



Cambridge IGCSE™

CANDIDATE
NAME

CENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--

CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/53

Paper 5 Investigation (Core)

May/June 2026

1 hour 15 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen. Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.
- You should use a graphic display calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly, including sketches, to gain full marks for correct methods.
- In this paper you will be awarded marks for providing full reasons, examples and steps in your working to communicate your mathematics clearly and precisely.

INFORMATION

- The total mark for this paper is 40.
- The number of marks for each question or part question is shown in brackets [].

This document has **8** pages. Any blank pages are indicated.



Investigation

Factors and multiples

In this investigation you will look at the connection between factors and multiples of numbers.

A factor of a number divides into the number without leaving a remainder.

A multiple of a number is in that number's times table.

Examples

Factors of 10 are 1, 2, 5 and 10

$$10 \div 1 = 10 \text{ remainder } 0$$

$$10 \div 2 = 5 \text{ remainder } 0$$

$$10 \div 5 = 2 \text{ remainder } 0$$

$$10 \div 10 = 1 \text{ remainder } 0$$

Any other number leaves a remainder

$$10 \div 3 = 3 \text{ remainder } 1$$

so 3 is not a factor of 10

Multiples of 7 are 7, 14, 21, 28 and so on

$$7 \times 1 = 7$$

$$7 \times 2 = 14$$

$$7 \times 3 = 21$$

$$7 \times 4 = 28$$

1 (a) Complete these lists.

Factors of 6 1, 2, ... , 6

Factors of 8 1, ... , 4, ...

[2]

(b) Look at your answers to 1(a).

Write down the highest number that is in **both** lists of factors.

..... [1]

(c) Lists of multiples continue forever.

Complete these lists to show the first six multiples.

Multiples of 6 6, 12, ... , ... , ... , 36

Multiples of 8 8, 16, ... , ... , ... , 48

[2]

(d) Look at your answers to 1(c).

Write down the lowest number that is in **both** lists of multiples.

..... [1]



(e) Complete this table.

number	factors	first six multiples
1	1	1, 2, 3, 4, 5, 6
2	1, ...	2, 4, 6, 8, 10, 12
3	, 3	3, 6, 9, 12, 15, 18
4	1, ..., 4	, 8, ..., 16, ..., 24
5	1, ...	5, 10, 15, 20, 25, 30
6	1, 2, ..., 6	6, 12, ..., ..., ..., 36
7	, ...	7, 14, 21, 28, ..., ...
8	1, ..., 4, ...	8, 16, ..., ..., ..., 48
9	, ..., ...	9, 18, 27, ..., ..., 54
10	1, 2, 5, 10	10, 20, 30, ..., ..., ...

[4]

(f) Use the table in 1(e) to help you answer these questions.

- (i) Write down the highest number that is both a factor of 2 and a factor of 6.
This is the highest common factor (HCF) of 2 and 6.

..... [1]

- (ii) Write down the lowest number that is both a multiple of 2 and a multiple of 6.
This is the lowest common multiple (LCM) of 2 and 6.

..... [1]

- (iii) Write down the HCF and the LCM for 3 and 9.

HCF = ...

LCM = ...

[2]

- (iv) Work out the HCF and the LCM for 7 and 9.

HCF = ...

LCM = ...

[3]

- 2 (a) Complete these lists of factors and multiples of 12.

Factors of 12 = 1, 2, ... , ... , ... , ...

Multiples of 12 = 12, ... , ... , ... , 60, 72

[2]

- (b) Use 1(e) and 2(a) to find the HCF and the LCM of 9 and 12.

HCF = ...

LCM = ...

[1]

- 3 When you are looking for the lowest common multiple (LCM) of two numbers you can write as many multiples of each number as you need.

- (a) Complete this table.

	numbers (<i>a</i> and <i>b</i>)	HCF	LCM	$a \times b$
1(b) and 1(d)	6 and 8			48
1(f)(iii)	3 and 9			27
	5 and 9			45
2(b)	9 and 12			108
	4 and 6			
	3 and 10			
	8 and 14			

[6]



- (b) Write down a connection between the HCF, the LCM and $a \times b$.

..... [1]

- (c) Show that your connection in 3(b) is correct for the numbers 9 and 15.

[3]

- (d) 16 and another number have an HCF of 4 and an LCM of 80.

Find the other number.

[3]

4 These are the first nine prime numbers.

2, 3, 5, 7, 11, 13, 17, 19, 23

Numbers can be written as products of their prime factors.

Examples

$$8 = 2 \times 2 \times 2$$

$$15 = 3 \times 5$$

$$48 = 2 \times 2 \times 2 \times 2 \times 3$$

(a) Complete these products of prime factors.

$$20 = \dots \times \dots \times \dots$$

$$30 = \dots \times \dots \times \dots$$

[2]

(b) Use your answers to 4(a) to find the HCF and LCM of 20 and 30.
Give each answer as a product of prime factors.

$$\text{HCF} = \dots$$

$$\text{LCM} = \dots$$

[2]





- (c) Two numbers, A and B , are each written as a product of prime factors.

$$A = 3 \times 5 \times 7$$

$$B = 2 \times 7 \times p$$

$$A \times B = 24\,990$$

Find the LCM of A and B .

Give your answer as a product of prime factors.

..... [3]



BLANK PAGE

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (Cambridge University Press & Assessment) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in our Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge International Education is the name of our awarding body and a part of Cambridge University Press & Assessment, which is a department of the University of Cambridge.

