FACTORS, MULTIPLES AND PRIMES

Pearson Edexcel - Tuesday 19 May 2020 - Paper 1 (Non-Calculator) Foundation Tier

1.

2   Here is a list of numbers.

$$5 \qquad 11 \qquad 18 \qquad 22 \qquad 29$$

From the list, write down a multiple of 3

....

(Total for Question 2 is 1 mark)

Pearson Edexcel - Thursday 4 June 2020 - Paper 2 (Calculator) Foundation Tier

2.

12   Lucy uses a code to open a lock.

The code is a letter followed by a 2-digit number.

The letter is L or U.
The number is a prime number between 20 and 30

Write down all the possibilities for Lucy's code.

....

....

....

(Total for Question 12 is 2 marks)

Pearson Edexcel - Tuesday 21 May 2019 - Paper 1 (Non-Calculator) Foundation Tier

3.

4   Write down a prime number that is between 20 and 30

....

(Total for Question 4 is 1 mark)

Pearson Edexcel - Thursday 6 June 2019 - Paper 2 (Calculator) Foundation Tier

4.

3 Write down two factors of 15

....

(Total for Question 3 is 1 mark)

Pearson Edexcel - Tuesday 11 June 2019 - Paper 3 (Calculator) Foundation Tier

5.

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

....

(Total for Question 2 is 1 mark)

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Foundation Tier

6.

3 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 3 is 1 mark)

7.

10 Write down two prime numbers that have a sum of 32

.... , ...

(Total for Question 10 is 2 marks)

8.

15 Bert has 100 cards.
There is a whole number from 1 to 100 on each card.
No cards have the same number.

Bert puts a star on every card that has a multiple of 3 on it.
He puts a circle on every card that has a multiple of 5 on it.

Work out how many cards have both a star and a circle on them.

....

(Total for Question 15 is 3 marks)

9.

5 Write down the first even multiple of 7

....

(Total for Question 5 is 1 mark)

10.

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

(a) The factors of an even number are always even.

....

(1)

(b) All the digits in odd numbers are odd.

....

(1)

(Total for Question 11 is 2 marks)

11.

6 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 6 is 3 marks)

12.

10 (a) Write down all the prime numbers between 20 and 30

....

(2)

Catherine says,

"2 is the only even prime number."

(b) Is Catherine right?
You must give a reason for your answer.

....

....

(1)

(Total for Question 10 is 3 marks)

13.

6 Write down all the factors of 30

....

(Total for Question 6 is 2 marks)

14.

2 Write down a multiple of 6 that is between 40 and 50

....

(Total for Question 2 is 1 mark)

15.

7 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 7 is 2 marks)

Pearson Edexcel - Wednesday 8 November 2017 - Paper 3 (Calculator) Foundation Tier

16.

3 Write down all the factors of 18

....

(Total for Question 3 is 2 marks)

17.

9 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 9 is 2 marks)

Pearson Edexcel – Specimen 2 - Paper 1 (Non-Calculator) Foundation Tier

18.

11 Write down three different multiples of 4 that add up to 40

....

(Total for Question 11 is 2 marks)

Pearson Edexcel – Specimen 2 - Paper 3 (Calculator) Foundation Tier

19.

3 Write down an even number that is a multiple of 7

....

(Total for Question 3 is 1 mark)

20.

7 Write down three different factors of 18 that add together to give a prime number.

....

(Total for Question 7 is 2 marks)

21.

8 Bernard says,

"When you halve a whole number that ends in 8, you always get a number that ends in 4"

(a) Write down an example to show that Bernard is wrong.

....

(1)

Alice says,

"Because 7 and 17 are both prime numbers, all whole numbers that end in 7 are prime numbers."

(b) Is Alice correct?
You must give a reason with your answer.

....

....

(1)

(Total for Question 8 is 2 marks)

Pearson Edexcel – Specimen 1 - Paper 2 (Calculator) Foundation Tier

22.

