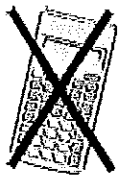
Edexcel GCSE
Mathematics (Linear) – 1MA0

HCF, LCM & PRODUCT OF PRIMES

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil



Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

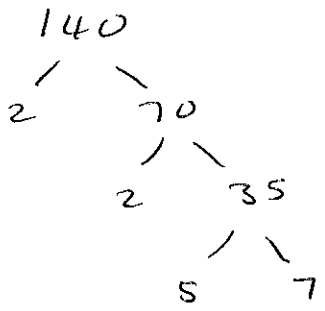
Information

The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

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 140 as the product of its prime factors.



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

(2 marks)

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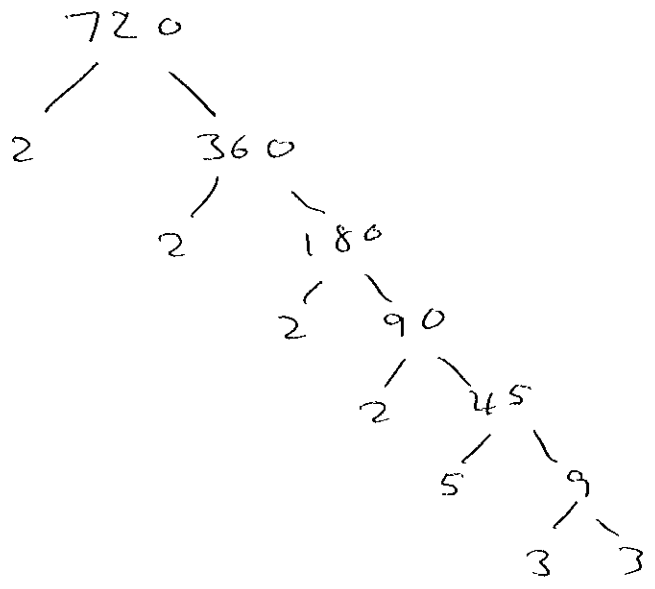
2. Write 720 as a product of its prime factors.



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

(2 marks)

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

(i) 60,

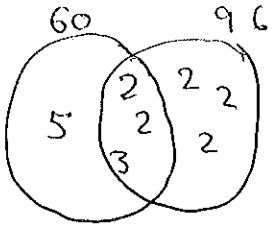
$2 \times 2 \times 3 \times 5$

(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.

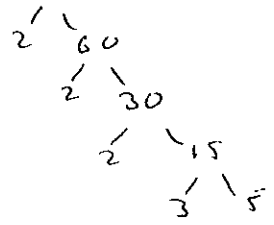
$12 \times 5 \times 2 \times 2 \times 2$

480

(2)

(7 marks)

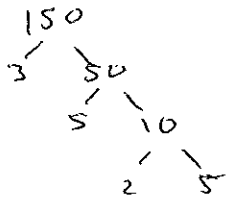
4. (a) Express 120 as the product of powers of its prime factors.

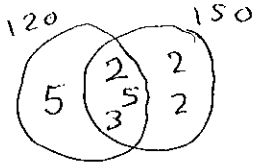


$2 \times 2 \times 2 \times 3 \times 5$

(3)

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





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

600

(2)

(5 marks)

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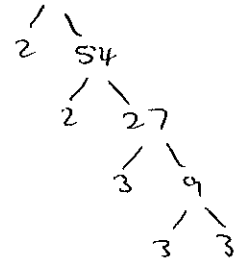
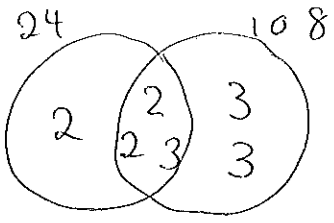
5. (a) Express 108 as the product of powers of its prime factors.

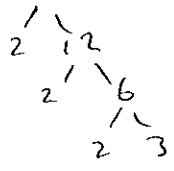


$2 \times 2 \times 3 \times 3 \times 3$

(3)

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



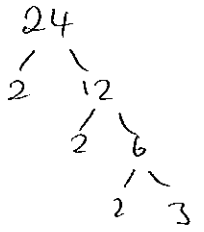


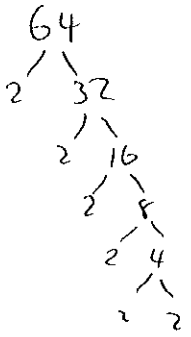
$2 \times 2 \times 3$ 12

(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 x 3 x 2 x 2 x 2

192 .....

(2)

(4 marks)

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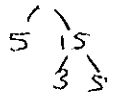
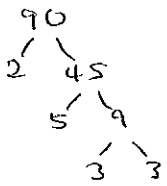
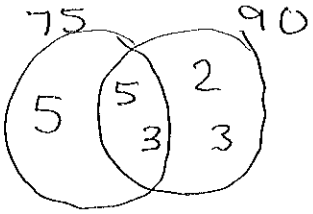
7. (a) Find the Highest Common Factor of 75 and 90.







5 x 3

15 .....

