ANNEE UNIVERSITAIRE 2020 /2021	***1 ère ANNEE MATH ET INFO***	***SEMESTRE 01***
MODULE : ANGLAIS 01		
ACTIVITE -01-		

1/ Translate into Arabic the following text .

2/ List the verbs and write their meanings in French.

THE TEXT :

Vectors:

Vectors are used when both the magnitude and the direction of some physical quantity are required. (Give examples of such quantities).

Scalar and vector quantities:

A quantity that is completely characterized by its magnitude is known as a scalar. (Give examples of such quantity).

A vector is characterized by both magnitude and direction

A vector is usually indicated by a boldfaced letter, such as $\vec{\boldsymbol{V}}$*, or an arrow over a letter* V *.*

A vector is graphically represented by a directed line segment. The length of the segment is proportional to the magnitude of the vector quantity with a suitable scale. The direction of the vector is indicated by an arrowhead at one end of the segment, which is known as the tip of the vector. The other end is called the tail. The magnitude of the vector is called the norm of the vector.

The letter V is used to mean the norm of $\mathbf{V}$*. Sometimes, the norm of* $\mathbf{V}$ *is also represented by* $|\mathbf{V}|$ *or* $\mathbf{V}$ *.*

Bound and Free Vectors

There are two kinds of vectors; bound vector and free vector

Bound vectors are fixed in position .They are vectors whose points of application or lines of action cannot be shifted. (Give an example).

A free vector is completely characterized by its magnitude and direction. These vectors are the ones discussed in mathematical analysis.

Equal vectors:

Two free vectors whose magnitudes, or lengths, are equal and whose directions are the same are said to be equal, regardless of the points in space from which they may be drawn.

Vector Operations:

Multiplication by a Scalar:

If c is a positive number, the equation ***A*** *=* ***cB*** *means that the direction of the vector* ***A*** *is the same as that of* ***B****, and the magnitude of* ***A*** *is c times that of* ***B****. If c is negative, the equation means that the direction of* ***A*** *is opposite to that of* ***B*** *and the magnitude of* ***A*** *is c times that of* ***B****. If c = -1 the vector* ***B*** *is called……..of* ***A.***

Unit Vector:

A unit vector is a vector having a magnitude of one unit.

Addition and Subtraction of vectors:

Addition of vectors:

Two vectors ***A*** *and* ***B*** *are added by placing the tip of one at the tail of the other*

The sum ***A*** *+* ***B*** *(called also the resultant) is the vector obtained by connecting the tail of the first vector to the tip of the second vector.*

Parallelogram law is also valid for both free and bound vectors:

If the two vectors to be added are considered to be the sides of a parallelogram, the sum is the diagonal .

Subtraction of vectors:

Subtraction is taken as a special case of addition

$\boldsymbol{A} - \boldsymbol{B} = \boldsymbol{A} + (-\boldsymbol{B})$.

In addition, subtraction is taken as an inverse operation of addition. Clearly, they are equivalent.

The vector subtraction $\boldsymbol{D} = \boldsymbol{A} - \boldsymbol{B}$ *is the tip-to-tip vector, starting from the tip of* $\boldsymbol{B}$ *directed towards the tip of* $\boldsymbol{A}$.

Graphically it can also be easily shown that vector addition is commutative i.e. (that is to say) : $\boldsymbol{A} + \boldsymbol{B} = \boldsymbol{B} + \boldsymbol{A}$ *and associative* $\boldsymbol{A} + (\boldsymbol{B} + \boldsymbol{C}) = (\boldsymbol{A} + \boldsymbol{B}) + \boldsymbol{C}$.