2 Here is a list of six numbers.

<div align="center">

1   3   6   9   12   24

</div>

Which number in the list is **not** a factor of 24?

....

(Total for Question 2 is 1 mark)

Pearson Edexcel – Specimen 1 - Paper 3 (Calculator) Foundation Tier

23.

4 Here is a list of numbers.

<div align="center">

1   2   5   6   12

</div>

From the list, write down

(i) a multiple of 4

....

(ii) a prime number

....

(Total for Question 4 is 2 marks)

OCR Thursday 05 November 2020- Morning (Non-Calculator) Foundation Tier

24.

1 **(a)** Work out.

    (i) -1 + 6

                             (a)(i) .... **[1]**

    (ii) 7--3

                             (ii) .... **[1]**

(b) Write down two prime numbers between 10 and 20.

                             (b) .... and .... **[2]**

OCR November 09 November 2020- Morning (Calculator) Foundation Tier

25.

1 5 is a factor of 20.

    (a) Write down another factor of 20.

                             (a) .... **[1]**

    (b) Write down a multiple of 20.

                             (b) .... **[1]**

26.

2   **(a)** Complete this list to show all the factors of 30.

     1   2   10   30   **[2]**

    (b) Write down the highest common factor (HCF) of 25 and 30.

                                      (b)   .... **[1]**

27.

1 **(a)** Here are some types of number.

| An even number | An odd number | A prime number | A square number | A cube number |

From the list, write down the type of number being described.

(i) A number that does **not** divide exactly by 2. .... [1]

(ii) A number that has no factors except itself and 1. .... [1]

(b) **(i)** Write down all the multiples of 4 between 21 and 29.

(b)(i) .... [1]

(ii) Write down a common multiple of 4 and 6.

(ii) .... [1]

(c) Insert brackets to make this calculation correct.

$$4 - 1 \times 2 = 6$$

[1]

(d) Write 7% as a fraction.

(d) .... [1]

OCR Tuesday 21 May 2019 – Morning (Calculator) Foundation Tier

28.

2 **(a)** Write down each of the following.

(i) An odd number.

(a)(i) .... **[1]**

(ii) A factor of 25.

(ii) .... **[1]**

(iii) A prime number between 20 and 30.

(iii) .... **[1]**

(b) Show that 55 is **not** a square number. **[2]**

OCR Tuesday 11 June 2019 – Morning (Calculator) Foundation Tier

29.

6 **(a)** These are the first five multiples of 15.

15   30   45   60   75

Write down the first five multiples of 30.

(a) .... , ... , ... , ... , ... **[2]**

(b) Write down the lowest common multiple (LCM) of 15 and 30.

(b) .... **[1]**

30.

4 (a) Write down each of the following.

 (i) An even number.

 (a)(i) .... [1]

 (ii) A factor of 25.

 (ii) .... [1]

 (iii) A prime number between 10 and 20.

 (iii) .... [1]

 (iv) A cube number.

 (iv) .... [1]

(b) Find the highest common factor (HCF) of 35 and 91.

 (b) .... [2]

OCR Thursday 7 June 2018 – Morning (Non Calculator) Foundation Tier

31.

1   (a) Write down a multiple of 6 between 10 and 20.

(a) .... [1]

(b) Write down two factors of 30 that are prime numbers.

(b) .... and .... [2]

OCR Thursday 2 November 2017– Morning (Calculator) Foundation Tier

32.

2   (a) Write down

   (i)   a multiple of 13,

(a)(i) .... [1]

   (ii) a prime number between 40 and 50.

(ii) .... [1]

(b) Find the lowest common multiple (LCM) of 16 and 28.

(b) .... [2]

OCR Monday 6 November 2017– Morning (Calculator) Foundation Tier

33.

17 Andrew is thinking of a number.

- It is between 1 and 150.
- It is one more than a square number.
- It is three less than a cube number.
- It is not a prime number.

What is Andrew's number?
You must show all your reasoning.

.... **[4]**

Pearson Edexcel – Sample Papers - Paper 1 (Non-Calculator) Foundation Tier

34.

