GCSE
MATHEMATICS

Foundation tier

Number

Topic test – Products of primes – HCF/LCM

v1.0

Name _____

Materials

For this paper you must have:
- Mathematical instruments
- A calculator.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 39.

Advice
- In all calculations, show clearly how you work out your answer.

For Teacher's Use	
Pages	Mark
2 - 3	
4 - 5	
6 - 7	
8	
TOTAL	

1 (a) Write out the first six multiples of 4

[1 mark]

Answer _____

1 (b) Using your answer to part **(a)**, find the lowest common multiple of 4 and 5

[1 mark]

Answer _____

2 (a) Write out the first six multiples of 6

[1 mark]

Answer _____

2 (b) Using your answer to part **(a)**, find the lowest common multiple of 5 and 6.

[1 mark]

Answer _____

3 (a) Write out all the factors of 10

[1 mark]

Answer _____

3 (b) Using your answer to part **(a)**, find the highest common factor of 6 and 10

[1 mark]

Answer _____

4 (a) Write out the factors of 9

[1 mark]

Answer _____

4 (b) Find the highest common factor of 9 and 12

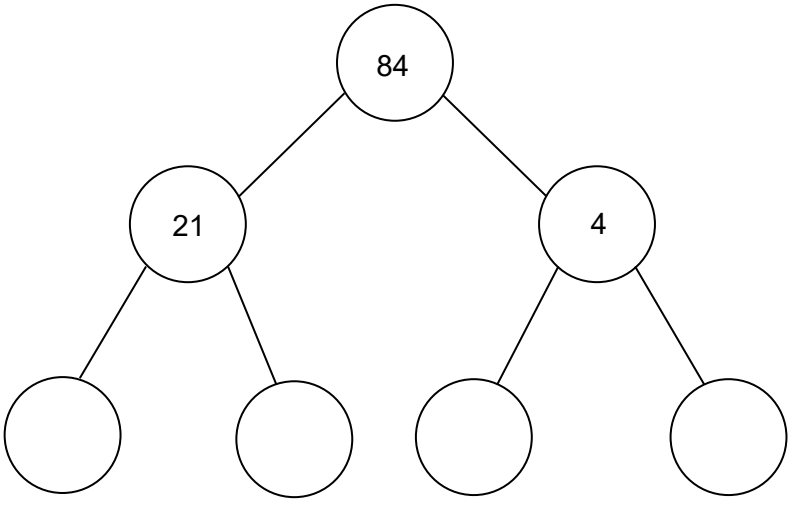
[1 mark]

Answer _____

5 Express 84 as a product of primes.

You may use the diagram to help you.

[2 marks]



Answer _____

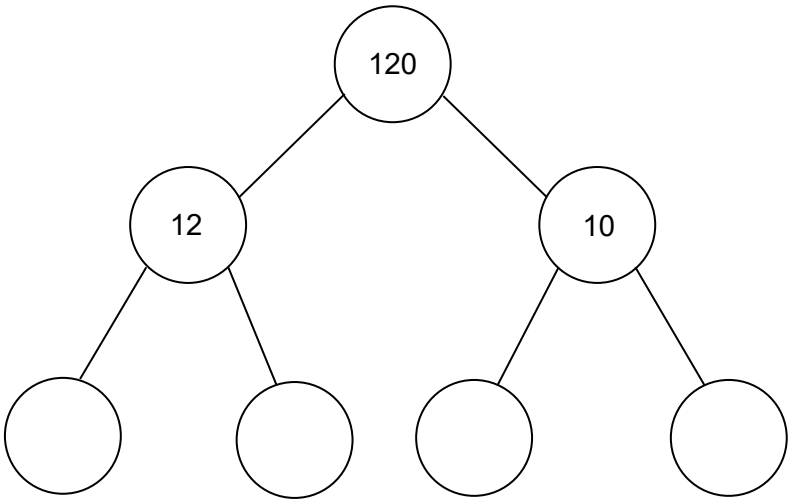
10

6 Express 120 as a product of primes.

Write your answer in index form.

You may use the diagram to help you.

[2 marks]



Answer _____

7 (a) Express 50 as a product of primes.

Give your answer in index form.

[2 marks]

Answer _____

7 (b) Using your answer from part **(a)**, or otherwise, express 350 as a product of primes.

[1 mark]

Answer _____

8 Express 300 as a product of prime factors.

Give your answer in index form.

[3 marks]

Answer _____

9 (a) Express 28 as a product of primes.

Give your answer in index form.

[2 marks]

Answer _____

9 (b) Using your answer from part **(a)**, find the highest common factor (HCF) of 28 and 12.

[2 marks]

Answer _____

12

10 (a) Express 36 as a product of primes.

Give your answer in index form.

[2 marks]

Answer _____

10 (b) Using your answer from part **(a)**, find the lowest common multiple (LCM) of 36 and 48.

[2 marks]

Answer _____

11 (a) Write 280 as a product of its prime factors.

[2 marks]

Answer _____

11 (b) $588 = 2^2 \times 3 \times 7^2$

Work out the highest common factor of 280 and 588

[2 marks]

Answer _____

12 Find the lowest common multiple of 21 and 70

[2 marks]

Answer _____

13 Burgers are sold in packs of 6

Buns are sold in packs of 10

Liam wants to buy the same number of burgers and buns.

Work out the **smallest** number of packs of each item he could buy.

[3 marks]

Number of packs of burgers _____ Number of packs of buns _____

13

14 a is a common factor of 108 and 144

b is a common multiple of 3 and 5

By finding the highest common factor (HCF) and lowest common multiple (LCM), find the highest possible value of $\frac{a}{b}$

[4 marks]

Answer _____

END OF QUESTIONS

4