iv. IDENTIFY PRIME NUMBERS

- A prime number has only two factors, 1 and itself
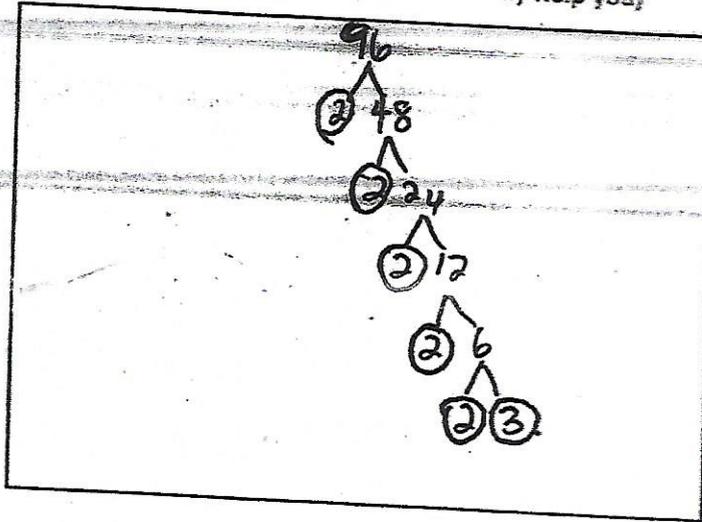 **Example**: the first ten prime numbers are
  2,3,5,7,11,13,17,19,23,29.... (they're numbers that has only two factor which is 1 and itself)

v. DETERMINE PRIME FACTORS OF A NUMBER

- Every non – prime numbers can be expressed as a PRODUCT of PRIME FACTORS
  Example: Find the prime factorization of 96 (factor tree may help you)
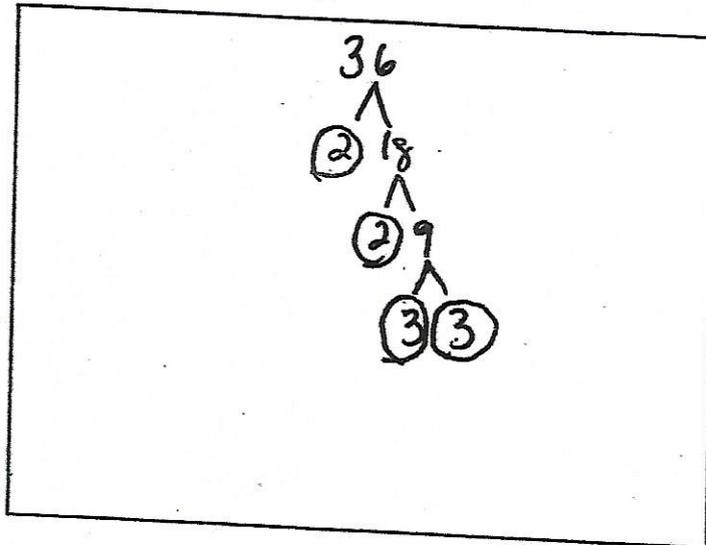 **Factor tree**:

- From the factor tree, picked or circle all the prime numbers shown in it and that is your answer.

  Solution: 2 x 2 x 2 x 2 x 2 x 3

  Example 2: find prime factorization of 36
  Factor tree:

Solution: 2 x 2 x 3 x 3

vi. REVISE THE CONCEPT INDEX NOTATION CONCISE WAY OF REPRESENTING NUMBERS

➢ Let's study index notation.

Example 1: 3 x 3 can be written in index form

- **3^2** (where 3 is the base and ^{2} is the index), three squared or three to the second power

Example 2: $5 \times 5 \times 5 = 5^3$ (five cubed or five to the third power)

