



Coimisiún na Scrúduithe Stáit  
State Examinations Commission

Leaving Certificate Examination 2017

# Mathematics

Foundation Level

Friday 9 June      Afternoon 2:00 – 4:30

300 marks

Examination number
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Centre stamp
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Running total
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For examiner	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
Total	

Grade
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## Instructions

There are **two** sections in this examination paper.

Section A                      200 marks                      8 questions

Section B                      100 marks                      2 questions

Answer **all ten** questions.

Write your answers in the spaces provided in this booklet. You may lose marks if you do not do so. There is space for extra work at the back of the booklet. You may also ask the superintendent for more paper. Label any extra work clearly with the question number and part.

The superintendent will give you a copy of the *Formulae and Tables* booklet. You must return it at the end of the examination. You are not allowed to bring your own copy into the examination.

You will lose marks if you do not show all necessary work.

You may lose marks if you do not include appropriate units of measurement, where relevant.

You may lose marks if you do not give your answers in simplest form, where relevant.

Write the make and model of your calculator(s) here:



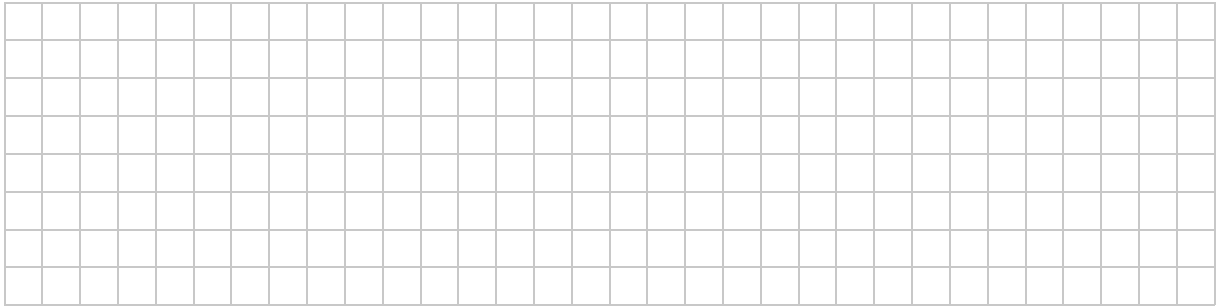
**Question 2**

**(25 marks)**

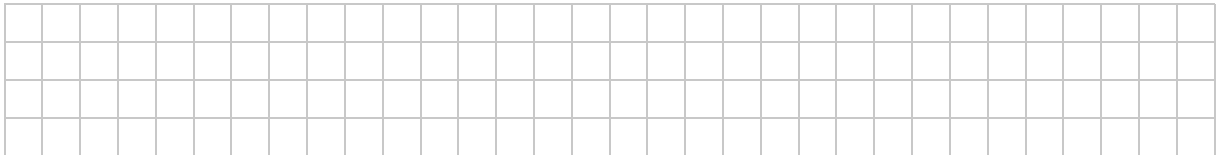
Here is a list of the ages, in years, of 11 children on a school soccer team:

10 12 9 11 12 12 10 9 11 12 10.

- (a) Find the mean age of the children. Give your answer correct to 1 decimal place.

