

## 1MA1 Foundation themed papers: Factors, Multiples and Primes

Write your name here			
Surname	Other names		
Centre Number		Candidate Number	
Pearson Edexcel Level 1/Level 2 GCSE (9–1)			
<h1>Mathematics</h1> <h2>Factors, Multiples and Primes</h2>			
			Paper Reference <b>1MA1</b>
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.			Total Marks

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.

### Information

- The total mark for this paper is **50**. There are **25** questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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**1** Here is a list of numbers.

7      8      15      16      18      22

Write down the number from the list that is a multiple of 6

.....  
**(Total for Question 1 is 1 mark)**

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**2** Write down two factors of 12

..... , .....

**(Total for Question 2 is 1 mark)**

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**3** Write down two factors of 15

.....  
**(Total for Question 3 is 1 mark)**

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**4** Write down a multiple of 8 that is between 41 and 60

.....  
**(Total for Question 4 is 1 mark)**

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**5** Write down a multiple of 6 that is between 40 and 50.

.....  
**(Total for Question 5 is 1 mark)**

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**6** Write down the first even multiple of 7.

.....  
**(Total for Question 6 is 1 mark)**

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**7** Write down all the factors of 18.

.....  
**(Total for Question 7 is 2 marks)**

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**8** Here is a list of numbers.

3      5      7      12      15      18      20

From the list, write down a factor of 10

.....  
**(Total for Question 8 is 1 mark)**

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**9** Here is a list of numbers.

7      10      25      42      13

From the numbers in the list, write down a multiple of 3

.....  
**(Total for Question 9 is 1 mark)**

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**10** Here is a list of numbers.

11    15    22    37    49    63    75

From the numbers in the list,

(a) write down an even number

.....  
**(1)**

(b) write down a multiple of 9

.....  
**(1)**

(c) write down a square number.

.....  
**(1)**

**(Total for Question 10 is 3 marks)**

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**11** Margaret is thinking of a number.

She says,

“My number is odd. It is a factor of 36 and a multiple of 3”

There are two possible numbers Margaret can be thinking of.

Write down these two numbers.

.....  
**(Total for Question 11 is 3 marks)**

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**12** Machine A and machine B both make car parts.

Machine A makes 6 parts every 10 minutes.

Machine B makes 13 parts every 15 minutes.

On Monday

machine A makes parts for 12 hours

machine B makes parts for 10 hours

Work out the total number of parts made by the two machines on Monday.

**(Total for Question 12 is 4 marks)**

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**13** Write down all the factors of 30.

.....

**(Total for Question 13 is 2 marks)**

---



**14** Write down a prime number that is between 20 and 30

.....

**(Total for Question 14 is 1 mark)**

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**15** Write down two prime numbers that have a sum of 32

..... , .....

**(Total for Question 15 is 2 marks)**

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**16** Nidah writes down two different prime numbers.  
She adds together her two numbers.  
Her answer is a square number less than 30.

Find two prime numbers that Nidah could have written down.

..... , .....

**(Total for Question 16 is 2 marks)**

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**17** Write 36 as a product of its prime factors.

.....

**(Total for Question 17 is 2 marks)**

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**18** Express 56 as the product of its prime factors.

.....  
**(Total for Question 18 is 2 marks)**

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**19** Write 360 as a product of its prime factors.

.....  
**(Total for Question 19 is 3 marks)**

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- 20** Steve says,  
“There are more prime numbers between 20 and 30  
than there are between 10 and 20”

Is Steve right?  
You must show how you get your answer.

**(Total for Question 20 is 2 marks)**

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- 21** Find the highest common factor (HCF) of 72 and 90

.....  
**(Total for Question 21 is 2 marks)**

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**22** Find the Lowest Common Multiple (LCM) of 108 and 120

.....  
**(Total for Question 22 is 3 marks)**

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**23** Here is a list of numbers.

21    22    23    24    25    26    27    28    29

(a) From the numbers in the list, write down a square number.

.....  
**(1)**

(b) From the numbers in the list, write down a number that is a multiple of **both** 4 and 6.

.....  
**(1)**

(c) Write down all the prime numbers in the list.

.....  
**(1)**

**(Total for Question 23 is 3 marks)**

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**24** (a) Find the lowest common multiple (LCM) of 40 and 56

.....  
(2)

$A = 2^3 \times 3 \times 5$        $B = 2^2 \times 3 \times 5^2$

(b) Write down the highest common factor (HCF) of  $A$  and  $B$ .

.....  
(1)

**(Total for Question 24 is 3 marks)**

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**25** Write down an example to show that each of the following statements is **not** correct.

(a) The sum of an odd number and an even number is even.

.....  
.....

(b) The product of two prime numbers is never even.

.....  
.....

(c) When you square an integer the result is always an even integer.

.....  
.....

**(Total for Question 25 is 3 marks)**

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**TOTAL MARKS FOR PAPER: 50**