Problem: Translate the following words and phrases in English language:

1. *Base hilbertienne*
2. *Boule ouverte, fermée*
3. *Espace séparable*
4. *Espace vectoriel topologique .*
5. *Fonction sous-linéaire*
6. *Mesure de **Dirac***
7. *Normes, semi-normes*
8. *Opérateur linéaire*
9. *Problème de Dirichlet*
10. *Semi-normes équivalentes .*

1. *Système de vecteurs orthogonaux .*
2. *Théorème de l'application ouverte*
3. Intégrales **absolument** convergentes
4. Constante d'Euler, Compacité
5. Nombres premiers
6. Equation différentielle d'ordre p
7. Equation différentielle linéaire homogène
8. *Famille libre*
9. *Espaces fonctionnels*
10. *Forme différentielle continue*
11. *Formule de Cauchy*
12. *Forme hermitienne*

1. Image réciproque d’une forme différentielle
2. Intégrale double
3. Harmonique
4. **Densité et séparabilité**
5. Intérieur d'un ensemble
6. Matrice d'un système différentiel
7. Noyau d'une forme bilinéaire symétrique
8. **Application orthogonale**
9. Vecteurs orthogonaux
10. Espace préhilbertien séparable
11. Boule **unité** d’un espace normé
12. Opérateur adjoint

1. Rayon de convergence
2. Série de Fourier
3. Volume
4. Matrice **unitaire**, matrice symétrique
5. Somme d'une série
6. *Sous-espace vectoriel*
7. *Valeur absolue*
8. *Equation de BERNOULLI.*
9. *Théorème de Strauss, théorème de Cauchy*
10. *Ensemble **borné***
11. *Espaces complets*
12. *Convergence simple*

1. Fonction strictement croissante
2. Fonction croissante
3. *Fonction **décroissante***
4. *Système différentiel linéaire a coefficients constants*
5. *Infiniment grand, infiniment petit*
6. *Borne inférieure, borne supérieure*
7. *Dérivée généralisée*
8. *Inégalité de **Holder***
9. *Graphe*
10. *Formes indéterminées*
11. *Fonction périodique*

1. *Fonction monotone*
2. *Fonction paire*
3. *Limite d'une fonction*
4. *Fonction impaire*
5. *Fonction exponentielle*
6. *Fonction discontinue*
7. *Fonction convexe, croissante, décroissante*
8. *Fonction convexe, continue, composée*
9. *Intervalle fermé, ensemble fermé*
10. *Problème de valeur **initiale***
11. *Suite double, Développement limité*

1. *application identique sur X*
2. *application canonique de X dans son bidual*
3. *espace des suites bornées*
4. *espace des applications linéaires continues*
5. *fonctions mesurables bornées*
6. *transposée de l'application linéaire f*
7. *adjoint de l'application T*
8. *produit scalaire de x et y*
9. *espace des suites qui tendent vers 0*
10. *vecteur **nul** de l'espace vectoriel X*
11. *Espaces normés et applications linéaires*
12. *Forme hermitienne positive*

Let p_n denote the ....., so that $p_1 = 2$, $p_2 = 3$, $p_3 = 5 \ldots$.

Let n be an integer, $n \geq 2$. The matrix $A = (a_{ij}) \in M_n(\mathbb{R})$ is said to be ..... if $a_{ij} = 0$ for every i and j with $1 \leq j < i \leq n$.

The matrix $A = (a_{ij}) \in M_n(\mathbb{R})$ is said to be ..... if $a_{ij} = a_{ji}$ for all i and j in the set $\{1, 2, \ldots, n\}$; *i.e.*, if $A = A^t$.

A matrix $A \in M_n(\mathbb{R})$ is called ..... if

$$x^t A x > 0, \text{ for all } x \neq 0.$$

Definition. The ..... T_n of degree n is defined, for $x \in [-1, 1]$, by

$$T_n(x) = \cos(n \arccos x), \text{ for } n = 0, 1, 2, \ldots$$

Definition. (.....) Suppose that g is a real-valued function, defined and continuous on a bounded closed interval $[a, b]$ of the real line. Then, g is said to be a ..... on $[a, b]$ if there exists a constant L such that $0 < L < 1$ and

$$|g(x) - g(y)| \leq L|x - y|, \ \forall\, x, y \in [a, b].$$

Definition. ..... for the solution of $f(x) = 0$ is defined by

$$x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}, \ k = 0, 1, 2, \ldots$$

Definition. Topological spaces (X, τ_X) and (Y, τ_Y) are homeomorphic if there is a ..... $f : X \to Y$ whose inverse is also ..... The function f is called a homeomorphism.

" iff " means .....:

For any two sets A and B, we define as follows:

(a) The ....., or ....., of A and B, denoted by $A \cup B$, is the set of all elements x such that $x \in A$ or $x \in B$ (*i.e.*, the set of all elements of A and B taken together).

(b) The ....., or meet, of A and B, denoted by $A \cap B$, is the set of all elements x such that $x \in A$ and $x \in B$ simultaneously (it is the set of all common elements of A and B).

The ..... $A-B$ is the set of all elements that are in A but not in B (B may, but need not, be a subset of A).

The sets A and B are said to be ..... if $A \cap B = \varnothing$, *i.e.*, if they have no elements in common.

The difference $A-B$ is also called the ..... of B relative to A.

Answer

Let p_n denote the nth prime number, so that $p_1 = 2$, $p_2 = 3$, $p_3 = 5 \ldots$.

Let n be an integer, $n \geq 2$. The matrix $A = (a_{ij}) \in M_n(\mathbb{R})$ is said to be upper triangular if $a_{ij} = 0$ for every i and j with $1 \leq j < i \leq n$.

The matrix $A = (a_{ij}) \in M_n(\mathbb{R})$ is said to be symmetric if $a_{ij} = a_{ji}$ for all i and j in the set $\{1, 2, \ldots, n\}$; *i.e.*, if $A = A^t$.

A matrix $A \in M_n(\mathbb{R})$ is called positive definite if

$$x^t A x > 0, \text{ for all } x \neq 0.$$

Definition. The Chebyshev polynomial T_n of degree n is defined, for $x \in [-1, 1]$, by

$$T_n(x) = \cos(n \arccos x), \text{ for } n = 0, 1, 2, \ldots$$

Definition. (Contraction) Suppose that g is a real-valued function, defined and continuous on a bounded closed interval $[a, b]$ of the real line. Then, g is said to be a contraction on $[a, b]$ if there exists a constant L such that $0 < L < 1$ and

$$|g(x) - g(y)| \leq L|x - y|, \ \forall\, x, y \in [a, b].$$

Definition. Newton's method for the solution of $f(x) = 0$ is

defined by

$$x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}, \ k = 0, 1, 2, \ldots$$

Definition. Topological spaces (X, τ_X) and (Y, τ_Y) are homeomorphic if there is a continuous bijection $f : X \to Y$ whose inverse is also continuous. The function f is called a homeomorphism.

" iff " means if and only if.

