

HCF and LCM

Mark Scheme

Level	GCSE
Subject	Maths
Exam Board	Edexcel GCSE
Topic	HCF and LCM
Grade Level	Grade 4
Booklet	Mark Scheme

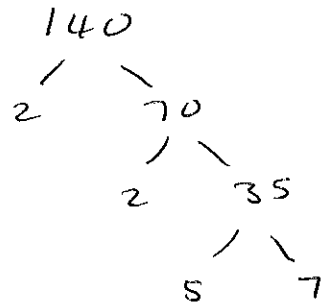
Time Allowed: 58 minutes

Score: /48

Percentage: /100

Grade Boundaries:

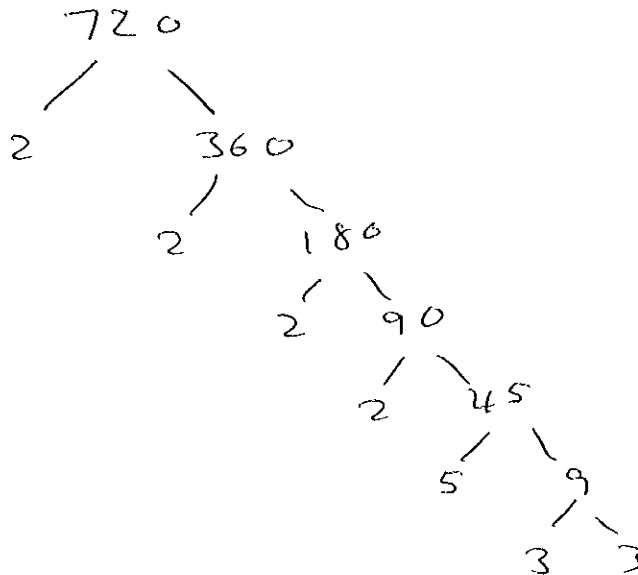
1. Write 140 as the product of its prime factors.



$$2 \times 2 \times 5 \times 7$$

(2 marks)

2. Write 720 as a product of its prime factors.



$$2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5$$

(2 marks)

3. (a) Express the following numbers as products of their prime factors.

(i) 60,

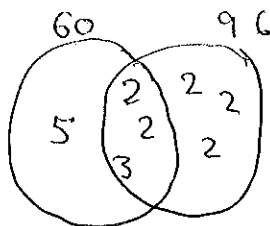
$$2 \times 2 \times 3 \times 5$$

(ii) 96.

$$2 \times 2 \times 2 \times 2 \times 2 \times 3$$

(4)

(b) Find the Highest Common Factor of 60 and 96.



$$2 \times 2 \times 3 = 12$$

$$12$$

(1)

(c) Work out the Lowest Common Multiple of 60 and 96.

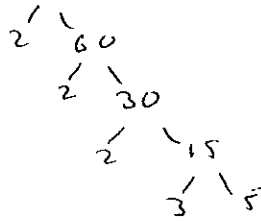
$$12 \times 5 \times 2 \times 2 \times 2$$

$$480$$

(2)

(7 marks)

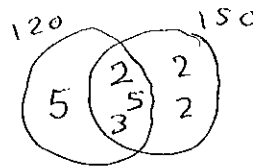
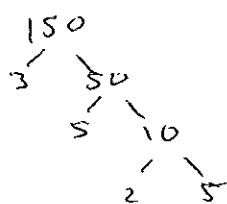
4. (a) Express 120 as the product of powers of its prime factors.



$$\underline{2 \times 2 \times 2 \times 3 \times 5}$$

(3)

- (b) Find the Lowest Common Multiple of 120 and 150.



