HCF, LCM and Products of Prime Factors

1. Polly Parrot squawks every 12 seconds.
   Mr Toad croaks every 21 seconds.
   They both make a noise at the same time.

   After how many seconds will they next make a noise at the same time?

   Answer …………………………………………… seconds

   (Total 2 marks)

2. (a) Express 36 as a product of its prime factors.

   Answer ....

   (3)

   (b) Find the Highest Common Factor (HCF) of 36 and 60.

   Answer ....

   (2)

   (Total 5 marks)

3. 36 expressed as a product of its prime factors is $2^2 \times 3^2$

(a) Express 45 as a product of its prime factors.
Write your answer in index form.

Answer ....

(3)

(b) What is the Highest Common Factor (HCF) of 36 and 45?

Answer ....

(1)

(c) What is the Least Common Multiple (LCM) of 36 and 45?

Answer ....

(1)

(Total 5 marks)

4. (a) Express 144 as the product of its prime factors.
Write your answer in index form.

Answer ....

(3)

(b) Find the Highest Common Factor (HCF) of 60 and 144.

Answer ....

(2)

(Total 5 marks)

5. (a) Express 108 as a product of its prime factors.
Give your answer in index form.

Answer ....

(3)

(b) Find the Highest Common Factor (HCF) of 108 and 72.

Answer ....

(2)

(Total 5 marks)

6. (a) Express 60 as a product of its prime factors.
Give your answer in index form.

Answer …………………………………..........

(3)

(b) Find the Highest Common Factor (HCF) of 120 and 32.

Answer ……………………………..........

(2)
(Total 5 marks)

7. When written as the product of prime factors $225 = 3^2 \times 5^2$

(a) Write 150 as the product of prime factors.
Give your answer in index form.

Answer ……………………………………………………

(3)

(b) Work out the highest common factor (HCF) of 225 and 150.

Answer ……………………………………………………

(2)
(Total 5 marks)

8. Find the Highest Common Factor (HCF) of 24, 60 and 108.

Answer ……………………………………………………

(Total 3 marks)