For any two sets A and B, we define as follows:
(a) The union, or join, of A and B, denoted by $A \cup B$, is the set of all elements x such that $x \in A$ or $x \in B$ (*i.e.*, the set of all elements of A and B taken together).

(b) The intersection, or meet, of A and B, denoted by $A \cap B$, is the set of all elements x such that $x \in A$ and $x \in B$ simultaneously (it is the set of all common elements of A and B).
The difference $A-B$ is the set of all elements that are in A but not in B (B may, but need not, be a subset of A).

The sets A and B are said to be disjoint if $A \cap B = \varnothing$, *i.e.*, if they have no elements in common.

The difference $A-B$ is also called the complement of B relative to A.

2. Write the following in full form

The union of two sets X and Y is

$$X \cup Y = \{x : x \in X \text{ or } x \in Y\}.$$

The union of X and Y equals the set of x such that x belongs X or x belongs Y

$$\underset{n \to \infty}{x_n} \longrightarrow 0$$

The limit of x, n as n tends to infinity equals zero.

The sequence x,n tends to zero as n tends to infinity.

$$\frac{x}{y} = x \cdot (y^{-1}),$$

The fraction x over y equals x times y minus one.

$$A = A^* \Longleftrightarrow \forall \ (i,j) : a_{ij} = \overline{a_{ji}}$$

The matrix *A* is Hermitian if and only if, for all *i*, *j* we have *a,i,j* equals *a,j,i* bar.

$$\begin{aligned}
\lambda \langle x, x \rangle &= \langle \lambda x, x \rangle \\
&= \langle Ax, x \rangle = (Ax)^t \overline{x} \\
&= x^t A^t \overline{x} = x^t \left(\left(\overline{A} \right)^t \right)^t \overline{x} \\
&= x^t \overline{A} \overline{x} = x^t \overline{Ax} \\
&= \langle x, Ax \rangle = \langle x, \lambda x \rangle = \overline{\lambda} \langle x, x \rangle
\end{aligned}$$

$$A^{-1} = A^*$$

$$A \neq \emptyset$$

$$\lim_{x\to 0} \frac{f''(x)}{F''(x)} = \lim_{x\to 0} \frac{-e^x}{4} = -\frac{1}{4}.$$

$$u_{n_1},\ u_{n_2},\ u_{n_3},\ \ldots$$

$$A \sim B \Longrightarrow e^A \sim e^B$$

$$r = \sqrt{x^2 + y^2}$$

$$cA = \{cx \mid x \in A\}.$$

$$A_n = \{x \in A \mid x \leq n\}$$

$$n \leq x < n + 1.$$

$$\boxed{\left\| \frac{A^k}{k!} \right\| \leq \frac{\|A\|^k}{k!}}$$

$$-|x| \leq x \leq |x|.$$

$$|ab| = |a| \cdot |b|.$$

$$p \notin R.$$

P does not belong R.

$$\sum_{k=1}^{n} cr^k, \quad n = 1, 2, \ldots.$$

$$\left| \sum_{k=1}^{n} x_k \right| \leq \sum_{k=1}^{n} |x_k|.$$

$$A_1 \times A_2 \times \cdots \times A_n$$

$$a^{n+1} - b^{n+1} = (a-b) \cdot \sum_{k=0}^{n} a^k b^{n-k}, \quad n = 1, 2, \ldots.$$

$$\prod_{k=1}^{n} A_k = \left(\prod_{k=1}^{n-1} A_k \right) \times A_n$$

$$(n+1)! = n! \cdot (n+1),\ n = 0,\ 1,\ 2,\ \ldots$$

$$A = \{x \in R \mid x \leq p\}, \quad A' = \{x \in R \mid x \leq q\}.$$

$$\frac{a^n}{a^m} = a^{n-m}$$

$$\langle f, g \rangle = \int_a^b f(x)\, g(x)\, dx$$

$$\left(\frac{b}{a}\right)^n = \frac{b^n}{a^n}.$$

$$\binom{n}{k} = \frac{n!}{k!\,(n-k)!}$$

$$(a+b)^n = \sum_{k=0}^{n} \binom{n}{k} a^k b^{n-k}.$$

$$q = \sup M.$$

$$\sum_{k=1}^{n} (x_k - x_{k-1}) = x_n - x_0.$$

$$\bigcap_{n=1}^{\infty} [a_n, b_n] \neq \emptyset.$$

$$\frac{a - p^n}{(p+1)^n - p^n}.$$

$$1 + \prod_{k=1}^{n} p_k$$

$$\left\| \frac{e^{xA} - I}{x} - A \right\| \leq \frac{e^{\|xA\|} - 1 - \|xA\|}{|x|} = \left(\frac{e^{|x|.\|A\|} - 1}{|x|} - \|A\| \right) \longrightarrow 0$$

$$\det(A) = \lambda_1 \lambda_2 \ldots \lambda_n = \prod_{\lambda_i \in Sp(A)} \lambda_i$$

$$a > 1 \iff a^r > 1$$

$$\sqrt[n]{a} \qquad \left(\frac{1}{p^n} \right) < \frac{1}{a}$$

$$\left|\sum a_k b_k\right| \leq \left(\sum |a_k|^p\right)^{1/p} \left(\sum |b_k|^q\right)^{1/q}$$

$$D(E) = \{x|\ \|x\| \leq 1\},$$

$$\frac{1}{p} + \frac{1}{q} = 1$$

$$
\begin{aligned}
e^A &= I_n + A + \frac{A^2}{2!} + \frac{A^3}{3!} + \ldots + \frac{A^n}{n!} + \ldots \\
&= \sum_{k=0}^{\infty} \frac{A^k}{k!}.
\end{aligned}
$$

$$\|a+b\|_p \leq \|a\|_p + \|b\|_p.$$

$$\|f\|_p = \left(\int_a^b |f(x)|^p dx \right)^{1/p} < \infty.$$

$$\sup_{t \in [a,b]} |x_n(t) - x(t)| \to 0$$

$$\lim_{n \to \infty} \| \sum_{1}^{n} \alpha_i e_i \| = \sqrt{\sum |\alpha_i|^2}$$

$$F^{-1}(C) = f^{-1}(C) \cup g^{-1}(C)$$

$$\overline{f^{-1}(B)} \subset f^{-1}(\bar{B}).$$

$$\lim_{n\to\infty} f(x_n) \neq f(x).$$

$$\lim_{n\to\infty} f(x_n) = f(x)$$

$$|\rho(x, Y) - \rho(z, Y)| \leq \rho(x, z)$$

$$A \subset Y \subset X.$$

$$\sum_{k=0}^{\infty} \frac{A^k}{k!}$$

$$\|(I-T)^{-1}\| \leq \frac{1}{1-\|T\|}.$$

$$\sum_{n=1}^{\infty} \|x_n\| < \sum_{n=1}^{\infty} \left(\frac{1}{2}\right)^n = \frac{1}{2}\left(\frac{1}{1-\frac{1}{2}}\right) = 1,$$