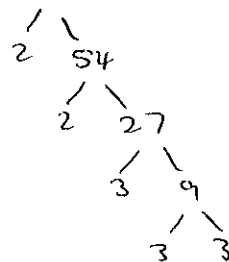
$$5 \times 2 \times 5 \times 3 \times 2 \times 2$$

$$\underline{600}$$

(2)

(5 marks)

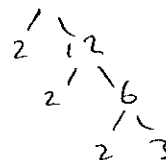
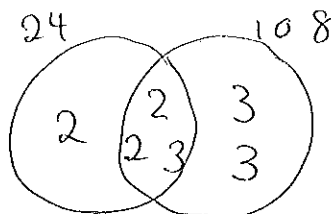
5. (a) Express 108 as the product of powers of its prime factors.



$$\underline{2 \times 2 \times 3 \times 3 \times 3}$$

(3)

- (b) Find the Highest Common Factor (HCF) of 108 and 24



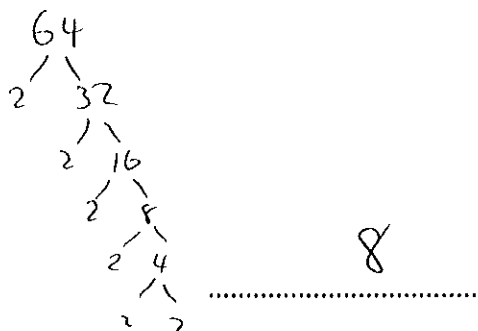
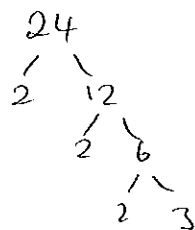
$$2 \times 2 \times 3$$

$$\underline{12}$$

(1)

(4 marks)

6. (a) Work out the Highest Common Factor (HCF) of 24 and 64



8

(2)

- (b) Work out the Lowest Common Multiple (LCM) of 24 and 64

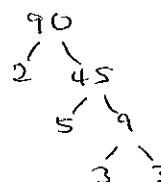
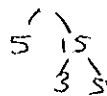
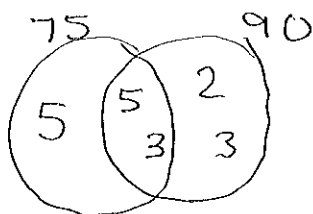
$$8 \times 3 \times 2 \times 2 \times 2$$

192

(2)

(4 marks)

7. (a) Find the Highest Common Factor of 75 and 90.



$$5 \times 3$$

15

(2)

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

$$15 \times 2 \times 3 \times 5$$

450

(2)

(4 marks)

8. (a) Express 84 as a product of its prime factors.

$$\underline{2 \times 2 \times 3 \times 7}$$

(3)

- (b) Find the Highest Common Factor (HCF) of 84 and 35

$$5 \quad 7$$

$$\underline{7}$$

(2)

(5 marks)

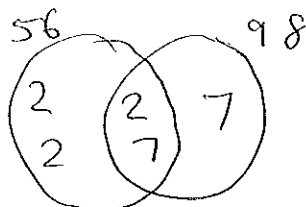
9. (a) Express 56 as the product of its prime factors.

$$\begin{array}{c} 2 \quad 28 \\ \quad 2 \quad 14 \\ \qquad 2 \quad 7 \end{array}$$

$$\underline{2 \times 2 \times 2 \times 7}$$

(2)

- (b) Find the Lowest Common Multiple of 56 and 98



$$\begin{array}{c} 2 \quad 49 \\ \quad 2 \quad 7 \quad 7 \end{array}$$

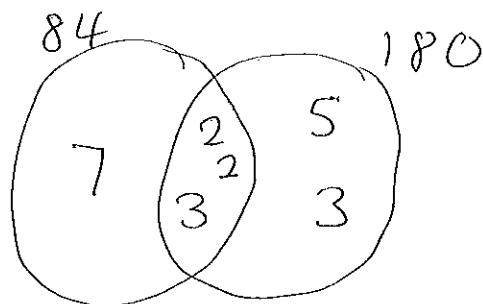
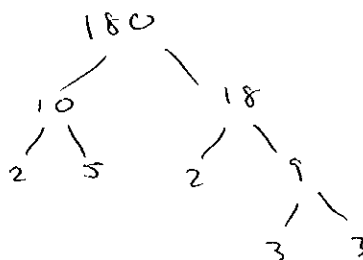
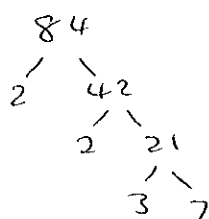
$$2 \times 2 \times 2 \times 7 \times 7$$

$$\underline{392}$$

(2)

