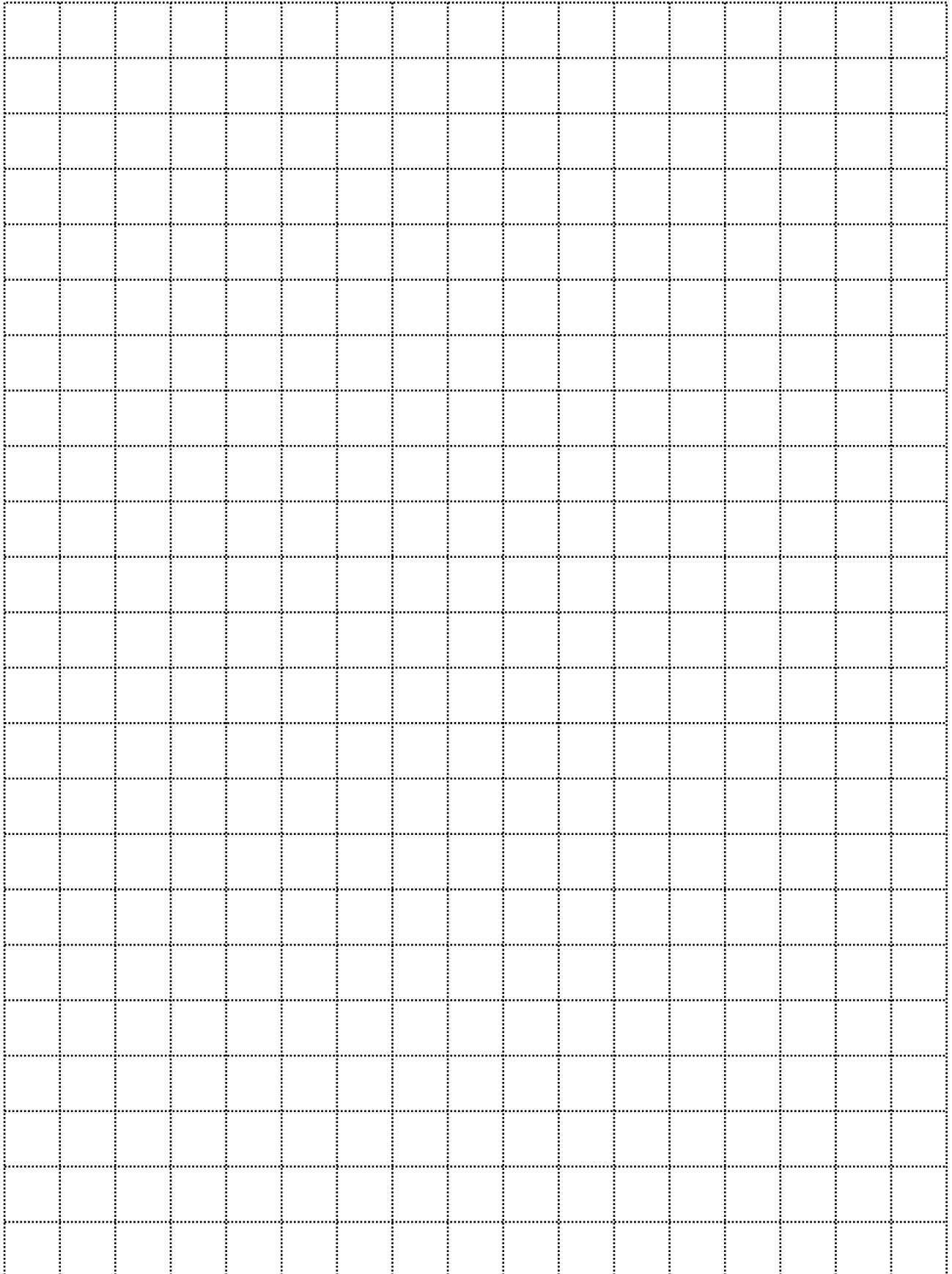
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