$$\langle Tx, Y\rangle = \langle x, T^*Y\rangle \ \forall\ x, y \in H.$$

$$A^2 \geq \sum_{j=1}^{n} \int_0^1 |f_j(x)|^2 dx = \sum_{j=1}^{n} 1 = n$$

$$\sup_{A \in \mathcal{A}} \|A\| < \infty. \qquad \dim(\mathcal{M}) \leq A^2.$$

$$f(x) = e_x(f) = \int_0^1 f(y)\overline{G(x,y)}dy \text{ for all } f \in \mathcal{M}.$$

$$\|f\|_\infty \leq A\,\|f\|_p \leq A\,\|f\|_2$$

$$\left\|\sum_{n=1}^{N} c_n f_n\right\|_\infty^2 \leq B^2 \sum_{n=1}^{N} |c_n|^2 \leq B^2\,|c|^2$$

$$E_n = \{x : \sup_{A\in\mathcal{A}} \|Ax\| \leq n\} = \bigcap_{A\in\mathcal{A}} \{x : \|Ax\| \leq n\}$$

$$\sum_{n=1}^{\infty} \sup_{x \in E^c} |f_n(x)| \leq \sum_{n=1}^{\infty} M_n < \infty$$

$$\|S - S_n\|_\infty \to 0 \text{ as } n \to \infty.$$

$$\|f\| = \left(\int_X |f|^p \, d\mu \right)^{1/p}$$

$$|gf| = gf \text{ and } \left(\frac{|g|}{\|g\|_q}\right)^q = \left(\frac{|f|}{\|f\|_p}\right)^p \text{ a.e.}$$

$$A \in \mathbb{M}_n(\mathbb{K})$$

$$e^{-i\theta}$$

$$p_A(x) = \det(A - xI)$$

$$A = \begin{pmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{pmatrix}$$

$$A^{-1} = \frac{1}{\det(A)} \left(Com\,(A)\right)^t$$

$$p_{AB}(\lambda) = p_{BA}(\lambda)$$

$$\begin{aligned} E_\lambda &= \{x \in \mathbb{R}^n \;;\; Ax = \lambda x\} \\ &= \ker(A - \lambda I)\,. \end{aligned}$$

$$\begin{array}{rcl} f & : & \mathbb{P}_n[x] \longrightarrow \mathbb{P}_n[x] \\ p & \longmapsto & f(p) = p' \end{array}$$

$$f^2 + 3f + 4id_E = 0$$

♦) $\forall\, x \in E : \|x\| \geq 0$, et $\|x\| = 0 \Leftrightarrow x = 0$
♦) $\forall\, \lambda \in \mathbb{K}, \forall\, x \in E : \|\lambda x\| = |\lambda| \,.\, \|x\|$
♦) $\forall\, x, y \in E : \|x + y\| \leq \|x\| + \|y\|$.

$$\begin{aligned} \|x\|_1 &= \sum_{i=1}^{n} |x_i|\,, \quad \|x\|_2 = \left(\sum_{i=1}^{n} |x_i|^2\right)^{\frac{1}{2}}, \\ \|x\|_\infty &= \max_{1\le i\le n} |x_i|\,. \end{aligned}$$

$$\|A\|_1 = \max_j \sum_{i=1}^{n} |a_{ij}|\,, \quad \|A\|_\infty = \max_i \sum_{j=1}^{n} |a_{ij}|$$

$$\|Ax\| \le \|A\|\,\|x\|\,; \ \forall\ A \in \mathbb{M}_n(\mathbb{K})\,, \ \forall\ x \in \mathbb{K}^n.$$

$\Diamond)\ \langle x, x\rangle \geq 0$ et $\langle x, x\rangle = 0 \Longleftrightarrow x = 0$
$\Diamond)\ \langle x, y\rangle = \langle y, x\rangle \ \ \forall\ x, y \in E$
$\Diamond)\ \langle \lambda x, y\rangle = \lambda \langle x, y\rangle \ \ \forall\ x, y \in E$ et $\forall\ \lambda \in \mathbb{R}$
$\Diamond)\ \langle x, y+z\rangle = \langle x, y\rangle + \langle y, z\rangle \ \ \forall\ x, y, z \in E$

$$\langle x, y\rangle = \sum_{i=1}^{n} x_i y_i$$

$$\begin{aligned} p_A(x) &= \det(A - xI) \\ &= \det\left((A - xI)^t\right) \\ &= \det\left(A^t - xI\right) \\ &= p_{A^t}(x). \end{aligned}$$

$$\begin{array}{rcl} f & : & \mathbb{R}^n \times \mathbb{R}^n \longrightarrow \mathbb{R} \\ (x,y) & \longmapsto & x^t A y \end{array}$$

$$\lim_{t \longrightarrow 0} \frac{e^{At} - I}{t} = A.$$

$$\begin{aligned} \lambda \langle x, y \rangle &= \langle \lambda x, y \rangle = \langle Ax, y \rangle \\ &= \left\langle x, A^t y \right\rangle = \langle x, Ay \rangle \\ &= \langle x, \beta y \rangle = \beta \langle x, y \rangle \end{aligned}$$

$$\left(A^t A\right)^t = A^t \left(A^t\right)^t = A^t A.$$

$$\alpha_0 A^m + \alpha_1 A^{m-1} + \ldots + \alpha_m I$$

$$M = \underbrace{\frac{1}{2}\left(M - M^t\right)}_{A} + \underbrace{\frac{1}{2}\left(M + M^t\right)}_{B}$$

$$\mathbb{M}_n\left(\mathbb{R}\right) = S_n\left(\mathbb{R}\right) \oplus A_n\left(\mathbb{R}\right)$$

$$\left(B^t = -B\right)$$

$$A^t A = A A^t = I_n$$
$$A^t = A^{-1}$$
$$\|Ax\| = \|x\| \,;\ \forall\ x \in \mathbb{R}^n.$$
$$(Ax)^t\,(Ay) = x^t y\ ;\ \forall\ x, y \in \mathbb{R}^n.$$

$$A^{-1} = \frac{-1}{c_0} \sum_{k=1}^{n} c_k A^{k-1}$$

$$A^k = P B^k P^{-1}$$

Sounds of English

VOWELS

ɪ	ʊ	ʌ	ɒ	ə	e	æ		'short'
iː	uː	ɑː	ɔː	ɜː				'long'
ɪə	ʊə	aɪ	ɔɪ	əʊ	eə	aʊ	eɪ	diphthongs

CONSONANTS

p	t	tʃ	k	f	θ	s	ʃ	voiceless
b	d	dʒ	g	v	ð	z	ʒ	voiced
m	n	ŋ	h	l	r	w	j	

A

- **A set equipped with a distance**, un ensemble muni par une distance
- **Abel** ['eɪbl], *Abel* **m**
- **Abelian** [ə'biːlɪən] adjective, *abélien* **adj**
- **Abelian group**, *groupe abélien (commutatif)*
- **Abelian law**, *loi commutative*
- **Above** [ə'bʌv], *au-dessus*
- **Absolute** ['æbsəluːt], *absolu(e)*

