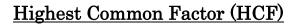
HCF and LCM Ex	am Practice	
Writing a Number as Products of Prime Fac	ctors	
1. Write 60 as a product of its prime fact		
	Answer:	(2 marks
		<b>,</b>
2. Write 28 as a product of its prime fact	ors.	
	Answer:	(2 1
		(2 marks
3. Write 700 as a product of its prime fac	ctors.	
	Answer:	
		(2 marks



4. Find the highest common factor (HCF) of 18 and 24

Answer:\_\_\_\_\_

(2 mar	ks)
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Η×

5. Find the highest common factor (HCF) of 80 and 64

Answer:

(2 marks)

6. Find the highest common factor (HCF) of 30 and 60

Answer:

(2 marks)



Lowest	Common	Multiple	(LCM):

7. Find the lowest common multiple (LCM) of 6 and 5

Answer:

(2 marks)

8. Find the lowest common multiple (LCM) of 8 and 15

Answer:\_\_\_\_\_(2 marks)

9. Find the lowest common multiple (LCM) of 18 and 24  $\,$ 

Answer:\_\_\_\_\_(2 marks)

Using the Prime Factoria	sation to find the I	HCF and LCM:	
10. You are given that:	$648 = 2^3 \times 3^4$	and $270 = 2 \times 3^3$	< 5
Use the information to f	ïnd:		
(i) the HCF of 648 and	d 270		
		Answer:	(2 marks)
(ii) the LCM of 648 ar	nd 270		(2 marks)
		Answer:	(2 marks)
11. You are given that:	$63504 = 2^4 \times 3^4 \times$	$7^2$ and $1188 = 2$	$2 \times 3^3 \times 11^2$
Use the information to	o find:		
(i) the HCF			
		Answer:	(0, 1, )
(ii) the LCM			(2 marks)
		Answer:	() montra)
			(2 marks)

12.	You are given that: $A = 2^{x} \times 7^{3} \times 11^{2}$ and $B = 2^{9} \times 7^{4}$	
	The HCF of A and B is 21952.	1
	Use this information to find the value of x.	
	Answer:(3 marks	<u>_</u>
	() marks	)
- 13	Three numbers A, B and C have the following prime factorisations:	-
10.	Three numbers II, D and C have the following prime factor sations.	
	$\mathbf{A} = 2^7 \times 3^2 \times 5 \times 11^2 \times 13^2  ,$	
	$B = 2^3 \times 5^4 \times 13^2 \qquad \text{and} \qquad$	
	$\mathrm{C} = 2^5  imes 3^2  imes 5^3  imes 13^4$	
	$C = 2^3 \times 3^2 \times 5^3 \times 13^4$	
	(i) Find the HCF of the numbers A, B and C above.	
	(i) I find the field of the fidilibers <i>H</i> , <i>D</i> and <i>C</i> above.	
	Answer:	
	(2 marks	)



(ii) Find a number which is a common factor of A, B and C and which is between 50 and 100

Answer:

(2 marks)

#### **Applied Mixed Practice Problems**

14. Tom sells cakes for 30p each at the College Fair, whilst John also sells biscuits for 24p each.Each customer buys either a cake or a biscuit.How many customers will Tom have had, and how many customers will John have had when they taken the same amount of money?

Answer:

(3 marks)



Aberford trains depart every 18 minutes whilst Dunston trains depart every 12 minutes.

Assuming that both the Aberford and Dunston trains leave the railway station at 08.00am, when is the next time that both trains leave the station at the same time?

Answer:

(3 marks)

17. Rachel has 24 red sweets and Maya has 18 green sweets.

They want to arrange the sweets in such a way that each row contains an equal number of sweets and also each row should have only red sweets or green sweets.

What is the greatest number of sweets that can be arranged in each row?

Answer:

(2 marks)

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15.



18. Two metal strips are 16 cm and 12 cm long. Tom wants to use these for building a model. To make the model, he needs pieces of metal all of which are the same length.

What is the longest he can cut the pieces of metal?

Answer:\_\_\_\_\_

(2 marks)

19. For a dinner party, each guest will have a starter made up of carrot sticks and cucumber slices.There are 36 carrot sticks and 45 cucumber slices available. If each starter is to be identical, with no food left over, what is the greatest number of starters which can be created?

Answer:

(3 marks)



19. Sarah is making identical bunches of balloons for a party.She has 32 purple balloons, 24 white balloons, and 16 red balloons.She wants each bunch to have the same number of each colour.What is the greatest number of bunches that she can make if every balloon is used?

Answer:

(2 marks)

20. At a new clothes shop, every customer gets a gift bag.Each bag can contain up to 3 items, which are shown in the table below:

Item	Frequency
Lipstick	Every 3 <sup>rd</sup> customer
Hand Mirror	Every 7 <sup>th</sup> customer
Bracelet	Every 9 <sup>th</sup> customer

How often will a bag contain all three items?

Answer:

(3 marks)



21. Burgers come in packages of 8. Bread buns come in packages of 12. How many packages of burgers and bread buns should be purchased to have enough to serve 24 people and have none left over?

Answer:

(3 marks)

22. Two flash lights are turned on at the same time. They blink the instant at which they are turned on, then one blinks every 8 seconds and the other blinks every 6 seconds.

In 2 minutes, how many times will they blink at the same time?

Answer:

(2 marks)