Example 3: Write the following multiplication in index form and evaluate them

a. $4 \times 4 \times 4$

   Solution:
   4^3 (index form)
   Evaluation $= 4 \times 4 \times 4$
   $= 16 \times 4 = 64$

b. $2 \times 2 \times 2 \times 2 \times 2 \times 2$

   Solution:
   2^6 (index form)
   Evaluation $= 2 \times 2 \times 2 \times 2 \times 2 \times 2$
   $\quad 4 \times 2 \times 2 \times 2 \times 2$
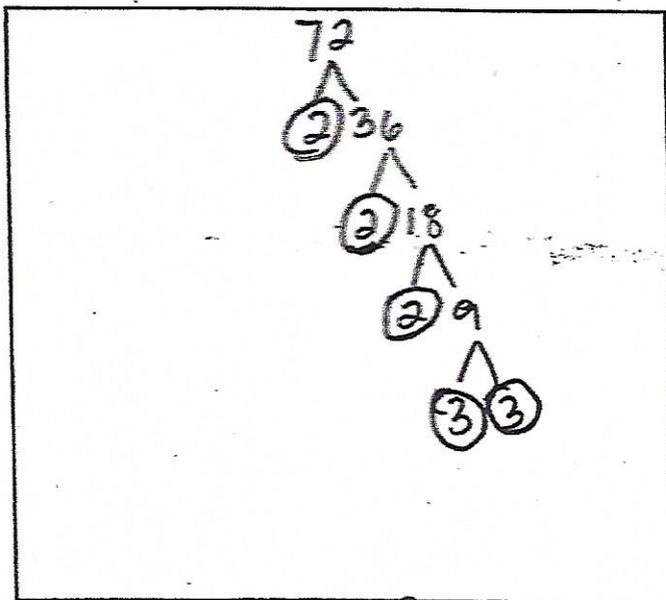 $\quad 8 \times 2 \times 2 \times 2$
   $\quad 16 \times 2 \times 2$
   $\quad 32 \times 2$
   $\quad = 64$

Example 4: Find prime factorization of 72 and write your answer in form of index notation

Factor tree:

Solution: $2 \times 2 \times 2 \times 3 \times 3 = 2^3 \times 3^2$

vii.   DISCUSS THE TERM INTERGER AND DISCUSS WHERE THEY OCCUR IN EVERYDAY LIFE

- Integer are the set of whole numbers and their opposites

   Example:

Whole numbers	4	8	25
Opposites	-4	-8	-25

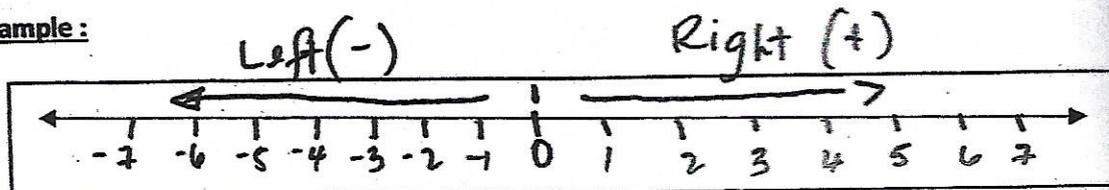➤ Integer has a **positive (+)** and **negative (-)** numbers

   Positive numbers: are numbers that are greater than zero

   Negative numbers: are numbers that ae less than zero

   Note : Zero is neutral. It has no sign. Zero is neither positive nor negative.

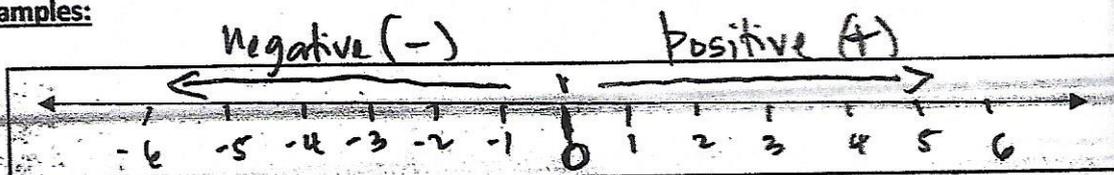   You can show positive and negative numbers on a number line

Example :

Left (−) Right (+)

$$-7 \quad -6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7$$

HOW TO COMPARE INTEGERS

➢ The right numbers are always greater than the left number on the number lines. You will use symbol < or > to compare intergers

Examples:

Negative (−) Positive (+)

$$-6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6$$

−4 < −2 (−4 less than −2)

−2 < +3 (−2 less than +3)

+3 < +5 (+3 less than +5)

+5 > +2 (+5 greater than +2)

viii. **Convert between fraction, percentage and decimals**

- To convert fraction to percentage you must multiply with 100/1 then simplify if available
  Example: convert 3/5 to percentage
  3/5 x 100/1 = **300/5** then simplify and your answer is **60%**

- To convert percentage to fraction you must multiply with 1/10 ten simplify if available
- **Example**; Convert 37% to fraction
  1] 37/1 ×1/100 = **37/100**
  2] 35%=35×1/100=35/100=**7/20** (in simplest form)

- To convert fraction to decimal you must divide the numerator by denominator
  Example; Convert 3/8 as decimal

  = **0 .375**

Therefore 3/8, write as **0.375** in decimal form.

