HOLY CROSS CONVENT SENIOR SECONDARY SCHOOL, AMBIKAPUR.

CLASS - IV
SUBJECT - MATHS

MULTIPLES AND FACTORS

Important facts about Factors

- 1 is a factor of every number. It is also the smallest factor.
- The greatest factor of a number is the number itself.
- As division by 0 is not possible , so 0 is not a factor of any number.
- A number has infinite factors.
- 1 is neither Prime nor composite as it has only one factor it is a unique number.
- 2 is the smallest and only even prime number.
- 3 is the smallest odd number.
- 4 is the smallest composite number.
- 2 and 3 are the only consecutive prime numbers.
- Two prime numbers with a composite number between them are called twin primes.

Exercise - 3

1 **Use multiplication to find the factors of:**

a) 15
1 x 15 = 15
3 x 5 = 15
Factors of 15 = 1 , 3 ,5 ,15

C) 24
1 x 24 =24
2 x 12 =24
3 x 8 = 24
4 x 6 = 24
Factors of 24 = 1, 2,3 , 4, 6 ,8 ,12 ,24

Practice b, d , f

2. Use division to find the products of:

a) 12

12 ÷ 1 = 12

12 ÷ 2 = 6

12 ÷ 3 = 4

Factors of 12 are 1,2, 3, 4 , 6 ,12

C)36

36 ÷ 1 = 36

36 ÷ 2 = 18

36 ÷ 3 = 12

36 ÷ 4 = 9

36 ÷ 6 = 6

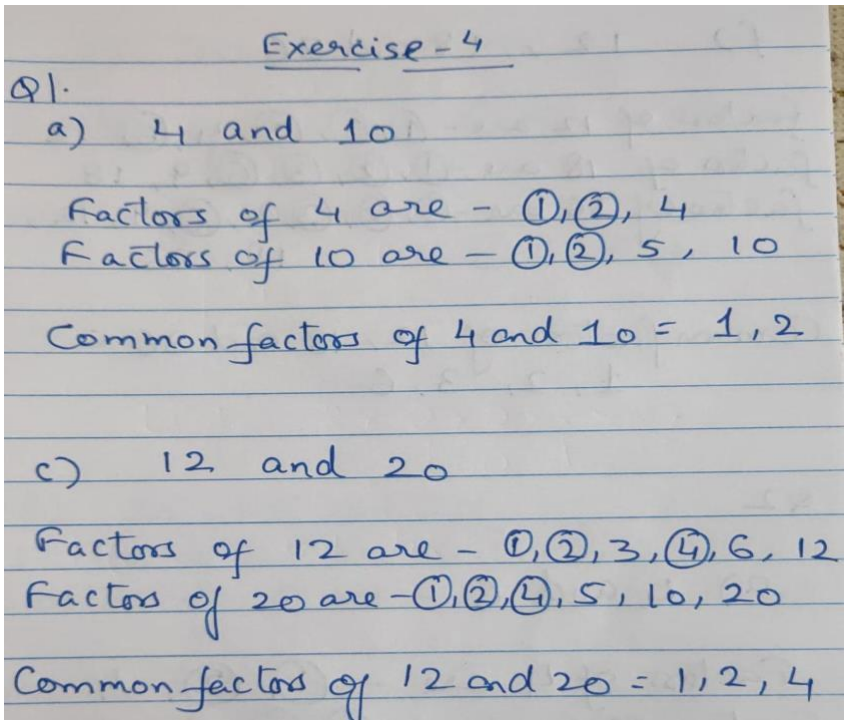
Factors of 36 are 1, 2, 3, 4 ,6, 9, 12 ,18, 36