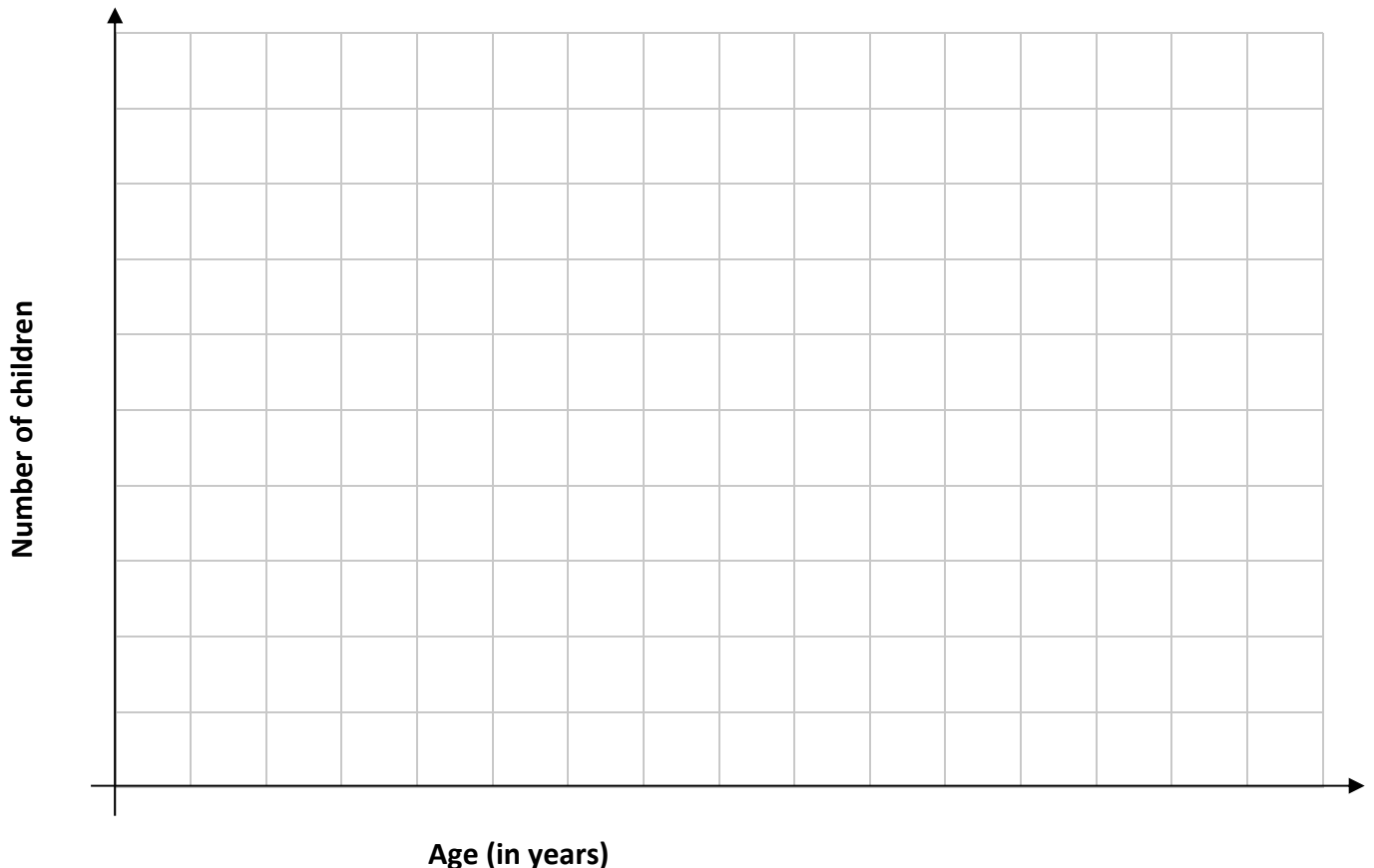


- (b) Find the range of the children's ages.



- (c) Use the data in the list above to complete the table **and** then draw a bar chart of the data using the axes provided.