- To covert percentage to decimal you must divide by 100 [÷100]
  Example; Convert 93% to decimal.
  93%= 93÷100 =**0 .93**

- To convert decimal to percentage you must multiply with 100[×100]
  Example; Convert 0.825 to percentage
  0.825 ×100 = 825%

DEFINE SQUARE AND SQUARE ROOTS WITH EXAMPLES

- When a number is multiplied by itself, the product is the square of the number.
  Example: $6 \times 6 = 36$. Written in square is $6^2 = 36$
- Let's say 6^2 is equal 36 or 36 is the square of 6.
- When the product of two indentical factors is a second numbers. The factor is the square root of the number.
- Symbol for square root is √
  Examples:
  - √36 = 6.
  Let's say square root of 36 is equal to 6.
  - √49 = 7

Let's say 49 is the square of 7, therefore 7 is the square root of 49.

x. **CALCULATE SQUARE ROOT OF A NUMBER AND A SQUARE OF A NUMBER**

<u>Example 1</u>: Find the square roots of the following

a. √4 = **2**

b. √9 = **3**

<u>Example 2</u>: Find the square number of the following

a. $16 = 4 \times 4 = \underline{4^2}$

b. $100 = 10 \times 10 = \underline{10^2}$

xi. **LIST AND CALCULATE LCM (LOWEST COMMON MULTIPLE) OF A TWO NUMBERS**

<u>Multiples:</u> are the products of the number and other factor

<u>Example:</u> List the first seven multiples of 2 and multiple of 3

Multiples of 2	Multiples of 3
$2 \times 1 = 2$	$3 \times 1 = 3$
$2 \times 2 = 4$	$3 \times 2 = 6$
$2 \times 3 = 6$	$3 \times 3 = 9$
$2 \times 4 = 8$	$3 \times 4 = 12$
$2 \times 5 = 10$	$3 \times 5 = 15$
$2 \times 6 = 12$	$3 \times 6 = 18$
$2 \times 7 = 14$	$3 \times 7 = 21$
Multiples of 2 are: 2,4,6,8,10,12,14	Multiples of 3: 3,6,9,12,15,18,21

➢ To find LCM of a two or more numbers, you must first **list the multiples** of numbers then their **lowest common** multiple is your answer.

Example: Find the LCM of 4 and 8

Multiples of 4	Multiples of 8
4 x 1 = 4	8 x 1 = 8
4 x 2 = 8	8 x 2 = 16
4 x 3 =12	8 x 3 = 24
4 x 4 = 16	8 x 4 = 32
4 x 5 = 20	8 x 5 = 40
4 x 6 = 24	8 x 6 = 48
4 x 7 = 28	8 x 7 = 56
Multiples of 4 are: 4,8,12,16,20,24,28	Multiples of 8: 8,16,24,32,40,48,56

- There are 3 **common** multiples of 4 and 8, they're **8, 16, 24**
  = the lowest common multiple is 8; therefore the lowest common multiple of 4 and 8 is 8.

FORM 2 ACTIVITIES – MATHEMATICS

Answer the following question given by using your exercise book to show all your works. Only use black or blue pen. Work neat and clean

TOPIC 1 : NUMBER CONCEPT

1. Use place value chart to:
   A. WRITE NUMBERS IN WORD (INCLUDED DECIMAL NUMBERS)
   B. WRITE DECIMAL NUMBERS IN WORDS

EXERCISE1.A&B: Write the following numbers on a place value charts and write in words

   a. 4,561237943
   b. 9785700672
   c. 7536584321
   d. 1058903005
   e. 38.346
   f. 27.321
   g. 588.01
   h. 0.97