- **Absolute value,** *valeur absolue.*
- **Absolutely** [ˌæbsəˈluːtlɪ], *absolument, absolument convergente (intégrale, série)*
- **Add** [æd], *ajouter*
- **Admit** [ədˈmɪt], *admettre*
- **Algebra** [ˈældʒɪbrə], *algèbre*
- **Algebra :** the branch of mathematics that deals with variables or unknowns representing the arithmetic numbers

Algebraic [ˌældʒɪˈbreɪɪk] adj, *algébrique* adj

Algebraic multiplicity, algebraic structure, algebraic and topological structure

Algorithm [ˈælgəˌrɪðəm], *algorithme*

Algorithm : a rule or procedure used to solve a mathematical problem

Analogous adj [əˈnæləgəs], *analogue* adj

Analysis [əˈnæləsɪs], pl **analyses** [əˈnælɪsiːz], *analyse* f

Answer ['ɑːnsər], *réponse* f , *solution* f
Antisymmetric [,æntɪsɪ'metrɪk] , *antisymétrique* adj
Application [,æplɪ'keɪʃən], *application* f
Appreciable [ə'priːʃəbl]
Applied [ə'plaɪd], *appliqué*
Applied Linear Algebra, *algèbre linéaire appliqué*
Approach [ə'prəʊtʃ], approach value, *valeur approchée* adj
Approximation [ə,prɒksɪ'meɪʃən], *approximation* f
Arbitrary ['ɑːbɪtrərɪ] adj, *arbitraire*
Argument ['ɑːgjʊmənt], *argument* m

Argument, the argument of a complex number

Arithmetic [ə'rɪθmətɪk], *arithmétique*

Article ['ɑːtɪkl], *article* m

Associative [ə'səʊʃɪətɪv], Mathematics, *associatif-ive*

Associativity, *associativité, L'associativité de l'addition dans* ä.

Assume [ə'sjuːm], *supposer, supposons que,*

Assumption [ə'sʌmpʃən] , *hypothèse*

Assertion [ə'sɜːʃən] affirmation m, assertion m

Asymptotic, *asymptotique*

Axiom ['æksɪəm], *axiome* m

Axiom : a statement regarded as self-evident; accepted without proof

B

Ball [bɔːl], *boule* f
Bar [bɑːr], *barre* f
Bar, we say *X* bar, *On dit X barre.*
Basic ['beɪsɪk], *fondamental* adj, *essentiel* adj, *élémentaire* adj
Basis ['beɪsɪs] pl **bases**, *base* f
Because [bɪ'kɒz], *puisque, car, comme*
Belong [bɪ'lɒŋ], *appartenir à*
Best [best], *le meilleur, la meilleure*
Best approximation, *la meilleure approximation*
Bibliography [ˌbɪblɪ'ɒgrəfɪ], *bibliographie* f, *référence* f
Bijective [baɪ'dʒektɪv], *bijectif*

Bijective function

Bilinear, *bilinéaire,* ¨ Math. *Application, forme bilinéaire pour un couple de variables,* linéaire par rapport aux deux variables.

Binary ['baɪnərɪ], *binaire*

Binary relation, *relation binaire*

Binomial [baɪ'nəʊmɪəl], Mathematics, *binôme* m

Binomial : an expression with two terms

Bisection [baɪ'sekʃən], *division en deux parties égales, bissection* f

Bnach space, *un espace de Banach*

Body ['bɒdɪ], *Field, corps* m

- **Bound,** [baʊnd], **bounds,** [baʊndz], *limite(s)* f(pl) , *bornes*
- **Boundary** ['baʊndərɪ], *limite* f, *frontière* f
- **Boundless** ['baʊndlɪs], *infini, illimité*
- **Branch** [brɑːntʃ], *branche* f
- **By using the ...,** *En utilisant …*

C

- **Calculate** ['kælkjʊleɪt], *calculer* **v**
- **Calculus,** pl **calculuses** ['kælkjʊləs], *calcul* **m**
- **Canonical** [kə'nɒnɪkəl], *canonique* **adj**
- **Chapter** ['tʃæptəʳ], *chapitre* **m**
- **characteristic** [,kærɪktə'rɪstɪk], *caractéristique* adj
- **characterization** [,kærɪktəraɪ'zeɪʃən], *interprétation , caractérisation* *f*
- **Closed** [kləʊzd], *fermé* adj

Closure ['kləʊʒəʳ], *fermeture* ^{f}
coefficient [,kəʊɪ'fɪʃənt] , *coefficient* ^{m}
cofactor ['kəʊ,fæktəʳ], *comatrice, cofacteur* ^{m}
Collection [kə'lekʃən], *collection* ^{f}
Column ['kɒləm], *colonne* ^{f}
Combination [,kɒmbɪ'neɪʃən], *combinaison* ^{f}
comment ['kɒment] , *commentaire* ^{m}, *remarque* ^{f}
Comments about the chapter II, *commentaires sur le chapitre II*

Commutative adj [kə'mjuːtətɪv], *lois* fpl *commutatives*
Compact [kəm'pækt], *compact* adj
Compact self-adjoint operators on a Hilbert space
Comparison [kəm'pærɪsn], *comparaison* f
Complete [kəm'pliːt], *complet (-ète*f*), un espace complet*
Complex ['kɒmpleks], *complexe* adj
Component [kəm'pəʊnənt], *composant*
Components [kəm'pəʊnənts], *les composants de X*
Composite ['kɒmpəzɪt], Mathematics, *composé*
Composite number, not prime, *nombre composé*
Compute [kəm'pjuːt], *Calculer*

Concept ['kɒnsept], *notion* ^{f}, *idée* ^{f}, *concept* ^{m}
Conclusion [kən'kluːʒən], conclusion ^{f}, *fin* ^{f}
Condition [kən'dɪʃən], *condition* ^{f}
Conjecture [kən'dʒektʃə^{r}], *conjecture* ^{f}
Conjugate ['kɒndʒʊgeɪt] , *conjuguée (matrice)*
Conjugate or Dual of an Operator
Constant ['kɒnstənt], *constante* ^{f} , un nombre constant **adj**

Contained [kən'teɪnd], contained in *A*.
Containing *A*
Continuous [kən'tɪnjʊəs], *continu(e)*
Contraction [kən'trækʃən], *contraction* ^{f}

contradiction [ˌkɒntrəˈdɪkʃən], *contradiction* f
Converge [kənˈvɜːdʒ], *converger* verbe
Convergence [kənˈvɜːdʒəns], *convergence* f
Convergence and Continuity
Convergent [kənˈvɜːdʒənt], *convergent(e)* adj
Conversely [kɒnˈvɜːslɪ], *inversement*
Convex [ˈkɒnˈveks], *convexe*
Coordinate [kəʊˈɔːdɪnɪt], Mathematics, *coordonné*
Corollary [kəˈrɒlərɪ], *corollaire* m
Cosine [ˈkəʊsaɪn], *cosinus*
Countable [ˈkaʊntəbl] adjective , *dénombrable*
Countable dense subset, sous-ensemble dense dénombrable
Couple [ˈkʌpl], *couple* m
Course [kɔːs], *cours* nom masculin
Criterion [kraɪˈtɪərɪən] noun, pl **criterions** or **criteria** [kraɪˈtɪərɪə], *critère* m
Cubic [ˈkjuːbɪk], *cubique*

