# PRIME FACTORS, LOWEST COMMON MULTIPLE(LCM) AND HIGHEST COMMON FACTOR(HFC) GCSE MATHS EDEXCEL PAST PAPER QUESTIONS.

**1.**

(a) Express 48 as a product of its prime factors.

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(2)

Buses to Exeter leave a bus station every 20 minutes.
Buses to Plymouth leave the bus station every 16 minutes.
A bus to Exeter and a bus to Plymouth both leave the bus station at 8am.

(b) When will buses to Exeter and to Plymouth next leave the bus station at the same time?

.....

(3)

**2.**

Sally is going to buy some packs of blue paint and some packs of white paint.

Blue paint is sold in packs of 12 tubes.
White paint is sold in packs of 15 tubes.

Sally is going to put all the tubes of paint she buys into boxes.
She is going to put 1 tube of blue paint and 1 tube of white paint in each box.

Sally wants to buy the smallest number of packs of blue paint and the smallest number of packs of white paint.

Work out the number of packs of blue paint and the number of packs of white paint she will buy.

**3.**

Shelley sells books.

On Saturday she is going to give a free book mark and a free dust cover with each book she sells.
All the books are the same size.

Shelley needs to buy the book marks and the dust covers.

Book marks come in boxes.
Each box contains 24 book marks.

Dust covers come in packs.
Each pack contains 36 dust covers.

Shelley wants to have enough book marks and dust covers for 250 books.
She buys exactly the same number of book marks and dust covers.

Work out the number of boxes of book marks and the number of packs of dust covers she buys.
You must show all your working.

..... boxes of book marks

..... packs of dust covers

**(Total for Question 7 is 4 marks)**

**4.**

Veena bought some food for a barbecue.
She is going to make some hot dogs.
She needs a bread roll and a sausage for each hot dog.

There are 40 bread rolls in a pack.
There are 24 sausages in a pack.

Veena bought exactly the same number of bread rolls and sausages.

(i) How many packs of bread rolls and packs of sausages did she buy?

..... packs of bread rolls

..... packs of sausages

(ii) How many hot dogs can she make?

..... hot dogs

**(Total for Question 4 is 5 marks)**

**5** Find the Lowest Common Multiple (LCM) of 8 and 12

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**(Total for Question 5 is 2 marks)**

**6.**

(a) Express 54 as a product of its prime factors.

(2)

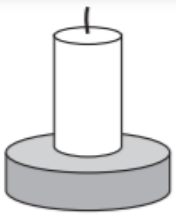
(b) Find the Lowest Common Multiple (LCM) of 45 and 54

(2)

**(Total for Question 4 is 4 marks)**

**7.**

Caroline is making some table decorations.
Each decoration is made from a candle and a holder.



candle and holder

Caroline buys some candles and some holders each in packs.

There are 30 candles in a pack of candles.
There are 18 holders in a pack of holders.

Caroline buys exactly the same number of candles and holders.

(i) How many packs of candles and how many packs of holders does Caroline buy?

..... packs of candles

..... packs of holders

Caroline uses all her candles and all her holders.

(ii) How many table decorations does Caroline make?

..... table decorations

**(Total for Question 5 is 5 marks)**

**8.**

Tom and Amy set the alarms on their phones to sound at 6.45 am.

Both alarms sound together at 6.45 am.
Tom's alarm then sounds every 9 minutes.
Amy's alarm then sounds every 12 minutes.

At what time will both alarms next sound together?

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**(Total for Question 7 is 3 marks)**

**9.**

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

**(2)**

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Sally is a patient in a hospital.
She has to take a red pill every 4 hours, a blue pill every 6 hours and a white pill every 8 hours.
She takes a pill of each colour at midday.

(b) When will she next take a pill of each colour at the same time?

**(2)**

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**(Total for Question 1 = 4 marks)**