Mohamed Kheider University of Biskra
Faculty of Exact Sciences
Department Sciences of Matter
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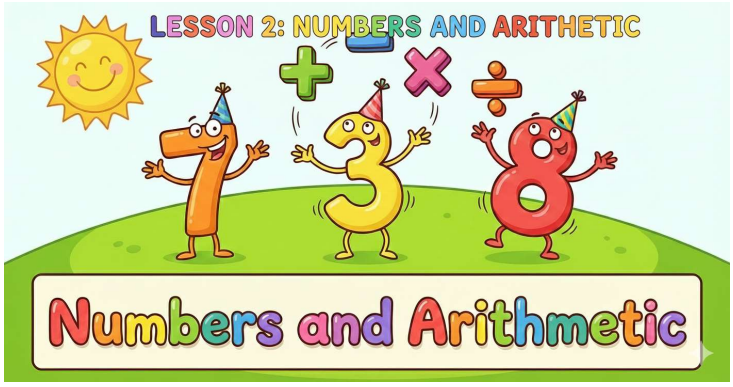
First Year Bachelor Level All Sections
Semester 01 English Lessons
Academic Year: 2025/2026
Lesson 2: Numbers and Arithmetic



We use **numbers** in our day-to-day life. They are often called numerals. Without numbers, we cannot do counting of things, date, time, money, etc. Sometimes these numbers are used for measurement and sometimes they are used for labelling.

A **number** is an arithmetic value used for representing the quantity and used in making calculations.

❖ Cardinal and ordinal numbers

A Cardinal Number: are used to talk about the quantity of items (e.g. there are six apples in the bag) so is a number that says how many of something there are, such as one, two, three, four, ….

An Ordinal Number: are used to talk about the distribution or order of items (e.g. 'her apartment was on the third floor'). so that tells the position of something in a list, such as 1st, 2nd, 3rd, 4th, …etc. Most ordinal numbers end in "th" except for:

one ⇒ first (1st), two ⇒ second (2nd), three ⇒ third (3rd)

Examples:

- There are four shapes in the row.
- The yellow circle is the second shape from the left.
- The green arrow is the fourth shape in the row.
- The red triangle is the first shape in the row.
- The pink star is the second shape from the right.

➢ The yellow circle is the third shape from the right.

Be careful with the number 13 and the number 15. While all the other 'teen' numbers in English simply add the word 'teen' to the regular number (e.g., four-teen, six-teen, seven-teen, nine-teen) 13 uses 'thir' and 15 uses 'fif'. For an added complication, the number 18 only has one 't' (eighteen).

even numbers: The numbers which are exactly **divisible by 2**, are called even numbers. These can be positive or negative integers such as -42, -36, -12, 2, 4, 8 and so on (the number 5,917,624 is **even** because it ends with a 4).

odd Numbers: The numbers which are **not exactly divisible by 2**, are called odd numbers. These can be both positive and negative integers such as -3, -15, 7, 9, 17, 25 and so on. Odd numbers end in 1, 3, 5, 7, 9.

Exercise

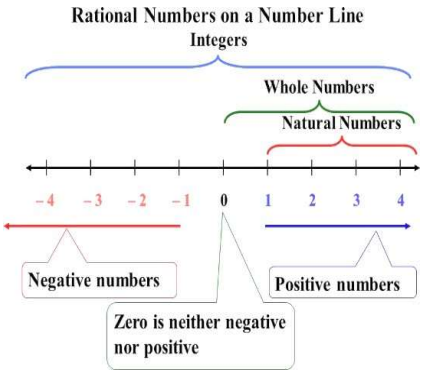
Circle the numbers which doesn't belong to the group.

Indicate on the line whether it is odd or even.

- __odd__	2	16	11	22
- __odd__	32	66	99	56
- __odd__	77	20	60	100
- __even__	62	3	27	39
- __even__	28	13	39	65
- __odd__	14	28	98	221

❖ **We have the following number classifications:**

I. Natural Numbers: are known as counting numbers that contain the positive integers from 1 to infinity. The set of natural numbers is denoted as "N" and it includes N = {1, 2, 3, 4, 5, …….}.