D

- **Decomposition** [ˌdiːkɒmpəˈzɪʃən], *décomposition* **f**
- **Decreasing** [diːˈkriːsɪŋ], *décroissant* **adj**
- **Define** [dɪˈfaɪn], *définer, on définit*
- **Definite** [ˈdefɪnɪt], *défini-e*
- **Definite integral**,
- **Definition** [ˌdefɪˈnɪʃən], *définition* **f**
- Definitions and basic properties

Degree [dɪ'griː], *degré* **m**
Demonstrable ['demənstrəbl] *démontrable* **adj**
Demonstration [,demən'streɪʃən], *démonstration* **f**
Denominator [dɪ'nɒmɪneɪtəʳ], *dénominateur* **m**
Denote [dɪ'nəʊt], *indiquer, dénoter, on note*
Dense [dens], *dense* **adj**
Density ['densɪtɪ], *densité* **f**

- **Derivation** [ˌderɪˈveɪʃən], *dérivation* f
- **Derivative** [dɪˈrɪvətɪv], Mathematics, *dérivée* f
- **Determinant** [dɪˈtɜːmɪnənt], *déterminant* m
- **Development** [dɪˈveləpmənt], *développement* m
- **diagonal** [daɪˈægənl], *diagonal* adj , *diagonale* nom,adj
- **Diagonalizable,** *diagonalisable* adj
- **Different** [ˈdɪfrənt], *différent*
- **differential** [ˌdɪfəˈrenʃəl], *différentiel, différentielle*
- **Differential equation,** *équation différentielle*
- **Differential geometry,** *géométrie différentielle*
- **Differential operator**

Differentiation [ˌdɪfərenʃɪˈeɪʃən], Mathematics *différentiation* f
Dimension [daɪˈmenʃən], *dimension* f
Direct [daɪˈrekt], *direct-e*
Direct sum of subspaces, Direct sums
Disjoint [dɪsˈdʒɔɪnt] adjective Mathematics, *disjoint*
Disjoint sets, *ensembles disjoints*
Distance [ˈdɪstəns], *distance* f
Distribution [dɪstrɪˈbjuːʃən], *distribution* f
Distributions and Sobolev Spaces
Diverge [daɪˈvɜːdʒ], *diverger* verbe
Divergence [daɪˈvɜːdʒəns], noun, *divergence* f

Divergent, adjective [daɪˈvɜːdʒənt], *divergent, divergente*
Divided [dɪˈvaɪdɪd], *divisé*
Divisibility, *la divisibilité* **f**
Divisible [dɪˈvɪzəbl] , *divisible* **adj** (by : par)
Division [dɪˈvɪʒən], *la division*
Domain [dəʊˈmeɪn], *domaine* **m**
Dot [dɒt], **pois** **m** Mathematics, *point* **m**
Double [ˈdʌbl], *double* **adj**
Dual [ˈdjʊəl], *duel* **m**

E

- **Easy** ['iːzɪ], *facile* adj, *simple* adj
- **easily** ['iːzili] adverb **facilement**
- **Eigenspace,** *espace propre*
- **Eigenvalue,** *valeur propre*
- **Eigenvector,** *vecteur propre*
- Eigenvalues and eigenvectors of a symmetric matrix
- **Element** ['elɪmənt], *élément* m
- Elements of Hilbert Space
- **Empty** ['emptɪ], *vide*, the set with no elements
- **Epsilon,** *epsilon*, [ɛpsilɔn]
- **Equal** ['iːkwəl], Mathematics, *égal*
- **Equality** [ɪ'kwɒlɪtɪ], *égalité* f

- **Equation** [ɪˈkweɪʒən], Mathematics, Chemistry, *équation* **f**
- **Equipped** [ɪˈkwɪpt], *muni-e,*
- **Equivalence** [ɪˈkwɪvələns], *équivalence*
- **Equivalence relation**
- **Equivalent** [ɪˈkwɪvələnt], *équivalent*
- **Euclid's Algorithm**
- **Euclidean** [juːˈklɪdɪən], *euclidien*, non-Euclidean geometry, *géométrie* *f* *non-euclidienne*
- **Evaluate** [ɪˈvæljʊeɪt], *évaluer, calculer*
- **Even** [ˈiːvən], *pair, paire* **adj**

- **Even function,** *fonction paire*
- **Every** ['evrɪ], for every, *tout, chaque, tous , pour tout*
- **Evident** ['evɪdənt], *évident* **adj**
- **Exact** [ɪg'zækt], *solution exacte*
- **Example** [ɪg'zɑːmpl], *exemple* **m**
- **Except** [ɪk'sept], *sauf*
- **Exercise** ['eksəsaɪz], *exercice* **m**
- **Existence** [ɪg'zɪstəns], *existence* **f**
- **Expansion** [ɪk'spænʃən], *développement* **m**
- **Exponential** [,ekspəʊ'nenʃəl], *exponentiel*
- **Expression** [ɪk'spreʃən], *expression* **f**
- **Extension** [ɪk'stenʃən], *extension* **f**

F

- **Factor** ['fæktəʳ], Mathematics, *facteur* m, *élément* m
- **Factorial** [fæk'tɔːrɪəl], *factoriel*
- **Factorization**, *factorisation*
- **Factorize** ['fæktə,raɪz], Mathematics, *mettre en facteurs*
- **Family** ['fæmɪlɪ], *famille* f
- **Find** [faɪnd], *trouver*, **we find**, *on trouve*
- **Finite** ['faɪnaɪt], *limité, fini, finie*
- **Finite dimensional**, *de dimension finie*

finite element method
First [fɜːst], *premier*
First order differential equations, *équations différentielles du premier ordre.*
Firstly ['fɜːstlɪ] adverb , *d'abord, premièrement*
Fixed [fɪkst], unique fixed point, *point fixe unique*
Following ['fɒləʊɪŋ], *suivant, suivante*
For all, *pour tout,* **For every,** *pour tout*
Form [fɔːm], *forme* f
Formula ['fɔːmjʊlə] pl formulas ['fɔːmjʊləs] or formulae ['fɔːmjʊliː], *formule*
Fraction ['frækʃən] , Mathematics, *fraction* f
Free [friː], *libre*

- **Famous** ['feɪməs] *célèbre*
- **From the hypothesis,** *d' aprèrs l' hypothèse*
- **Function** ['fʌŋkʃən], *fonction*[f]
- **Functional** ['fʌŋkʃnəl], *fonctionnel, analyse fonctionnelle*
- **Functional analysis,** *analyse fonctionnelle*
- **Fundamental** [,fʌndə'mentl], *fondamental, essentiel*