Age (in years)	9	10	11	12
Number of children				

















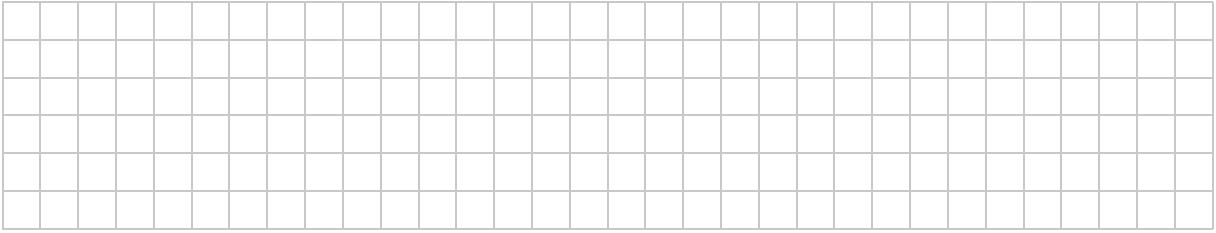




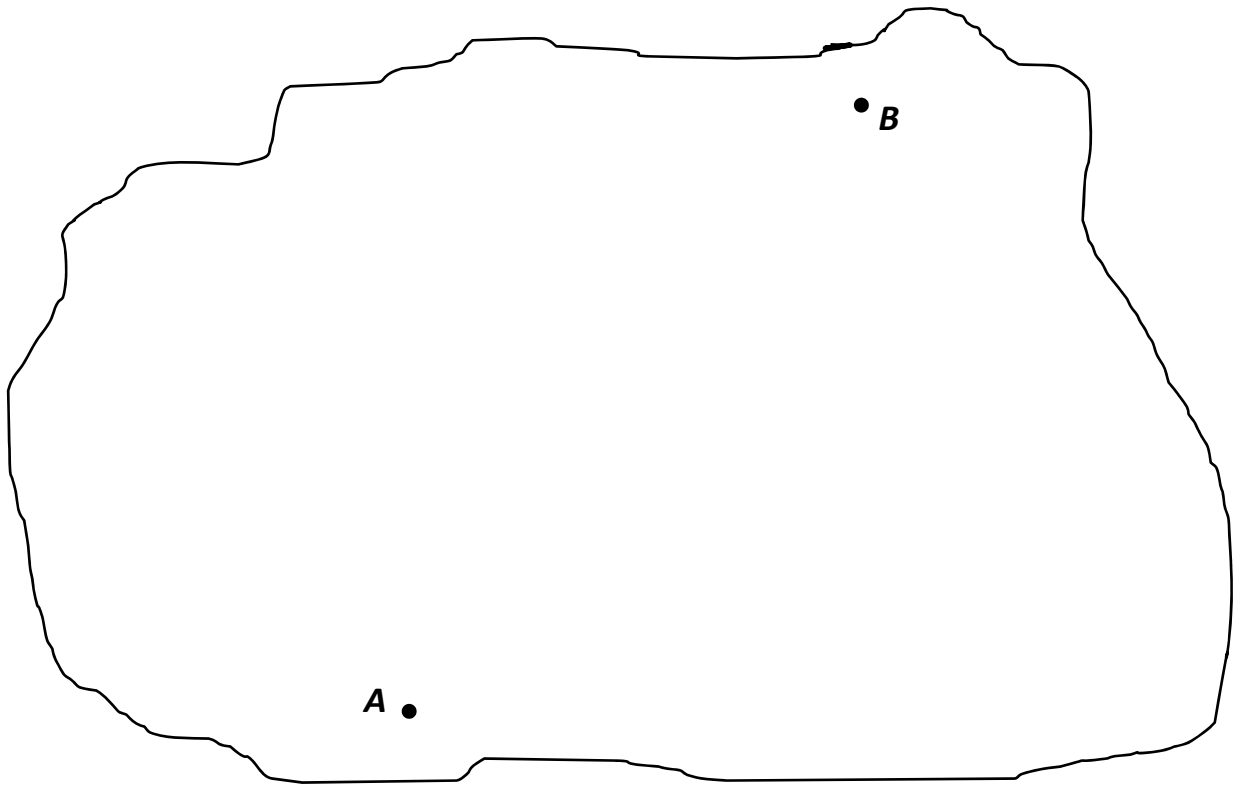
(iii) The formula below shows the relationship between  $C$  and  $F$ :

$$C = \frac{5(F - 32)}{9}.$$

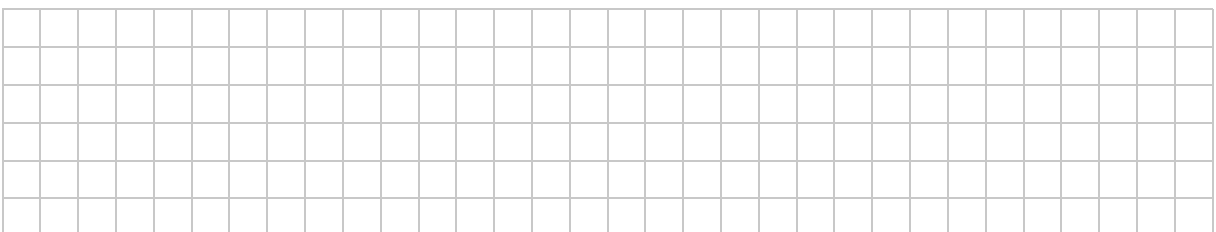
Use the formula to show that  $212^\circ\text{F}$  is equivalent to  $100^\circ\text{C}$ .



