

Prime Factorisation, HCF and LCM

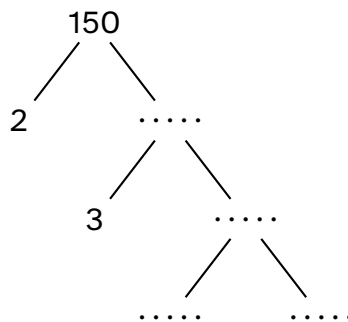
For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **24**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Here is an incomplete factor tree for 150



(a) Complete the factor tree for 150

(2)

(b) Write 150 as a product of its prime factors.

.....
(1)

(Total for Question 1 is 3 marks)

2 Write 204 as a product of its prime factors.

.....
(2)

(Total for Question 2 is 2 marks)

3 Write 392 as a product of powers of its prime factors.

.....
(2)

(Total for Question 3 is 2 marks)

4 Find the Highest Common Factor (HCF) of 54 and 126

.....
(2)

(Total for Question 4 is 2 marks)

5 Find the Lowest Common Multiple (LCM) of 18 and 30

.....
(2)

(Total for Question 5 is 2 marks)

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

(a) Find the HCF of A and B .

.....
(1)

(b) Find the LCM of A and B .

.....
(1)
(Total for Question 6 is 2 marks)

- 7** Paper plates are sold in packs of 20
Paper cups are sold in packs of 12
Rhys is buying plates and cups for a party.
He wants to have equal numbers of plates and cups.
- He needs at least 100 plates and at least 100 cups.
Work out the least number of packs of plates and the least number of packs of cups he can buy.

.....
(3)

(Total for Question 7 is 3 marks)

- 8** In a park, sprinkler A turns on every 40 minutes.
Sprinkler B turns on every 50 minutes.
Both sprinklers turn on together at 6 am.
- Work out the first time after 12 noon that both sprinklers turn on together.

.....
(3)

(Total for Question 8 is 3 marks)

- 9** A food bank has 60 tins of soup and 96 packets of pasta.
It puts all of them into food parcels.
Each parcel has the same number of tins and the same number of packets.

(a) What is the greatest number of parcels it can make?

.....
(2)

(b) How many tins and how many packets are in each parcel?

.....
(1)

(Total for Question 9 is 3 marks)

- 10** Sara says the highest common factor of 12 and 18 is 36

Explain why Sara is wrong.

.....
.....
(1)

(Total for Question 10 is 1 mark)

11 $168 = 2^n \times 3 \times 7$

Find the value of n .

$n = \dots\dots\dots$
(1)

(Total for Question 11 is 1 mark)