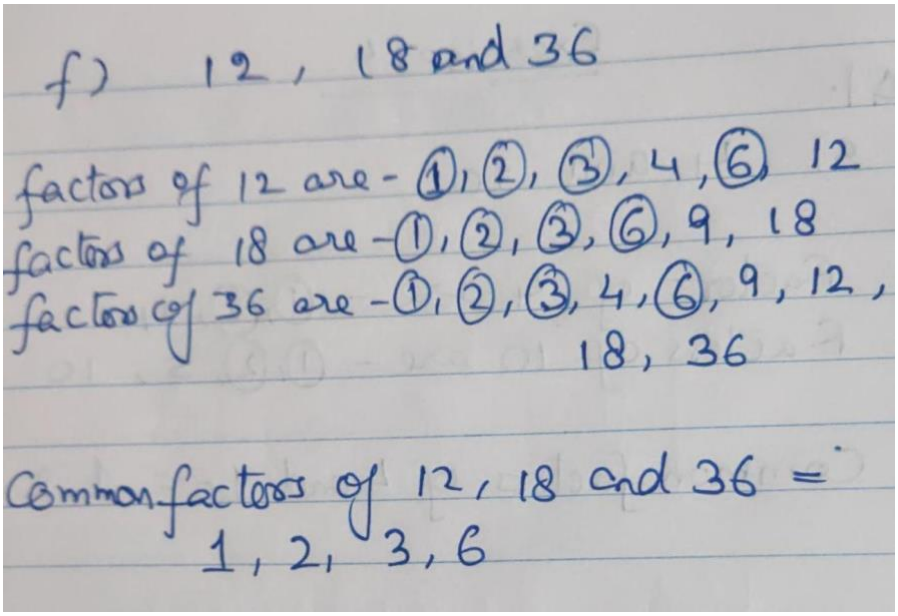
Practice - b, d , e

3 **Do in the book.**

Exercise 4

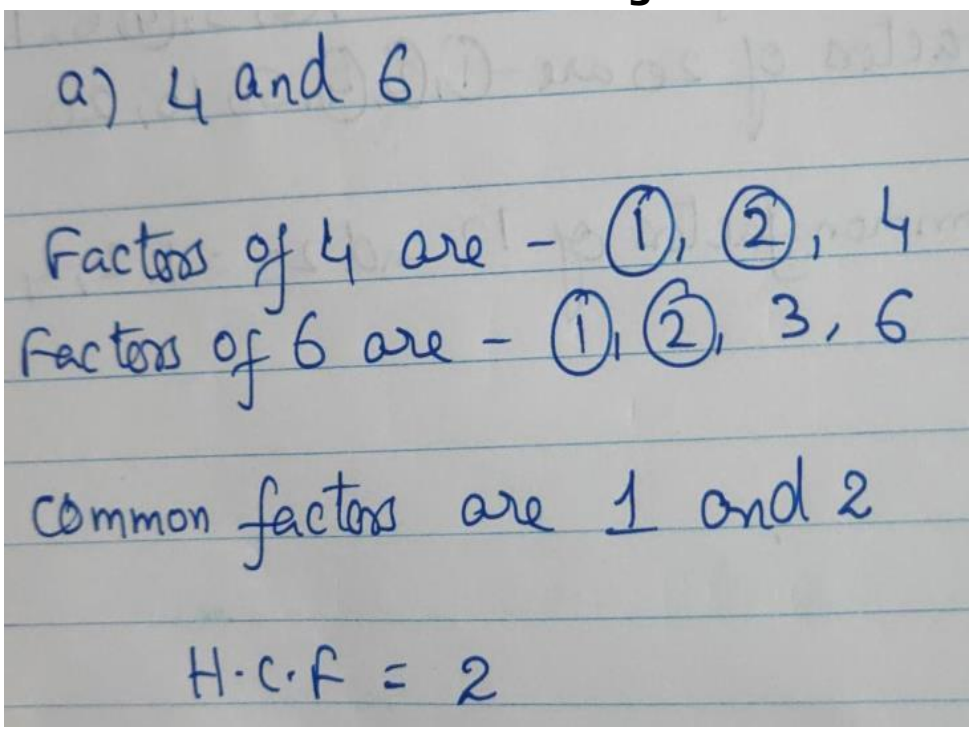
1.**Find the common factors of the following numbers :**