- (b) The map below shows 2 villages, **A** and **B**, in a part of a country in Africa. An Irish aid organisation wants to build a warehouse from which to serve the two villages. The warehouse should be less than 60 km from **A** and less than 80 km from **B**. Using your compass, draw **and** shade in the region on the map where the warehouse could be built.



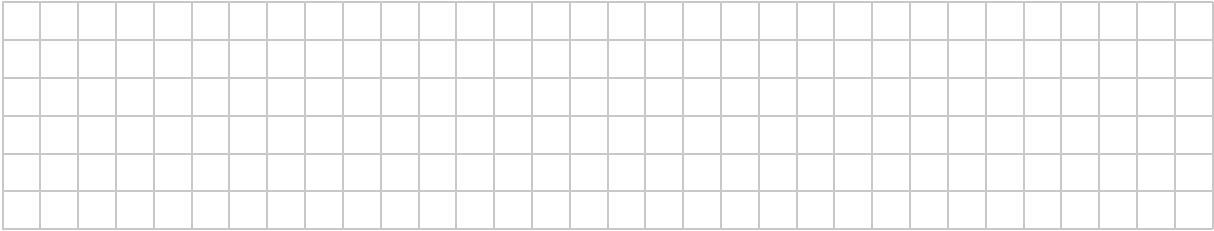
Scale: 1 cm represents 10 km



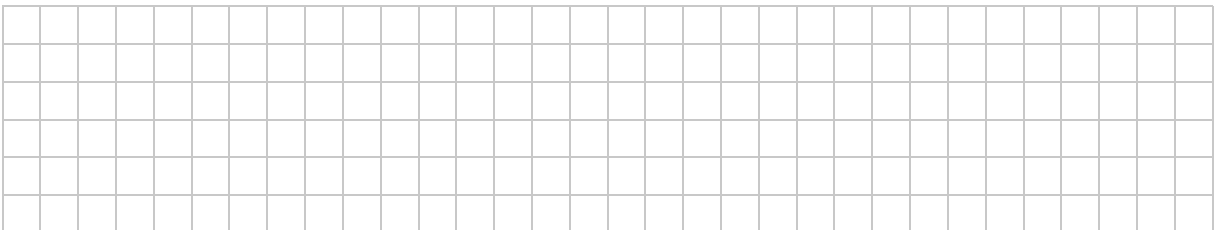
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(iv) Find the area of the triangle  $OXY$ .

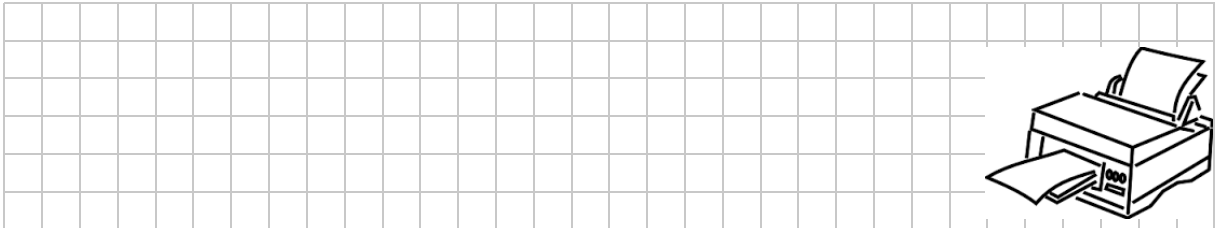


(v) Hence, or otherwise, find the area of the shape  $AXYB$ .



(b) One sheet of paper is 0.0085 cm thick.

(i) Write 0.0085 in the form  $a \times 10^n$ , where  $1 \leq a < 10$  and  $n \in \mathbb{Z}$ .



(ii) Carla wants to put 500 sheets of this paper into the paper tray of a printer.