C. IDENTIFY VALUE AND PLACE VALUE OF ANY NUMBERS

EXERCISE 1.C: Identify place value and the value of the digit 7 in the following given numbers

   a. **7**320003421
   b. 82**7**399
   c. **7**42119520300
   d. **7**21
   e. 8**7**9560342

D. EXPAND NUMBERS (INCLUDED INDEX NOTATION)
E. WRITE NUMBERS IN COMPACT FORM (ODDINARY OR NUMERICAL FORM)

EXERCISE 1.D & E:
1. Write the following in expanded form.
   a. 4795
   b. 363400291
   c. 756002
   d. 18521
2. Write the given numbers in expanded form using index notation
   a. 200538
   b. 5807436
   c. 2472298
   d. 914275
3. Write in compact forms
   a. $1 \times 10^5 + 7 \times 10^4 + 2 \times 10^3 + 4 \times 10^2 + 1 \times 10^1 + 6 \times 10^0$
   b. $8 \times 10^6 + 1 \times 10^5 + 6 \times 10^4 + 8 \times 10^3 + 5 \times 10^0$
   c. $90000000 + 300000 + 10000 + 600 + 40 + 3$
   d. $700000 + 30 + 4$

F. EXPRESS NUMBERS IN SIMILAR OR EQUIVALENT FORMS

EXERCISE 1.F: Express the numbers in similar way

a. 6.25million
b. 5.2billion
c. 32.1million
d. $8\frac{5}{8}$ million
e. $14\frac{2}{5}$ thousand
f. $4\frac{7}{10}$ million

2. EXPLAIN STRATEGY FOR IDENTIFYING THE SMALLEST AND LARGEST WHOLE NUMBER WITH IN A SET OF GIVEN NUMBER
3. USE SYMBOL < OR > WHEN COMPARING NUMBERS

EXERCISE 2&3:

1. Write the following set of numbers in Descending order and identify smallest and largest numbers

   a. 4562, 4652, 3001, 250, 4452.
   b. 123, 231, 321, 122, 231
   c. 68, 750, 321, 680, 79.

2. Use > the greater than symbols or < less than symbols to compare these numbers

   a. 1.365 _____ 10.254
   b. 0.467 _____ 0.0782
   c. 0.586 _____ 0.582
   d. 3.4214 _____ 3.4234
   e. 12.627 _____ 12.619
   f. 328 _____ 238
   g. 865421 _____ 864521
   h. 6248 _____ 7428

4. IDENTIFY PRIME NUMBERS
5. DETERMINE PRIME FACTORS OF A NUMBER

EXERCISE 4&5

1. Which of the following numbers are prime numbers?
   2,3,4,7,9,21,23,27
2. List all the prime numbers between 10 and 30
3. Express as products of prime factors
   a. 120
   b. 64
   c. 75
   d. 144

6. REVISE THE CONCEPT INDEX NOTATION CONCISE WAY OF REPRESENTING NUMBERS

EXERCISE 6

1. Write the following multiplication in form of index notation and evaluate them
   a. $3 \times 3 \times 3 \times 3$
   b. 10×10
   c. $5 \times 5 \times 5 \times 5 \times 5$
   d. $2 \times 2 \times 2 \times 2 \times 4 \times 4$
2. Write the repeated multiplication then evaluate.
   a. 6^2
   b. 9^2
   c. 7^3
   d. 5^4
   e. 3^5

7. DISCUSS THE TERM INTERGER AND DISCUSS WHERE THEY OCCUR IN EVERYDAY LIFE

EXERCISE 7

1. (PUPIL'S BOOK – PAGE 7)
2. Write an integer to represent each situation
   a. Ten degree above zero
   b. Less 10 pa'anga
   c. Gain 5 points
   d. 8 steps backward
3. Use > the greater than symbol or < less than symbols to compare the following intergers
   a. -4 _____ +3
   b. -5 _____ -2
   c. 0 _____ 6
   d. -5 _____ 0
   e. -8 _____ -4
   f. -9 _____ +7

8. Convert between fraction, percentage and decimals

EXERCISE 8 : Fill the table below

Percentage (%)	Fraction	Decimal
64		
_____	$\dfrac{3}{4}$	_____
_____	_____	_____
_____		1.3
_____	$\dfrac{6}{8}$	0.87
9		_____