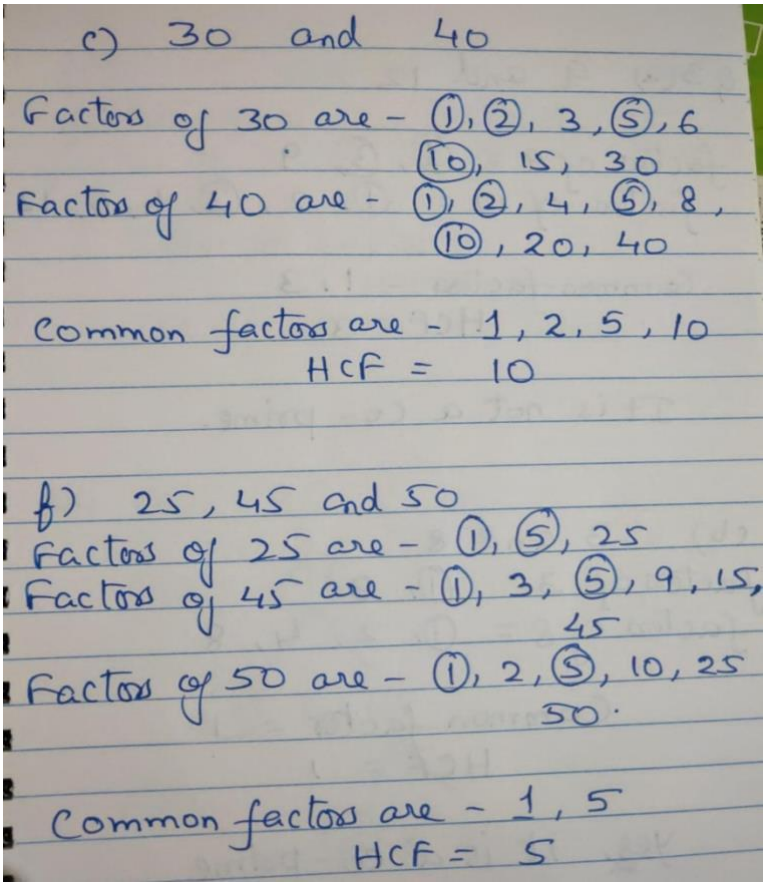




Practice - b and e

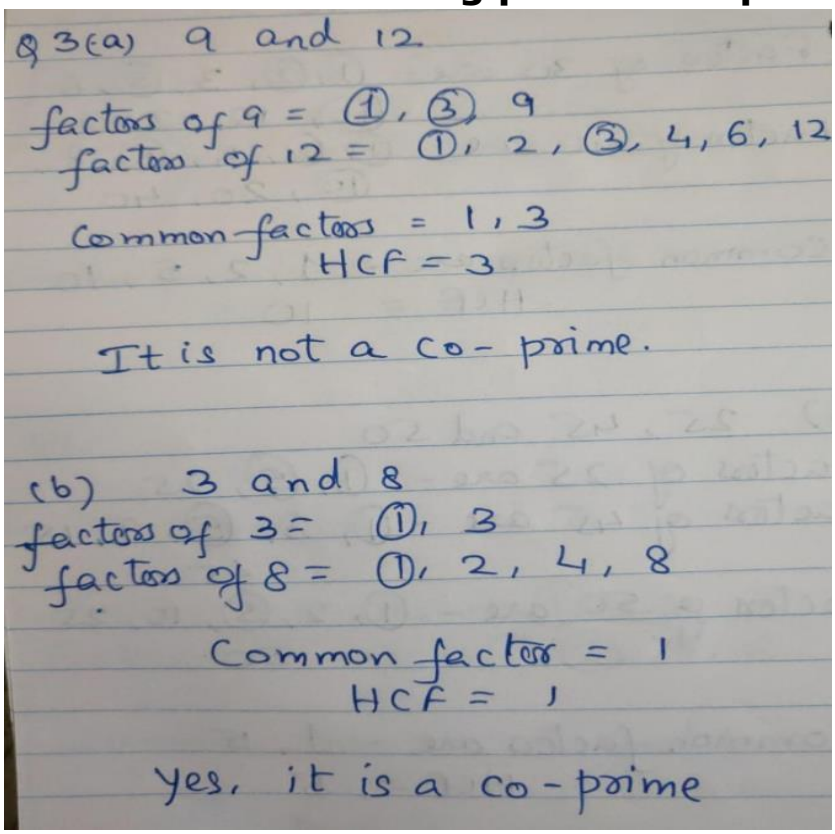
2.Find the HCF of the following





Practice b, e

3.Which of the following pair are co-prime ?