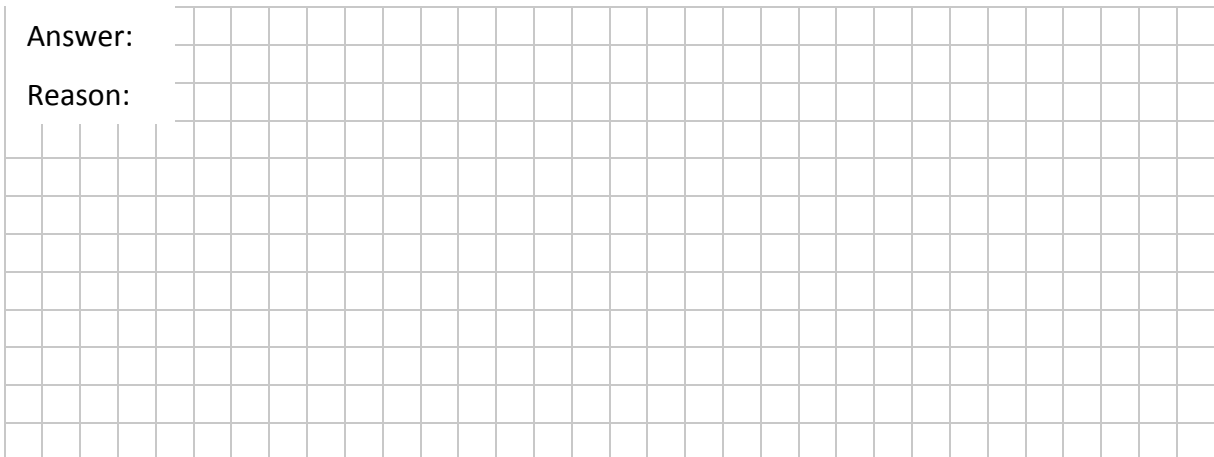
The tray is 4 cm deep.

Is the tray deep enough to hold all 500 sheets of paper?

Give a reason for your answer.

Answer:



Reason:

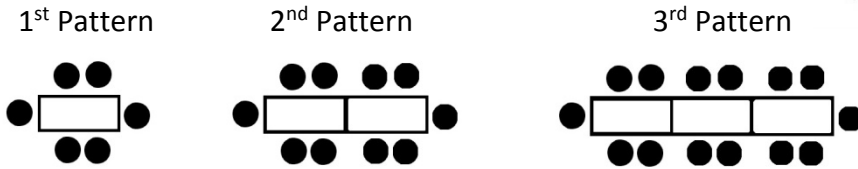
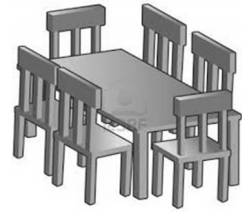


**Question 10**

**(50 marks)**

The following diagram shows an arrangement of tables and chairs in a sequence of patterns.

Note:  = table, and  = chair



(a) Draw the 4<sup>th</sup> pattern in the sequence.

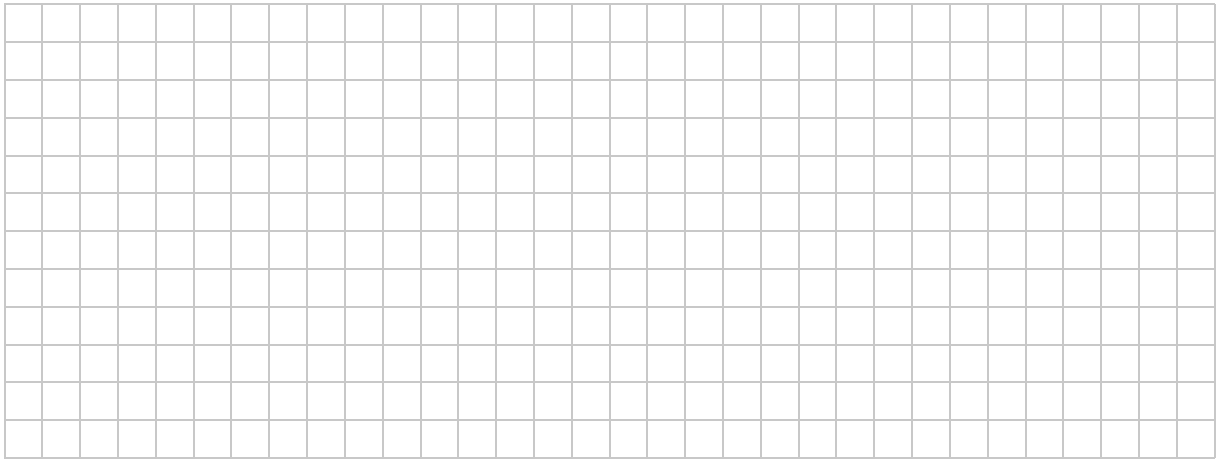
(b) Complete the table below to show the number of chairs in each of the first 6 patterns.