II. Whole Numbers: are known as non-negative integers and it does not include any fractional or decimal part. It is denoted as "W" and the set of whole numbers includes W = {0,1, 2, 3, 4, 5, …….}

III. Integers: are the set of all whole numbers but it includes a negative set of natural numbers also. "Z" represents integers and the set of integers are Z = { -3, -2, -1, 0, 1, 2, 3}.

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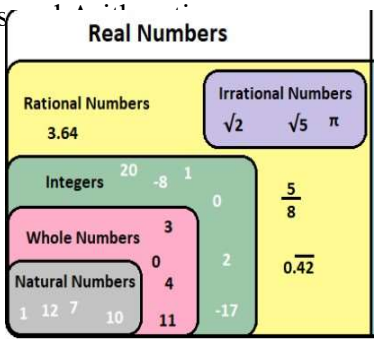
IV. Rational Numbers: A rational number that can be written as a fraction or in which one number over another number is written as rational numbers. This means that any number that can be written in the form of p/q. The symbol "Q" represents the rational number.



V. Irrational Numbers: The number that cannot be expressed as the ratio of one over another is known as irrational numbers and it is represented by the symbol "P".

Here is a chart for you to learn how to read the most used **math symbols** aloud:

Math symbol	Name	Pronunciation
=	equal sign	equals
≠	not equal sign	is not equal to does not equal
+	plus sign	plus
−	minus sign	minus
x	times sign	times
÷	division sign	divided by
>	strict inequality	greater than
<	strict inequality	less than
≥	inequality	greater than or equal to
≤	inequality	less than or equal to

Operation	Verb	Example
addition	to add	5 + 4 = 9
subtraction	to subtract	45 − 5 = 40
multiplication	to multiply by / times	50 · 5 = 250
division	to divide by	55 : 5 = 11

Basic process

1°/

5 + 6 = 11 is read "five plus six equals (is) eleven."
The process is addition. When we add five to (and) six, we get eleven.
The result of this operation is called the sum.

2°/

10 − 3 = 7 is read "ten minus three equals (is) seven.
The process is subtraction. When we subtract three from ten, we get seven.
The result of this operation is called the difference.

3°/

3 x 2 = 6 is read "three times two equals (is) six."
The process is multiplication. When we multiply three times two, we get six. The result of this operation is called the product.

4°/

9 ÷ 3 = 3 is read "nine divide by three equals (is) three." The process is division. When we divide nine by three, we get three. The result of this operation is called the quotient.

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Fractions

5/10 is a proper fraction. It is read "five-tenths." 1/10 is read "one-tenth." They may also read "five over ten" and "one over ten."

- 5/10 can be reduced to 1/2
- 10/5 is an improper fraction
- 2.1/3 is a mixed number.
- In the fraction 2/3, 2 is the numerator and 3 is the denominator.

Decimal fractions

2,55 is a decimal fraction. We use a decimal point to write a decimal fraction. It is read **"two point five five"** or **"two and fifty-five hundredths."**

If we convert 1/3 to a decimal, we get **"zero point three recurring."**

Symbols in mathematics

Symbol	Meaning
=	Equal
≠	Different
≈	Approximate
⇒	Tends to
⇔	Equivalent
<	Less than
>	More than
<<	Much less
>>	Much greater
X^2	X squared
X^3	X cubed
X^n	X to the power of n
X^{n-1}	X to the power of n minus one

≥	greater than or equal
≤	Less than or equal

∞	Infinity
±	Plus or minus

/	Per
( )	Brackets
[ ]	Square brackets
$\sqrt[3]{x}$	The cube root of x
$\sqrt[n]{x}$	The n^{th} root of x
X_1	X subscript one
X_n	X subscript n

❖ Date:

Writing and Saying the Date in British English

Rule: Day – Month – Year

Writing: 1st February, 2011

Saying: The first of February twenty eleven

Writing and Saying the Date in American English

Rule: Month – Day – Year

Writing: February 1st, 2011

Saying: February first twenty eleven

Format	British	American
A	The Fourteenth of March, 2016	March the Fourteenth, 2016
B	14th March 2016	March 14th, 2016