(c) 15 and 3

factors of 15 = 1, 3, 5, 15

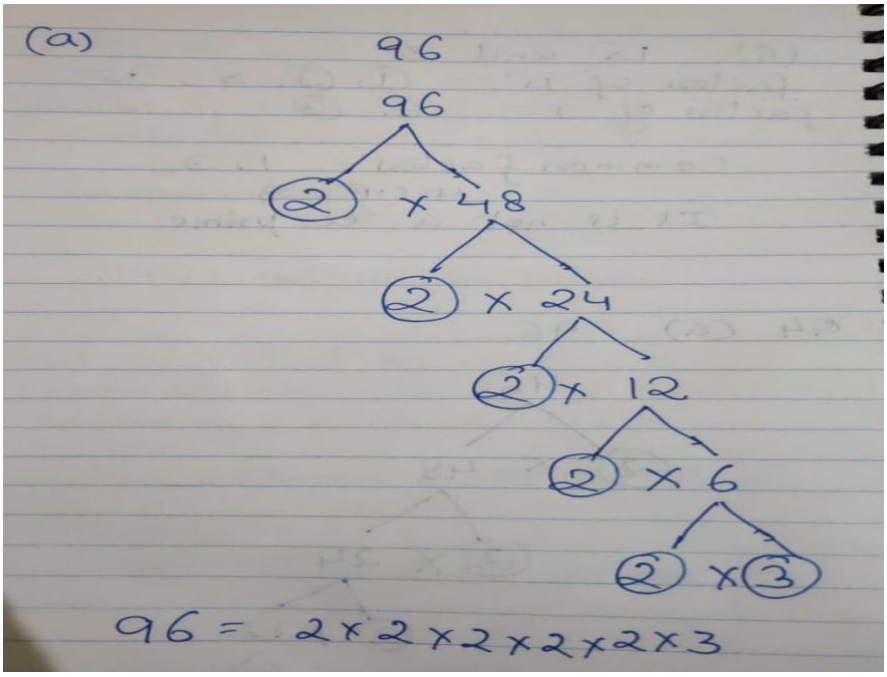
factors of 3 = 1, 3

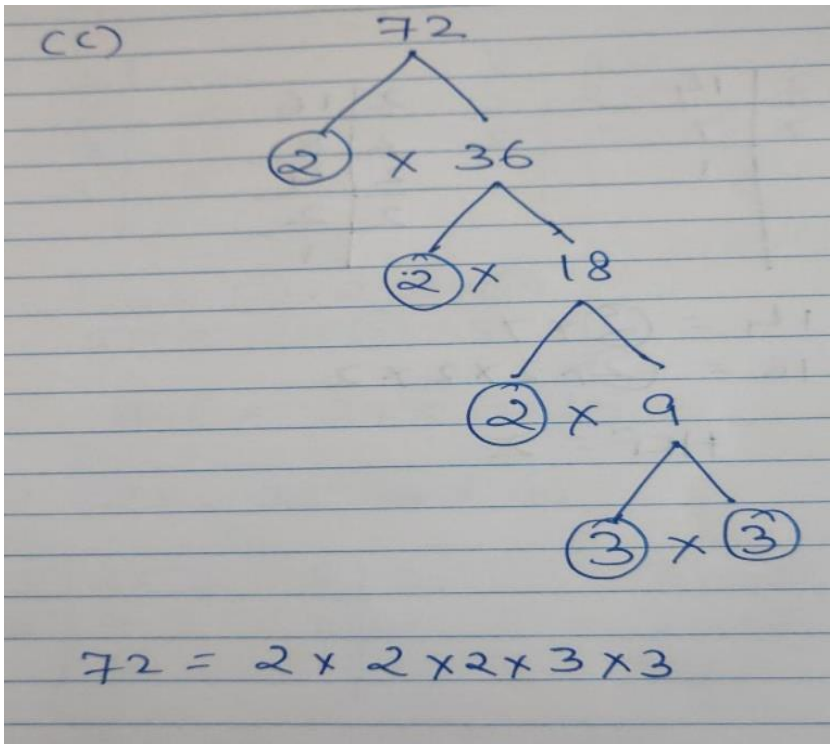
Common factors = 1, 3