4   Write down all the factors of 20

....

(Total for Question 4 is 2 marks)

35.

6 Jan writes down

       one multiple of 9
    and two different factors of 40

Jan adds together her three numbers.
Her answer is greater than 20 but less than 30

Find three numbers that Jan could have written down.

(Total for Question 6 is 3 marks)

36.

11 Here is a list of five numbers.

14   15   16   17   18

From the list,

(i) write down the prime number,

....

(ii) write down the square number.

....

(Total for Question 11 is 2 marks)

37.

7 Here are six numbers.

| 5 | 8 | 9 | 15 | 22 | 54 |
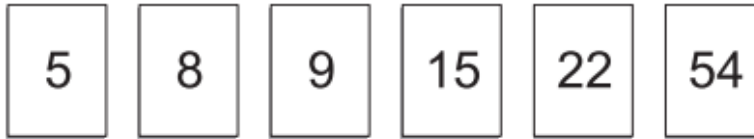
From these numbers, find a number that is

(a) a multiple of two and a multiple of three,

(a) .... [1]

(b) a factor of 30 and a factor of 40.

(b) .... [2]

38.

8   (a)   The product of three numbers is 312.
Two of the numbers are 3 and 13.

What is the third number?

(a) .... [3]

(b)   Find **three different** numbers that are each

- a prime number
- two less than a square number.

(b) .... [3]

39.

5   Here are three number cards.

| 8 | 5 | 3 |

5   (a)   Use all three cards to make the answer to this calculation a multiple of 10

[1 mark]

| □ | □ | × | □ |

5   (b)   Use all three cards to make the answer to this calculation a single-digit number.

[1 mark]

| □ | × | □ | − | □ |

5 (c) Use all three cards to make this a correct calculation.

[1 mark]

$$\frac{\boxed{6} + \boxed{}}{\boxed{} + \boxed{}} = 1$$

AQA Thursday 11 June 2019 – Morning (Calculator) Foundation Tier

40.

13   Write down **all** the prime numbers between 40 and 50

[2 marks]

_____

_____

_____

_____

Answer _____

AQA Thursday 7 June 2018 – Morning (Calculator) Foundation Tier

41.

10   Which of these numbers has **exactly four** factors?

Circle your answer.

[1 mark]

4   8   12   16

42.

24 a is a common factor of 72 and 120

b is a common multiple of 6 and 9

Work out the highest possible value of $\dfrac{a}{b}$

[4 marks]

Answer _____

43.

11   Which of these numbers has **exactly** two factors?

Circle your answer.

[1 mark]

6   7   8   9

44.

10   Megan says,

"If you add any three multiples of 10 the total must be

a multiple of 10

and

a multiple of 3"

Is she correct?
You **must** show your working.

[2 marks]

_____

_____

_____

_____

Answer _____

45.

14   A number is picked at random from the first four **prime** numbers.
A number is picked at random from the first four **square** numbers.
The two numbers are added to get a score.

14 (a)   Complete the table.

[4 marks]

Square numbers

+	1	4	9	
2				
3			12	
7				

Prime numbers

14 (b)   What is the probability that the score is a **prime** number?

[1 mark]

Answer _____

AQA Thursday 8 June 2017– Morning (Calculator) Foundation Tier

46.

2   Circle the multiple of both 8 and 12

[1 mark]

4   32   72   108

AQA Tuesday 13 June 2017 Morning– Morning (Calculator) Foundation Tier

47.

9 (a)   List **all** the factors of 30

[2 marks]

_____

_____

Answer _____

9 (b)   A factor of 30 is chosen at random.

What is the probability that it is a 2-digit number?

[1 mark]

_____

_____

Answer _____

48.

1   Which of these numbers is **one more** than a multiple of 5?

Circle your answer.

[1 mark]

15   19   26   30

49.

2   Which of these numbers has **exactly three** factors?

Circle your answer.

[1 mark]

3   4   5   6