

## 2 Year IGCSE Course Week 1 homework

1 List the factors for these numbers

- a) 20                                      b) 28                                      c) 48

2 List the prime numbers between 20 & 40

3 From the following numbers find

- a) a prime number      b) square number      c) a factor of 36  
d) a cube number      e) a multiple of 7

**12, 15, 16, 18, 19, 20, 21, 26, 27**

4 Write out the first 15 square numbers

5 Write out the first 5 cube numbers

6 Which of the following are integers?

**7.235, 2 1/2, 5, 0.6, -7, 24, 3/7,**

7 List the first 5 multiples of

- a) 5                      b) 8                      c) 12                      d) 9                      e) 15

8 Find the HCF of

- a) 18 & 24                      b) 32 & 40

9 Find the LCM of

- a) 8 & 10                      b) 12 & 15

10 Write the following numbers as a product of their prime factors

- a) 32                      b) 72                      c) 120                      d) 900

11 For the numbers 120 & 900, show their prime factors on a Venn Diagram and hence find their a) HCF & b) LCM

12 In prime factor form,  $2450 = 2 \times 5^2 \times 7^2$  and  $68600 = 2^3 \times 5^2 \times 7^3$

- a) what is the HCF of these two numbers, give your answer in prime factor form  
b) what is the LCM of these two numbers, give your answer in prime factor form

13 Without using a calculator find the following

- a)  $25 + 3 \times 5$                       b)  $7(4 + 6)$                       c)  $(7-2)^2 \times 10$                       d)  $2 \times 7 + 8 \div 2$   
e)  $(5 + 3)^2$                       f)  $5^2 + 3^2$                       g)  $\sqrt{81} - \sqrt{16}$                       h)  $5^3 \div 5^2$   
i)  $(18 - 4^2) \div 4$                       j)  $\sqrt{169} - \sqrt{144}$                       k)  $2 \times 7^2$                       l)  $4^3 - 3^3 + 1^3$

14 48 students go on a school trip. Their teachers split them into equal groups.

Suggest 5 ways that this could happen.

15 Two buses depart regularly from a bus station, Bus A leaves every 18 minutes and Bus B leaves every 24 minutes. For both buses the first bus of the day leaves at 8am, what is the next time that both buses will leave the bus station together?

16 Write 2 prime numbers which add up to another prime number

17 The HCF of two numbers is 4, write down 3 possible pairs of numbers

18 The LCM of two numbers is 20, write down 2 possible pairs of numbers

19 x is an integer.

The Lowest Common Multiple(LCM) of x and 12 is 120

The Highest Common Factor (HCF) of x and 12 is 4

Work out the value of x

20  $A = 3^4 \times 5^2 \times 7$

$B = 2^5 \times 3^2 \times 7^3$

- a) Find the Highest Common Factor (HCF) of A & B  
b) Find the Lowest Common Multiple (LCM) of A & B  
c) If  $C = 6 \times A$  express C in Prime Factor form