H.C.F = 3

It is not a co-prime

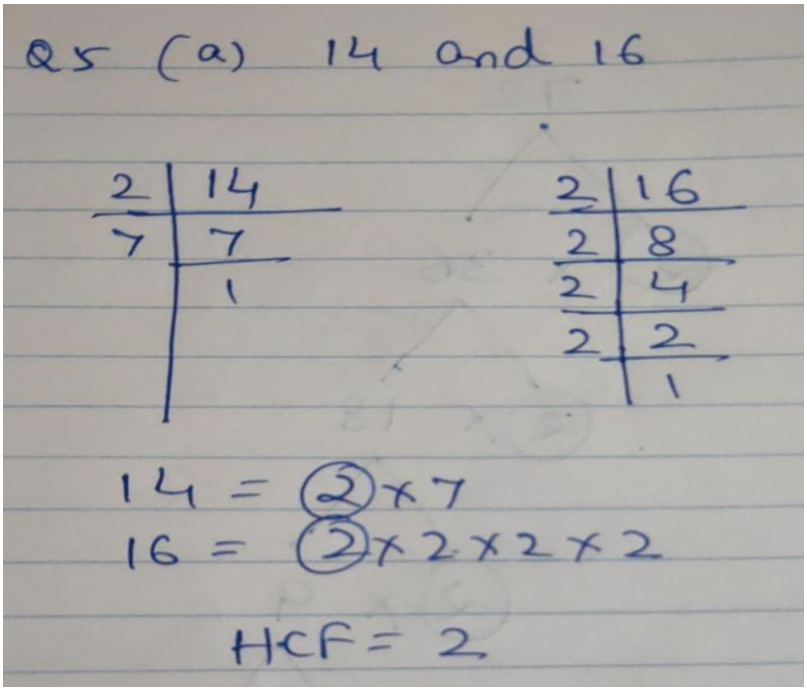
4.Find the prime factorization of the following numbers using the factor tree:

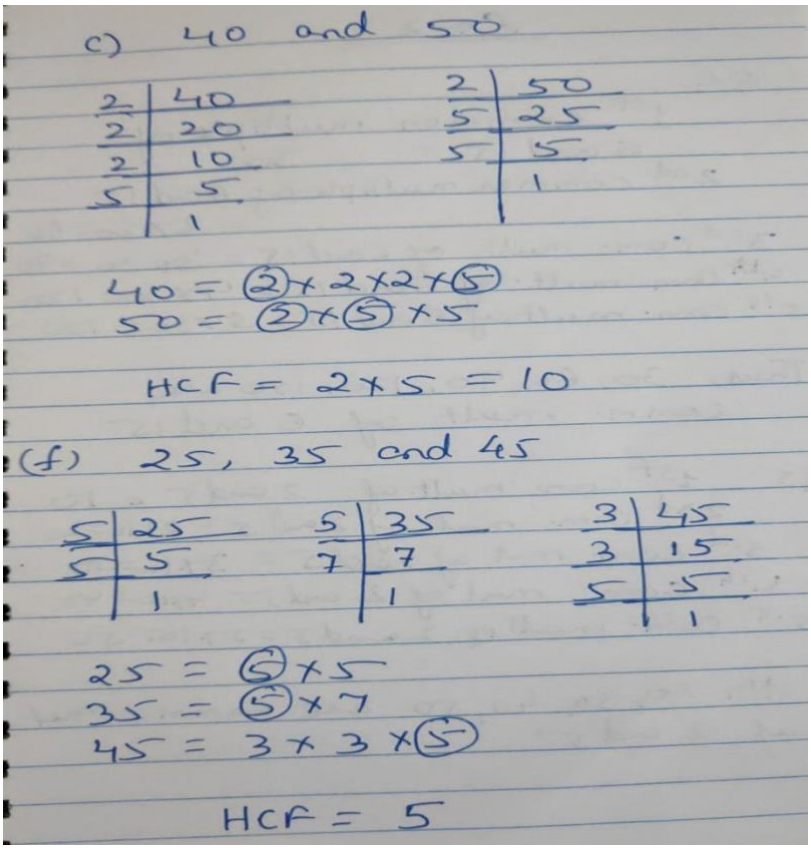




Practice b.

5.Find the HCF of the following by the prime factorization method :





Practice b ,d , e

Exercise 5

1 Check whether the number is prime or composite by listing its factors

a) 5

Factors of 5 are 1 and 5

As it has only two factors 1 and the number itself .So 5 is a prime number.

b) 12

Factors of 12 are 1, 2, 3 , 4 , 6 , 12

As there are more than two factors so 12 is a composite number.

e) 31

Factors of 31 are 1 and 31

As there are only two factors 1 and the number itself so 31 is a prime number .

h) 60

Factors of 60 are 1 , 2 ,3 ,4 ,5 6 , 10 ,12 , 15,20 ,30

As there are more than two factors so 60 is a composite number .