Number of Tables	Number of Chairs
1	6
2	
3	
4	
5	
6	

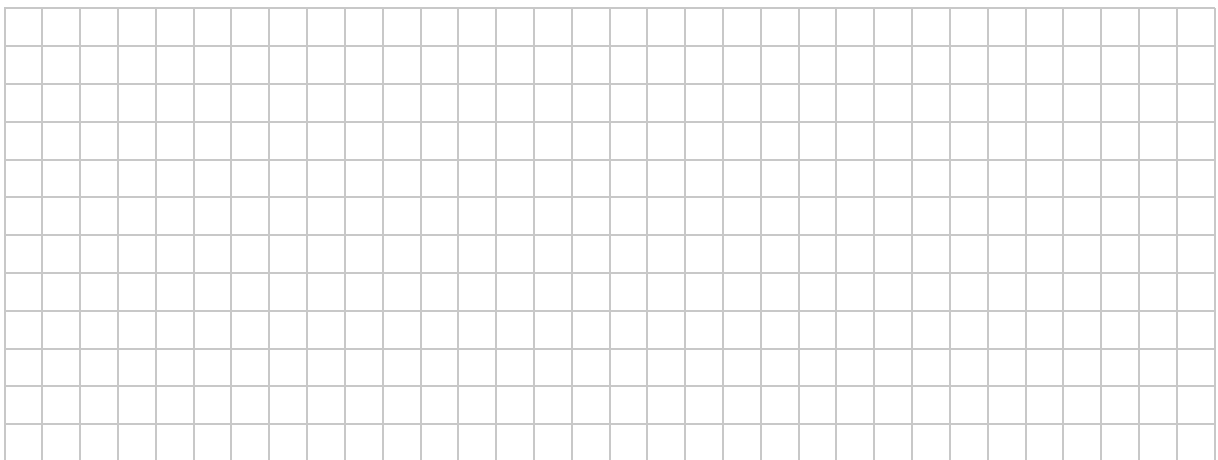




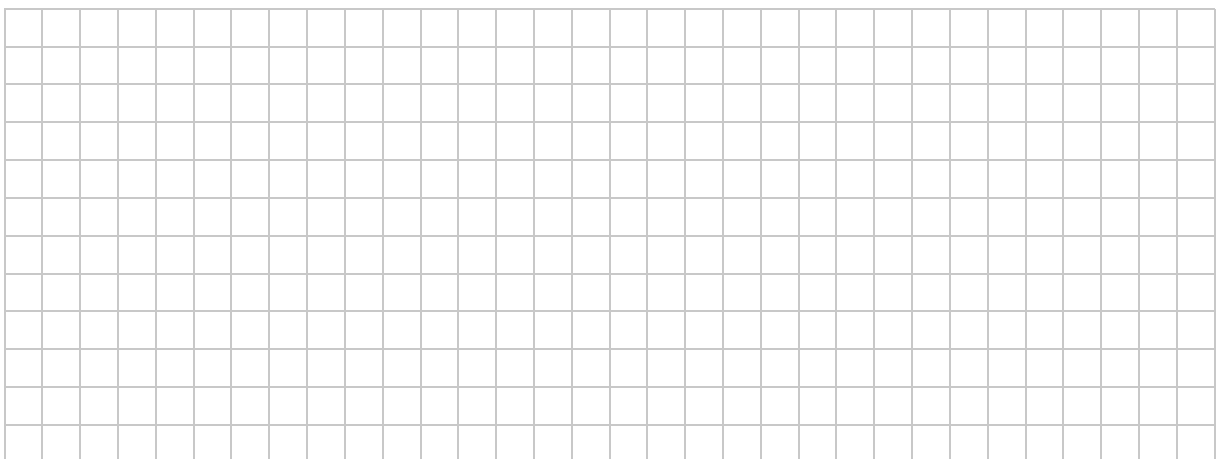
(e) There are exactly 54 chairs in one of the patterns. How many tables are in that pattern?