G

- **General** ['dʒenərəl], *général*
- **generalization** [ˌdʒenərəlaɪ'zeɪʃən], *généralisation* ^{f}
- **Geometry** [dʒɪ'ɒmɪtrɪ], *géométrie* ^{f}
- **Graph** [grɑːf], *graphe* ^{m}
- **Group** [gruːp], *groupe* ^{m}

H

Harmonic [hɑː'mɒnɪk], Mathematics, *harmonique*
Heat [hiːt], *chaleur* f
Heat equation, *équation de la chaleur*.
Hence [hens], d'où
High [haɪ], haut, higher dimensions
Hilbert Spaces
Homogeneous [ˌhəʊmə'dʒiːnɪəs], *homogène*
Homogeneous system, *système homogène*
hyperbolic [ˌhaɪpə'bɒlɪk], **hyperbolical** [ˌhaɪpə'bɒlɪkəl], *hyperbolique*
Hyperbolic function noun Mathematics: *fonction* f *hyperbolique.*
Hypothesis [ˌhaɪ'pɒθɪsɪs] noun, pl **hypotheses** [haɪ'pɒθɪsiːz], *hypothèse* f

I

i- th column
Idea [aɪ'dɪə], *idée* f
Identity [aɪ'dentɪtɪ], *identité* f
Identity matrix, Identity map
If and only if, *si et seulement, si*
Image ['ɪmɪdʒ], *image* f
Imaginary [ɪ'mædʒɪnərɪ], *imaginaire*
Imaginary number (Mathematics) : *nombre* m *imaginaire*
implication [,ɪmplɪ'keɪʃən], *implication* f
Indeterminate [,ɪndɪ'tɜːmnɪt]

indeterminate form of type zero over zero
Implies that, *implique*
important [ɪm'pɔːtənt] , *important-e*
Important, *the most important concept concerning sequences is convergence.*
Improper [ɪm'prɒpəʳ], *impropre*
Increasing [ɪn'kriːsɪŋ], *croissant, suite croissante*
Indefinite [ɪn'defɪnɪt], *indéfini-ie, illimité*
Indefinite integral
independence [,ɪndɪ'pendəns], *indépendance* f
independent [,ɪndɪ'pendənt], *indépendant*
Index ['ɪndeks], *indice*
Induction [ɪn'dʌkʃən], *récurrence*

Introduce [ˌɪntrəˈdjuːs] *présenter*
inequality [ˌɪnɪˈkwɒlɪtɪ], *inégalité* f
Infinite [ˈɪnfɪnɪt], *infini, illimité*
Infinite dimensional, *de dimension infinie*
Infinitely [ˈɪnfɪnɪtlɪ], *infiniment*
Infinity [ɪnˈfɪnɪtɪ], *infinité* f, *infini* m
Infinity, the limit of *f* as *x* tends to infinity is *a, la limte de f lorsque x tend vers l'infini est a.*
Initial [ɪˈnɪʃəl], *initial* adj
Initial condition, *condition initiale*

- **Initial value,** *valeur initiale*
- **Injective** : *injective*
- **Indeed** [ɪn'diːd], *en effet*
- **Inner** ['ɪnər], **inner product,** *produit scalaire.*
- **Inner product spaces,** *espaces préhilbertiens*
- **Integer** ['ɪntɪdʒər], *entier (nombre* m*)*
- **Integrable,** *intégrable* adj
- **Integral** ['ɪntɪgrəl], *intégral*
- **Integral operator**
- **Integration** [,ɪntɪ'greɪʃən], *intégration* f
- **Interior** [ɪn'tɪərɪər], *intérieur (-eure*f*)*
- **Interpolation** [ɪn,tɜːpə'leɪʃən], *interpolation* f

Intersection [ˌɪntəˈsekʃən] Mathematics, *intersection* f
Interval [ˈɪntəvəl], *intervalle* m
introduction [ˌɪntrəˈdʌkʃən], *introduction* f
Inverse [ˈɪnvɜːs], *inverse*
Invertible matrix, *matrice inversible*
Invertible, *inversible* adj
Irrational [ɪˈræʃənl], Mathematics, *irrationnel* adj

It follows that, *il vient*
Iterative [ˈɪtərətɪv], *itératif, itérative* adj
Iterative Methods for Solving Linear Systems
Jacobi's method
Kernel [ˈkɜːnl], *noyau* m

G

- **Law** [lɔː], *loi* f
- **Least** [liːst], *le plus petit, la plus petite.*
- **Least squares method,**
- **Least upper bound of a set**
- **Lemma** ['lemə] noun, pl **lemmas** *lemme*
- **Let** *f* **be a function,** *Soit f une fonction*
- **Limited** ['lɪmɪtɪd], *limité*, *borné* adj
- **Limit** ['lɪmɪt], *la limite* f

Line [laɪn], Mathematics, *ligne* f
Linear ['lɪnɪər], *linéaire* adj
Linear Algebra
Linear Operator, linear maps, linear equation,
Linearly dependent
Linearly independent, *linéairement indépendant*
Log [lɒg]. *log* logarithme m
Logarithm ['lɒgərɪθəm] *logarithme* m
Logic ['lɒdʒɪk], *logique* f
Lower ['ləʊər], *inférieur (-eure f)*
Lower bound
Lower triangular matrix, *matrice triangulaire inférieure*
LU factorisation

M

- **Manner** ['mænə^{r}], *manière* ^{f}, *façon* ^{f}
- **Map** ['mæp], Mathematics, *application* ^{f}
- **Mapping** ['mæpɪŋ], Mathematics, *application* ^{f}
- **Maps and their graphs**
- **Mathematical** [ˌmæθə'mætɪkəl], *mathématique* ^{adj}
- **Mathematical induction,**
- **Mathematician** [ˌmæθəmə'tɪʃən], *mathématicien(ne)*$^{m(f)}$

Mathematics [ˌmæθəˈmætɪks], *mathématiques* **fpl**
In applying mathematics
Matrix norm, *norme matricielle*
Matrix pl matrices [ˈmeɪtrɪks], *matrice* f
Maximal [ˈmæksɪml], *maximal* **adj**
Maximal element
Maximum [ˈmæksɪməm], pl **maximums or maxima,** *maximum* **m**
Maximum principle, *principe du maximum*
Measurable [ˈmeʒərəbl], *mesurable* adj
Measure [ˈmeʒəʳ], *mesure* **f**
Measure and integration
Method [ˈmeθəd], *une méthode* **f**

Methods for Eigenvalues of Symmetric Matrices

Metric ['metrɪk], *métrique.* or distance function

Metric space, *un espace métrique.*

minimization [,mɪnɪmaɪ'zeɪʃən], *minimisation* f

Minimization of Convex Functions

Minimum ['mɪnɪməm], pl **minimums or minima,** *minimum* m

modulus ['mɒdjʊləs], pl **moduli** ['mɒdjʊ,laɪ], Mathematics, Physics, *module* m