(2)

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

15 x 2 x 3 x 5

450 .....

(2)

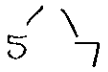
(4 marks)

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

$2 \times 2 \times 3 \times 7$

(3)

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



7

(2)

(5 marks)

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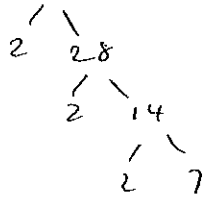
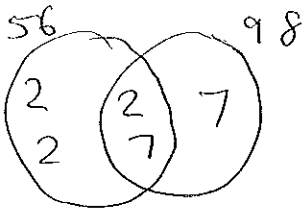
9. (a) Express 56 as the product of its prime factors.

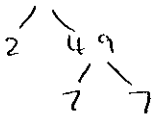


$2 \times 2 \times 2 \times 7$

(2)

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





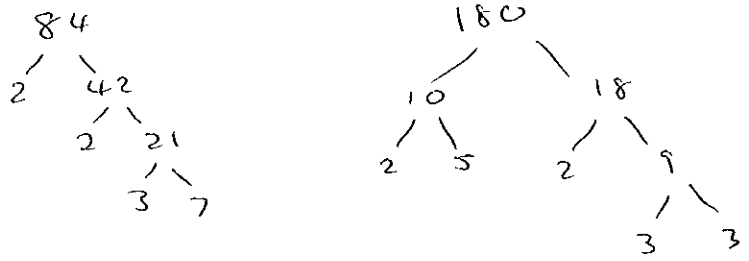
$2 \times 2 \times 2 \times 7 \times 7$

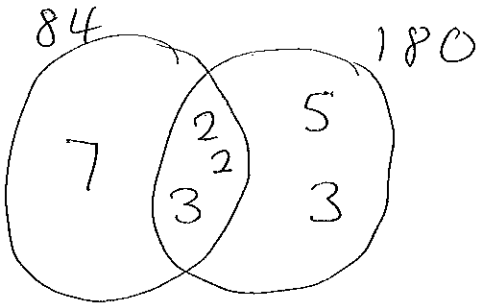
392

(2)

(4 marks)

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



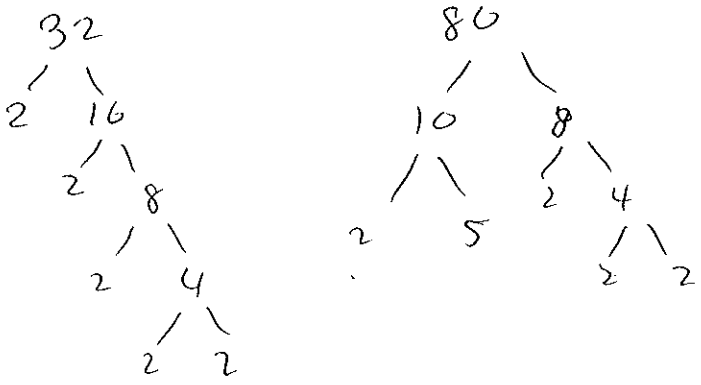


$2 \times 2 \times 3$

12

(3 marks)

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

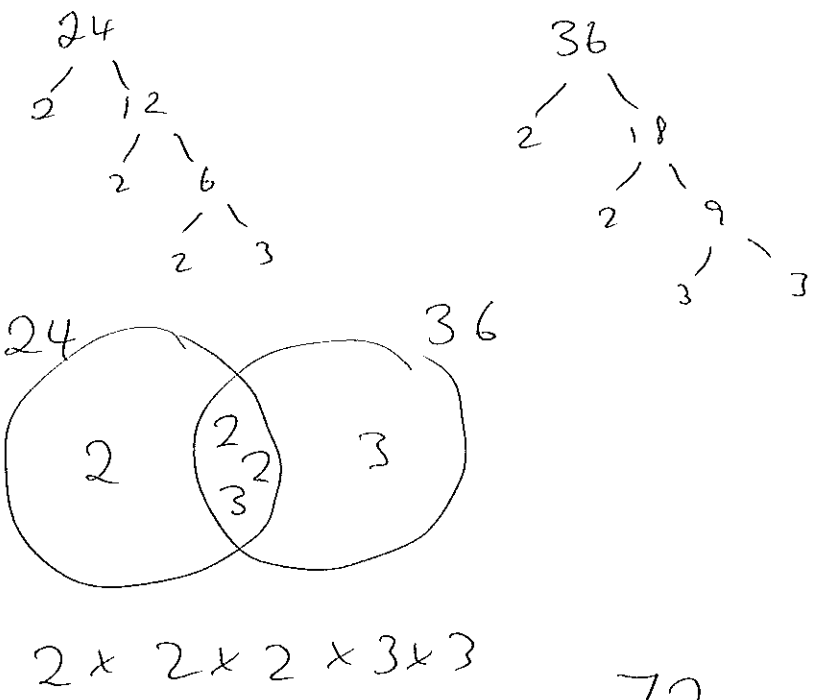


$2^4 =$

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 and 15

(3)

(5 marks)