N063 Factors, multiples and primes

Q1.

Express 56 as the product of its prime factors.

.....

(Total for question = 2 marks)

Q2.

Find the Highest Common Factor (HCF) of 24 and 60

.....

(Total for question = 2 marks)

Q3.

(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 = 3 marks)

Q4.

Find the highest common factor (HCF) of 32, 48 and 72

.....

(Total for question = 2 marks)

Q5.

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 = 3 marks)

Q6.

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

.....

(Total for question = 3 marks)

Q7.

Write down all the factors of 30

.....

(Total for question = 2 marks)

Q8.

(a) Write 168 as a product of its prime factors.
You must show your working.

.....

(3)

(b) Find the highest common factor (HCF) of 168 and 180

.....

(2)

(Total for question = 5 marks)

Q9.

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 = 3 marks)

Q10.

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 = 2 marks)

Q11.

Buses to Ashby leave a bus station every 24 minutes.
Buses to Barford leave the same bus station every 20 minutes.

A bus to Ashby and a bus to Barford both leave the bus station at 7 30 am.

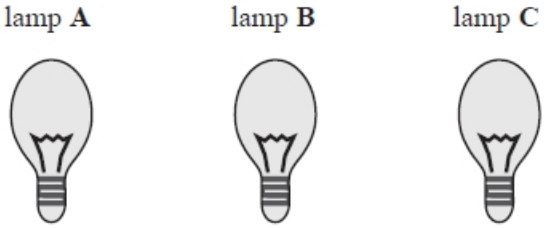
When will a bus to Ashby and a bus to Barford next leave the bus station at the same time?

.....

(Total for question = 3 marks)

Q12.

Here are three lamps.



Lamp **A** flashes every 20 seconds.
Lamp **B** flashes every 45 seconds.
Lamp **C** flashes every 120 seconds.

The three lamps start flashing at the same time.

How many times in one hour will the three lamps flash at the same time?

.....

(Total for question = 3 marks)

Q13.

Tom and Amy set the alarms on their phones to sound at 6.45 am.

Both alarms sound together at 6.45 am.
Tom's alarm then sounds every 9 minutes.
Amy's alarm then sounds every 12 minutes.

At what time will both alarms next sound together?

.....

(Total for question = 3 marks)

Q14.

Liz buys packets of coloured buttons.

There are 8 red buttons in each packet of red buttons.
There are 6 silver buttons in each packet of silver buttons.
There are 5 gold buttons in each packet of gold buttons.

Liz buys equal numbers of red buttons, silver buttons and gold buttons.

How many packets of each colour of buttons did Liz buy?

..... packets of red buttons

..... packets of silver buttons

..... packets of gold buttons

(Total for question = 3 marks)

Q15.

(a) Express 180 as a product of its prime factors.

.....

(3)

Martin thinks of two numbers.

He says,

"The Highest Common Factor (HCF) of my two numbers is 6
The Lowest Common Multiple (LCM) of my two numbers is a multiple of 15"

(b) Write down **two** possible numbers that Martin is thinking of.

..... , ...

(2)

(Total for Question is 5 marks)