Monotone ['mɒnətəʊn], Mathématique, *monotone* adj

Monotone matrix, *matrice monotone*

Monotonous, *monotone* adj

Multilinear, *multilinéaire* adj

multiplication [ˌmʌltɪplɪˈkeɪʃən], *multiplication* f

Multiplicities of an eigenvalue

multiplicity [ˌmʌltɪˈplɪsɪtɪ], *la multiplicité* f

Multiplied by, Times, *fois, 3 fois 4.*

Multiply [ˈmʌltɪplaɪ], *multiplier, fois*

T

- **Natural** ['nætʃrəl], *naturel*, *entier*
- **Natural numbers : 0,1,2,…**
- **Necessary** ['nesɪsərɪ] , *nécessaire*
- **Necessary condition,** *condition nécessaire.*
- **Negation,** **négation** f
- **Negative** ['negətɪv], *négatif, négative.*
- **Neighbourhood**, neighborhood US ['neɪbəhʊd], *voisinage*

- **Non-** [nɒn], *non, non linéaire,* ....
- **Noncommutative, nonnegative, ...**
- **Nonempty set,** *un ensemble non vide.*
- **Nonhomogeneous**
- **Nonlinear** [ˌnɒnˈlɪnɪəʳ], *non linéaire*
- *Nonlinear Systems and Numerical Optimization*
- **Nonzero vector,** *un vecteur non nul*
- **Norm** [nɔːm], *la norme*

Normal [ˈnɔːməl], *normal*
Normed linear space, *espace vectoriel normé*
Normed space [nɔːməd], *espace normé*
Norms and condition numbers
Notation [nəʊˈteɪʃən], , Mathematics, *notation* f
***n*-th** [enθ], *le n-ième*
***nth* prime,** *le n-ième nombre premier.*
Number [ˈnʌmbəʳ], *nombre* m
Numerator [ˈnjuːməreɪtəʳ], Mathematics, *numérateur* m
Numerical [njuːˈmerɪkəl], *Analyse numérique*
Numerical integration, *intégration numérique*
Numerical Solution of Ordinary Differential Equations

O

- **Odd** [ɒd], *impair, un entier impair, une fonction impaire*
- **Odd function**, *fonction impaire*
- On the other hand, d'autre part
- **Open** ['əʊpən], ouvert
- **Operation** [,ɒpə'reɪʃən], *opération* **f**
- **Operator** ['ɒpəreɪtəʳ], *opérateur* **m**
- **Optimization** [,ɒptɪmaɪ'zeɪʃən], *optimisation* **f**
- **Order** ['ɔːdəʳ], *ordre* **m**

Order relation, *relation d'ordre*
Ordinary ['ɔːdnrɪ], *ordinaire*
Orthogonal [ɔː'θɒgənl], *orthogonal, polynôme orthogonaux, matrice orthogonale*
Orthonormal basis, *une base orthonormée*
Orthonormal, *orthonormé-e*
Otherwise ['ʌðəwaɪz], *sinon*
Over ['əʊvəʳ], *sur*

T

- **Parameter** [pə'ræmɪtəʳ], Mathematics, *paramètre* m
- **Partial** ['pɑːʃəl], *partiel*
- Partial Differential Equations
- **Particular** [pə'tɪkjʊləʳ], *particulier, particulière*
- **Plus** [plʌs], *plus*
- **Polar** ['pəʊləʳ], *polaire* adj
- **Polynomial** [ˌpɒlɪ'nəʊmɪəl], *polynôme* m
- **Polynomial interpolation,** *polynôme et interpolation*
- **Positivity,** *positivité.*
- **Power** ['paʊəʳ], *puissance* f
- **Previous** ['priːvɪəs], *précédent* , look the previous formula.
- **Prime** [praɪm], Mathématique, *prime*, *f* **prime** : *f prime*
- **Prime** [praɪm], *premier*

- **prime number,** *un nombre premier, 2, 3,5,7,11,13,….*
- **Primitive** ['prɪmɪtɪv], *primitif* m
- **Principle** ['prɪnsəpl], *principe* m
- **Probability** [,prɒbə'bɪlɪtɪ], *probabilité* f
- **Problem** ['prɒbləm], *problème* m
- **Product** ['prɒdʌkt], *produit* m
- **Proof** [pruːf], *preuve* f
- **Property** ['prɒpətɪ], *propriété* f
- **proposition** [,prɒpə'zɪʃən], *proposition*
- **prove** [pruːv], *prouver* , *démontrer*
- **Prove that,** *prouver que, montrer que, démontrer que.*

Q

- **Quadratic** [kwɒ'drætɪk], *quadratique* **adj**.
- **Quadratic forms,** *formes quadratiques*
- **Quadrature** ['kwɒdrətʃəʳ], *quadrature* **f**
- **Quantity** ['kwɒntɪtɪ], *quantité* **f**
- **Quasi-** ['kweɪzaɪ], *quasi-, norms and quasi-norms*
- **Question** ['kwestʃən], *question* **f**
- **Quotient** ['kwəʊʃənt], Mathematics, *quotient* **m**

R

Real numbers, *nombres réels.*

Radius ['reɪdɪəs] noun, pl **radiuses** , *rayon* m
Range [reɪndʒ], the range of *f*, *L'image = f(E),* the value of *f*
Rank [ræŋk], *le rang*
rational number ['ræʃənl] , *un nombre rationnel*
Real [rɪəl], Mathematics, *réel*
Recall that, *rappelons que*
Reduction [rɪ'dʌkʃən], *réduction* f
Reduction of a quadratic form to a sum of squares
Reference ['refrəns], *bibliographie* f, *référence* f
reflexive [rɪ'fleksɪv], Mathématique, *réflexif , -ive*

- **Regular** [ˈregjʊlər], *régulier*
- **Remark** [rɪˈmɑːk], *remarque* **f**
- **representation** [ˌreprɪzenˈteɪʃən], *représentation* **f**
- **Residue** [ˈrezɪdjuː], *résidu* **m**
- **Reciprocal** [rɪˈsɪprəkəl], *réciproque, inverse*
- **Resolve** [rɪˈzɒlv], *résoudre* **v**
- **Rest** [rest], *le reste* **n. m.**
- **Result** [rɪˈzʌlt], *résultat* **m**
- **Ring** [rɪŋ], *anneau* **m**
- **Root** [ruːt], *racine* **f**
- **Row** [rəʊ], *la ligne* **f**
- **Rule** [ruːl], *règle* **f**

Said [sed], **A sequence is said to be Cauchy if**, *Une suit est dite de Cauchy, si*
Sample ['sɑːmpl], *échantillon* ^{m}
Scalar ['skeɪlə^{r}] Mathematics, *scalaire* ^{m,adj}
Scalar product, *Produit scalaire*
Section ['sekʃən], *section* ^{f}, *partie* ^{f}
Self-adjoint [self], *autoadjoint* (*opérateur*)
Semi- ['semɪ], *semi-,*
Separability, *séparabilité*
Separable ['sepərəbl], *séparable* ^{adj}

