Name: _____

GCSE (1 – 9)

HCF and LCM

Instructions

• Use **black** ink or ball-point pen.
• Answer all Questions.
• Answer the Questions in the spaces provided
– *there may be more space than you need.*
• Diagrams are **NOT** accurately drawn, unless otherwise indicated.
• You must **show all your working out.**

Information

• 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

1 Write 40 as a product of its prime factors.

.....

(Total for question 1 is 2 marks)

2 Write 72 as a product of its prime factors.

.....

(Total for question 2 is 2 marks)

3 Write 98 as a product of its prime factors.

.....

(Total for question 3 is 2 marks)

4 Write 240 as a product of its prime factors.

.....

(Total for question 4 is 2 marks)

5 Find the highest common factor (HCF) of 60 and 114

.....

(Total for question 5 is 3 marks)

6 Find the lowest common multiple (LCM) of 120 and 150

.....

(Total for question 6 is 3 marks)

7 Find the highest common factor (HCF) of 84 and 120

.....

(Total for question 7 is 3 marks)

8 Find the lowest common multiple (LCM) of 70 and 56

.....

(Total for question 8 is 3 marks)

9 Two buses, bus A and bus B, both use the same bus stop.

Bus A runs every 10 minutes.
Bus B runs every 14 minutes.

Both buses are at the bus stop at 11 am.

What time will both buses next both be at the bus stop.

.....

(Total for question 9 is 3 marks)

10 Light **A** flashes every 8 seconds.
Light **B** flashes every 20 seconds.

Both lights flash at the same time.

Work out how long it will take for both lights to flash at the same time again.

..... seconds

(Total for question 10 is 3 marks)

11 $648 = 2^3 \times 3^4$ $540 = 2^2 \times 3^3 \times 5$

(a) Write down the highest common factor (HCF) of 648 and 540.

.....

(1)

(b) Find the lowest common multiple (LCM) of 648 and 540.

.....

(2)

(Total for question 11 is 3 marks)

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12 $\mathbf{A} = 2^2 \times 3 \times 5^2$ $\mathbf{B} = 2^3 \times 3^2 \times 7$

(a) Write down the highest common factor (HCF) of **A** and **B**.

.....

(1)

(b) Find the lowest common multiple (LCM) of **A** and **B**.

.....

(2)

(Total for question 12 is 3 marks)

13 Find the lowest common multiple (LCM) of 12, 15 and 18.

.....

(Total for question 13 is 3 marks)

14 Light **A** flashes every 5 seconds.
Light **B** flashes every 6 seconds.
Light **C** flashes every 7 seconds.

All three lights flash at the same time.

Work out how long it will take for all three lights to flash at the same time again.

..... seconds

(Total for question 14 is 3 marks)

15 Find the highest common factor (HCF) of 72, 90 and 126

.....

(Total for question 15 is 3 marks)

16 Kenny is thinking of two numbers **greater than 10**.
He says: "The highest common factor (HCF) of my two numbers is 7
The lowest common multiple (LCM) of my two numbers is 84"

Write down the two numbers that Kenny is thinking of.

.....

(Total for question 16 is 3 marks)