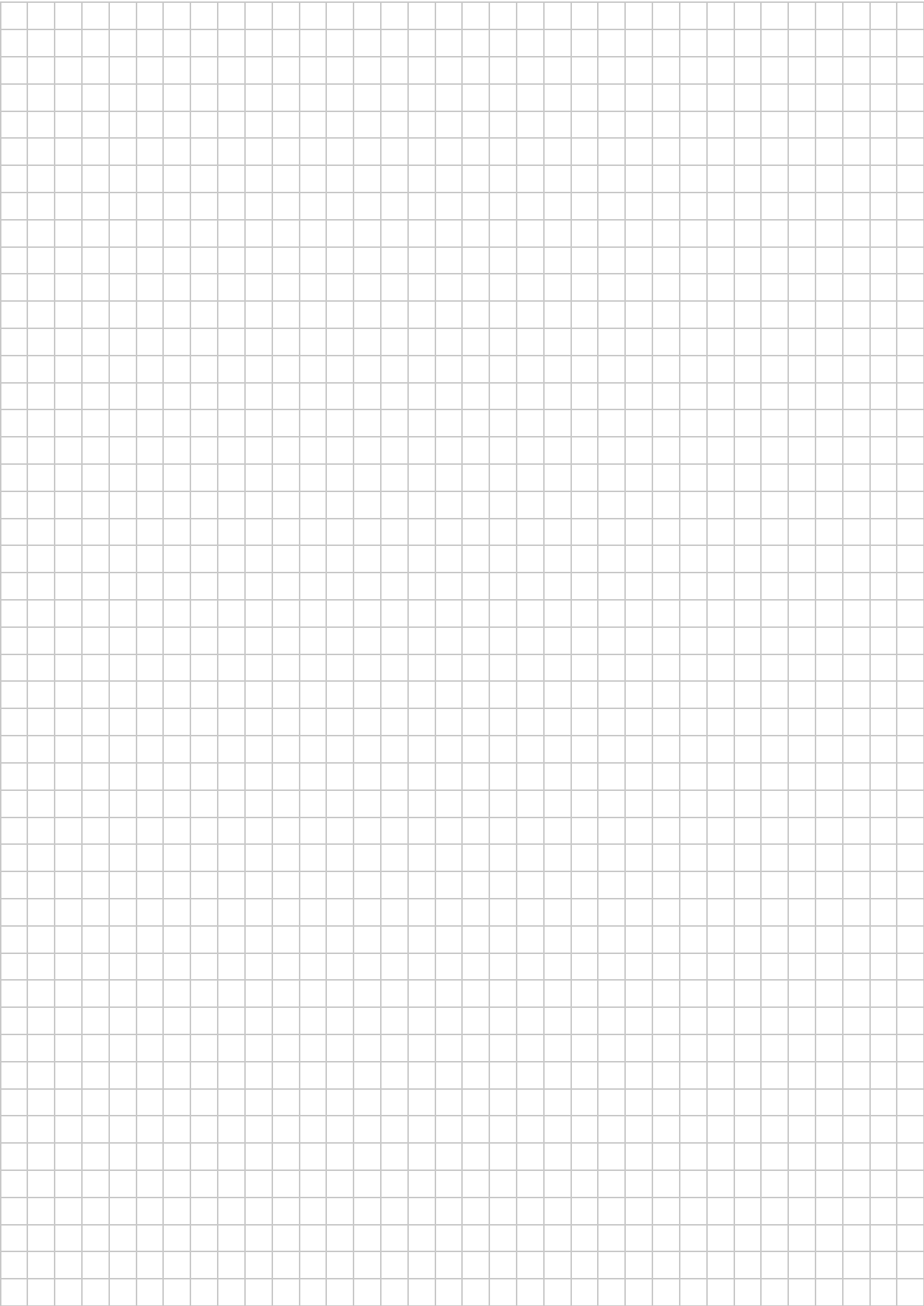
(f) How many chairs, in total, are there in the first 7 patterns?