Separation [ˌsepəˈreɪʃən], *séparation.*
Sequence [ˈsiːkwəns], *suite* f
Series [ˈsɪərɪz], Mathematics, *série* f, *suite* f
Set [set], *collection* f, *ensemble* m
Set of *n-th* degree polynomials, *L'ensemble des polynômes de degré n.*
Setting [ˈsetɪŋ], *posons, on pose*
Several [ˈsevrəl], *plusieurs*, **several variables,** *plusieurs variables*
Show that [ʃəʊ], *montrer que*
Sign [saɪn], *le signe* m
Subsequent [ˈsʌbsɪkwənt], in the subsequent chapters, *à venir*
Similar [ˈsɪmɪlər], *semblable* adj

Similar matrices, *matrices semblables*
Similarly, we have ['sɪmɪləlɪ], *de la même façon, on a*
Simplification [,sɪmplɪfɪ'keɪʃən], *simplification* **f**
Simultaneous [,sɪməl'teɪnɪəs], *simultané, simultanément*
Simultaneous nonlinear equations
Since f is linear, *comme f est linéaire*
Sine [saɪn], *sinus,* **sine x,** *sinus x*
Solution [sə'luːʃən], *solution* **f**
Solution of systems of linear equations
Some [sʌm], some examples, *quelques exemples*
Space [speɪs], espace

Special ['speʃəl], *spécial, particulier*
Special matrices
Spectral ['spektrəl], le *rayon spectral*
Spectral analysis, *Analyse spectrale*
Spectre, specter US ['spektər], *spectre* m
Square [skwɛər], *carré* m
Square matrix of order *n*, *matrice carrée d'order n.*
Standard ['stændəd], standard,
Standard basis, *la base canonique*
Step [step], *étape*, two steps, *deux étapes*
Strictly ['strɪktlɪ], *d'une manière stricte*

- **Strictly less than,** *strictement inférieur-e à*
- **Strong** [strɒŋ], *fort* **adj**
- Strong convergence and weak convergence
- **Structure** ['strʌktʃəʳ], *structure* **f**
- **Study** ['stʌdɪ], *étude* **f**
- **Sub** [sʌb], *subsequence, subspace, ….., sous-suite, sous-espace, ….*
- **Subsequence,** *sous-suite* **f**
- **subset** ['sʌb,set], *sous-ensemble* **m**
- **Subspace** ['sʌb, speɪs], *un sous-espace* **m**
- **substitution** [,sʌbstɪ'tjuːʃən], *remplacement* **m**, *substitution* *f*
- **Successive** [sək'sesɪv] , *successive itérations.*

Such that, *tel que, tels que, telle que, telles que*
Sufficient [sə'fɪʃənt], *suffisant* **adj**
Sufficient condition
Summation [sʌ'meɪʃən], *addition* **f**
Sup [sʌp], *sup, maths,* supérieur, **the sup of** A, *le sup de A*
Surjective [sɜː'dʒektɪv], *surjectif*
Symmetric [sɪ'metrɪk], Mathematics, *symétrique*
Symmetrically [sɪ'metrɪkəlɪ] adverb *symétriquement, avec symétrie*
Symmetry ['sɪmɪtrɪ] noun *symétrie* **f**
Symmetric positive definite matrices

System ['sɪstəm], *système* m

T

Table ['teɪbl], *tableau* m, *liste* f
TD [tiː'diː], abréviation de *travaux dirigés* (Université)
Technique [tek'niːk], *technique* f
The dimension of a vector space
The intersection of S and T , the union of S and T.
The set of .....such that, *{…./….}*, *L'ensemble de …tel que …*
Theorem ['θɪərəm], *théorème* m
Theory ['θɪərɪ], *théorie* f

Therefore ['ðɛəfɔːʳ] , *donc, par conséquent*
This means, *c'est-à-dire*
Times [taɪmz], *multiplier, fois*, **3 times 4,** *3 foie 4*
To present, to show, to prove, ...
Topologic [,tɒpə'lɒdʒɪk]**, topological** [,tɒpə'lɒdʒɪkəl], *topologique* **adj**
Topological space, *espace topologique* **adj**
Topology [tə'pɒlədʒɪ], *topologie* **f**
Trace [treɪs], *la trace* **f**,
Trace, the trace of a matrix, *la trace d' une matrice*
Transcendental [,trænsen'dentl], Mathématique, *transcendant*
Transcendental number, *un nombre transcendant*

Transitive ['trænzɪtɪv] , *transitif* *adj*
Transpose [træns'pəʊz], *transposer*
Transpose, *A* **transpose,** *A transposée*
Triangle ['traɪæŋgl], *triangle* **m**
Triangle inequality, *inégalité triangulaire*
Triangular [traɪ'æŋgjʊlər], *triangulaire* **adj**
Tridiagonal matrices
tridimensional [,traɪdɪ'menʃənl]*, tridimensionnel, à trois dimensions*
Trigonometric formulae, *formules trigonométriques*
Trigonometric, trigonometrical [,trɪgənə'metrɪkəl], *trigonométrique, série trigonométrique*
Trivial ['trɪvɪəl], *trivial, -e,* mpl *-iaux*
Twice [twaɪs], *deux fois*

U

Unbounded [ʌn'baʊndɪd], *illimité, non borné*
Unbounded operator, *opérateur non borné*
Uncountable ['ʌn'kaʊntəbl], *non dénombrable, the set of real numbers is not uncountable.*
Unicity, *unicité* f
Uniform ['juːnɪfɔːm], *uniforme*
Uniformly ['juːnɪfɔːmlɪ], *uniformément,* a map uniformly continuous, *application uniformément continue.*
Union ['juːnjən], *union*

Unique [juː'niːk], *unique*
Uniqueness [juː'niːknɪs], *unicité* f
Unit ['juːnɪt], *unité* f
unitary ['juːnɪtərɪ] , *matrice unitaire, groupe unitaire, application unitaire*
Unknown ['ʌn'nəʊn], *inconnu*
Upper ['ʌpər], upper bound, *la borne supérieure*
Upper triangular matrix, *matrice triangulaire supérieure*
Using integration by parts gives,
Using the last equation gives
Using theorem 1.2, *En utilisant le théorème* 1.2,

- **Value, values** ['vælju:], *valeur*[f]
- **Variable** ['vɛərɪəbl], *variable*
- **Variation** [,vɛərɪ'eɪʃən], *variation* [f]
- **Vector** ['vektər], Mathematics, *vecteur*[m]
- **Vector space,** *un espace vectorial ou un espace vectorial normé*
- **Various** ['vɛərɪəs] *différent*

W, Z, X

Wave [weɪv], wave equation, *équation des ondes*

We distinguish two cases, *On distingue deux cas*

We denote by *, on note par*

We have, we've, *on a, nous avons*

We obtain, *on trouve*

We put, *posons, on pose*

We see that, *on voit que*

Weak [wiːk], weak convergence, *faible*

Weak topology, *la topologie faible*

Whence [wens], *d'où*

Where, *où*

Work [wɜːk], *travail, in this work we prove that ...., dans ce travail montrons que .....*

X, *x* [eks],

X, x to the power n.