HCF/LCM/Prime factors

Question Paper

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Topic	Number and Algebra
Sub Topic	HCF/LCM/Prime factors(Powers and roots)
Booklet	Question Paper

Time Allowed: 62 minutes

Score: /51

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	10%

1   Express 200 as a product of powers of its prime factors.

....

(Total for Question 1 is 3 marks)

2   (a) Find the Highest Common Factor (HCF) of 75 and 90

....

(2)

(b) Find the Lowest Common Multiple (LCM) of 75 and 90

....

(2)

(Total for Question 2 is 4 marks)

3 Express 300 as a product of its prime factors.

....

(Total for Question 3 is 3 marks)

4 (a) Find the Highest Common Factor (HCF) of 54 and 90

....

(2)

(b) Find the Lowest Common Multiple (LCM) of 54 and 90

....

(2)

(Total for Question 4 is 4 marks)

5 Express 204 as a product of its prime factors.

....

(Total for Question 5 is 3 marks)

6 $A = 2^3 \times 3^2 \times 5^4$

   $B = 3^5 \times 5 \times 7^3$

   Find the Highest Common Factor (HCF) of A and B.

   ....

(Total for Question 6 is 2 marks)

7 Find the Lowest Common Multiple (LCM) of 20 and 24

   ....

(Total for Question 7 is 2 marks)

8   Express 825 as a product of its prime factors.

....

(Total for Question 8 is 3 marks)

9   (a) Write 252 as a product of its prime factors.

....

(2)

Given that $240 = 2^4 \times 3 \times 5$

and that $y = 240 \times 252$

(b) write y as a product of powers of its prime factors.

....

(2)

(Total for Question 9 is 4 marks)

10

$3780 = 2^2 \times 3^3 \times 5 \times 7$	$3240 = 2^3 \times 3^4 \times 5$

(a) Find the highest common factor (HCF) of 3780 and 3240
Give your answer as a product of prime factors.

....

(2)

(b) Find the lowest common multiple (LCM) of 3780 and 3240
Give your answer as a product of prime factors.

....

(2)

(Total for Question 10 is 4 marks)

11 Given that $A = 2^3 \times 3$ and $B = 2^2 \times 3^2$

find the Lowest Common Multiple (LCM) of A and B.

....

(Total for Question 11 is 2 marks)

12 (a) Write 224 as a product of powers of its prime factors.
    Show your working clearly.

....

(3)

(b) Write down 3 **different** factors of 224 with a sum between 99 and 110

....

(2)

(Total for Question 12 is 5 marks)

13 (a) $A = 2^2 \times 3 \times 5^2$

   $B = 2^3 \times 5$

   (i) Find the Highest Common Factor (HCF) of A and B.

   ....

   (ii) Find the Lowest Common Multiple (LCM) of A and B.

   ....

   (3)

   (b) $\dfrac{8^2 \times 8^3}{8^4} = 2^n$

   Find the value of n.

   $n = $............................

   (2)

(Total for Question 13 is 5 marks)

14 x is an integer.
The Lowest Common Multiple (LCM) of x and 12 is 120
The Highest Common Factor (HCF) of x and 12 is 4

Work out the value of x.

$x =$ ....

(Total for Question 14 is 2 marks)

15   Write 792 as a product of its prime factors.
       Show your working clearly.

....

(Total for Question 15 is 3 marks)

16 The highest common factor (HCF) of 140 and x is 20

The lowest common multiple (LCM) of 140 and x is 420

Find the value of x.

$x =$ ....

(Total for Question 16 is 2 marks)