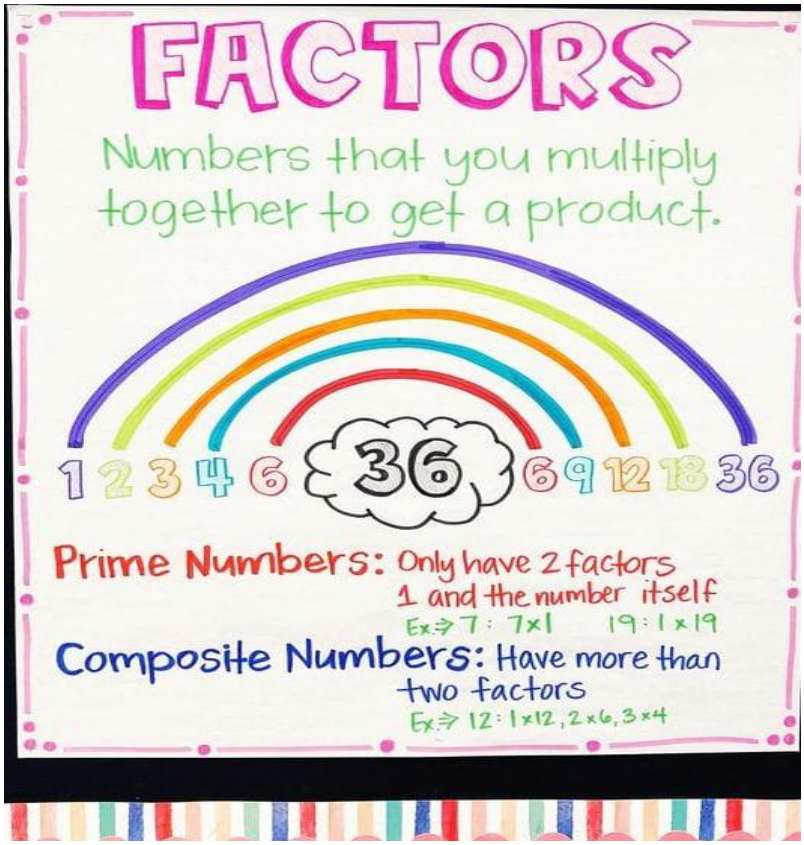
Practice – d , g , j , k , l

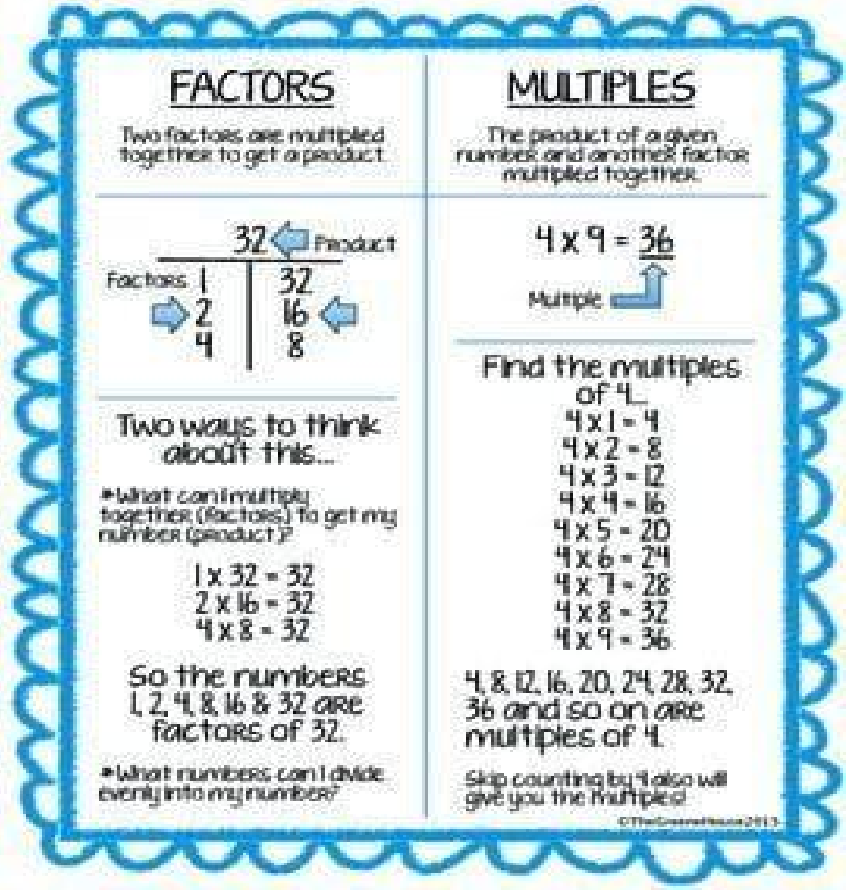
2 List the prime numbers between 75 and 100

The prime numbers between 75 and 100 are

79, 83, 89,97

DO NOT DRAW THIS IN YOUR FAIR COPY. OKAY?


FACTORS
Numbers that you multiply together to get a product.
1 2 3 4 6 36 6 9 12 18 36
Prime Numbers: Only have 2 factors 1 and the number itself
Ex⇒ 7 : 7x1 19 : 1x19
Composite Numbers: Have more than two factors
Ex⇒ 12 : 1x12, 2x6, 3x4


FACTORS
Two factors are multiplied together to get a product.
32 Product
Factors 1 32
2 16
4 8
Two ways to think about this...
*What can I multiply together (factors) to get my number (product)?
1 x 32 = 32
2 x 16 = 32
4 x 8 = 32
So the numbers 1, 2, 4, 8, 16 & 32 are factors of 32.
*What numbers can I divide evenly into my number?
MULTIPLES
The product of a given number and another factor multiplied together.
4 x 9 = 36
Multiple
Find the multiples of 4...
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4, 8, 12, 16, 20, 24, 28, 32, 36 and so on are multiples of 4.
Skip counting by 4 also will give you the multiples!