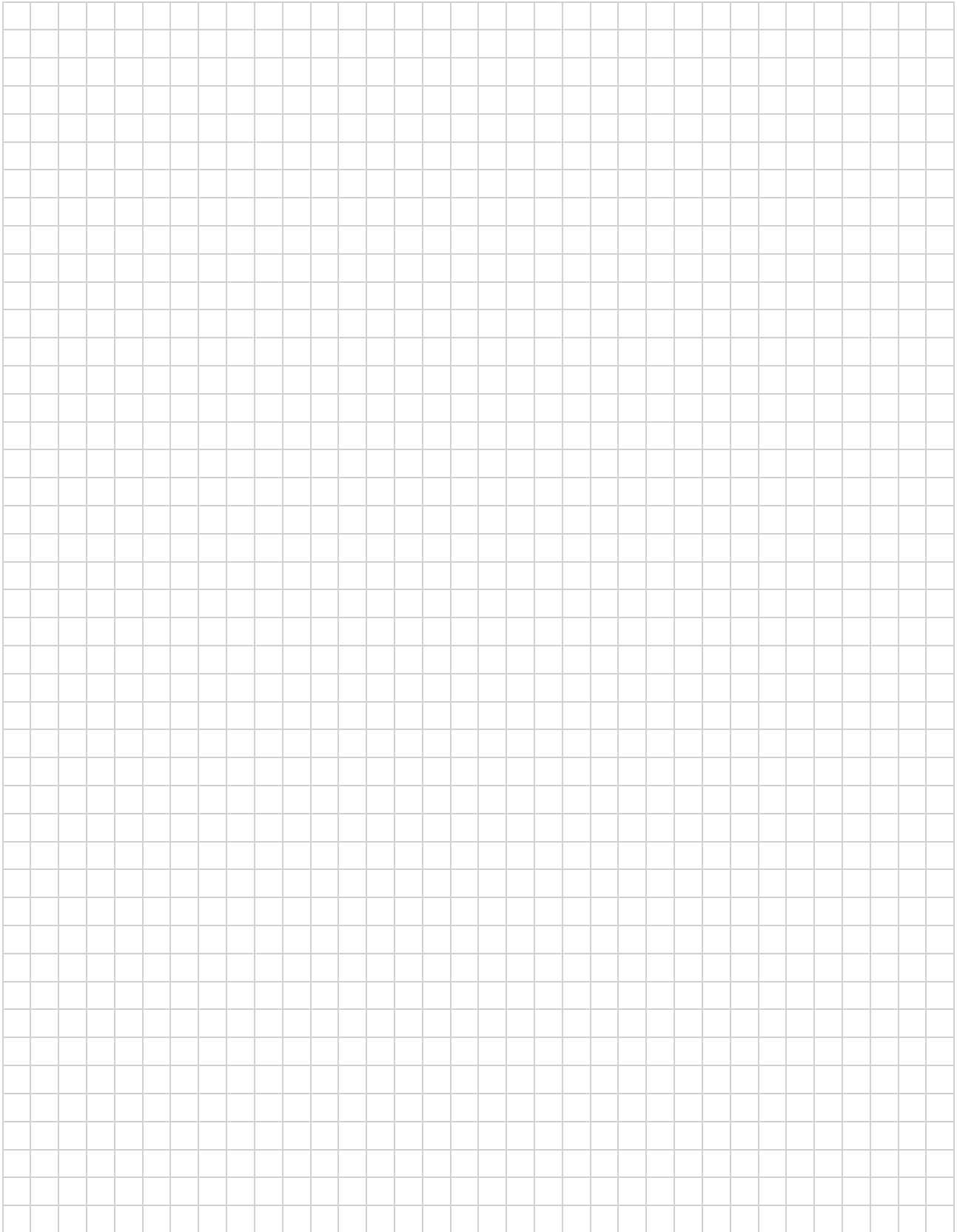
(g) Write a formula (in words) that shows the relationship between the number of chairs and the number of tables in any given pattern.



You may use this page for extra work.



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