(4 marks)

10. Find the Highest Common Factor (HCF) of 84 and 180

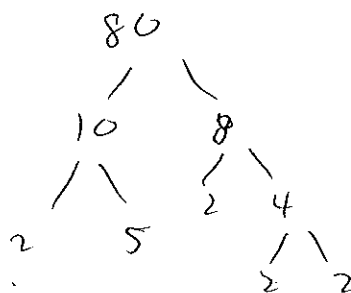
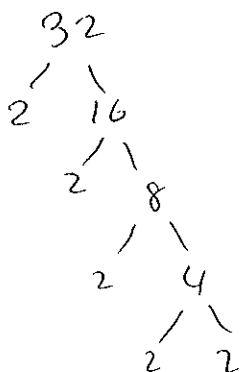


$$2 \times 2 \times 3$$

12

(3 marks)

11. Find the Highest Common Factor (HCF) of 32 and 80

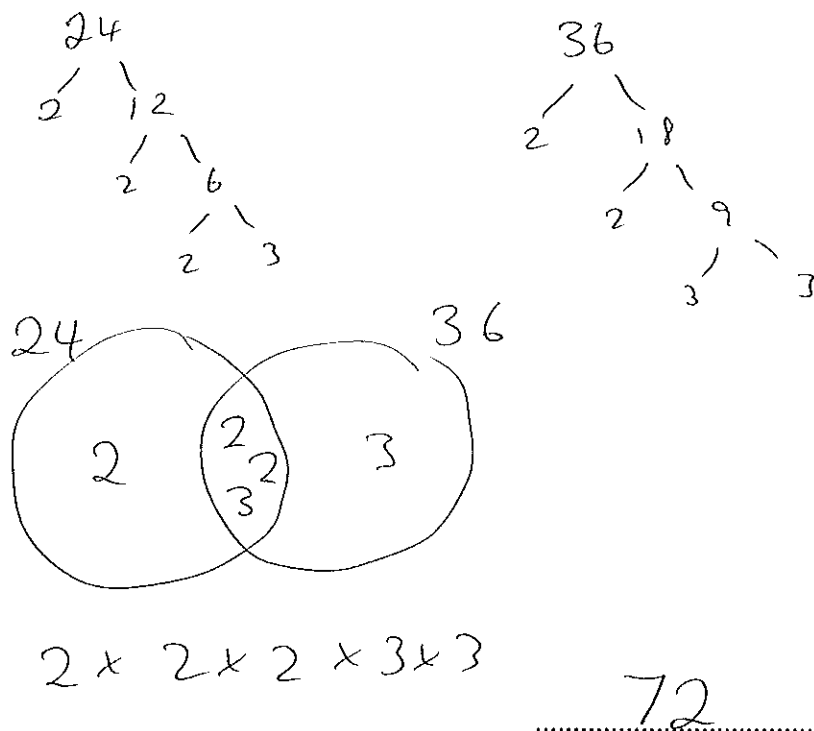


$$2^4 =$$

16

(3 marks)

12. (a) Find the Lowest Common Multiple (LCM) of 24 and 36



(2)

James thinks of two numbers.

He says "The Highest Common Factor (HCF) of my two numbers is 3
The Lowest Common Multiple (LCM) of my two numbers is 45"

- (b) Write down two numbers that James could be thinking of.

3 and 45

9 and 15

.....9..... and15.....

(3)

(5 marks)