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# Primera Parte

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2.10	Vocabulary



## 1.1 Paragraphs of Text

Lorem ipsum

### 1.2 Texto en castellano con acentuación

Este frase contiene signos acentuación, eñes, ¿y signos de interrogación?

### 1.3 Citation

This statement requires citation [book\_key]; this one is more specific [article\_key].

### 1.4 Lists

Lists are useful to present information in a concise and/or ordered way<sup>1</sup>.

### 1.4.1 Numbered List

- 1. The first item
- 2. The second item
- 3. The third item

### 1.4.2 Bullet Points

- The first item
- The second item
- The third item

<sup>&</sup>lt;sup>1</sup>Footnote example...

## 1.4.3 Descriptions and Definitions

Name Description Word Definition Comment Elaboration



### 2.1 Theorems

This is an example of theorems.

### 2.1.1 Several equations

This is a theorem consisting of several equations.

Theorem 2.1.1 — Name of the theorem. In  $E = \mathbb{R}^n$  all norms are equivalent. It has the properties:

$$|||\mathbf{x}|| - ||\mathbf{y}||| \le ||\mathbf{x} - \mathbf{y}||$$
 (2.1)

$$\left|\left|\sum_{i=1}^{n} \mathbf{x}_{i}\right|\right| \leq \sum_{i=1}^{n} \left|\left|\mathbf{x}_{i}\right|\right| \quad \text{where } n \text{ is a finite integer}$$

$$(2.2)$$

### 2.1.2 Single Line

This is a theorem consisting of just one line.

**Theorem 2.1.2** A set  $\mathcal{D}(G)$  in dense in  $L^2(G)$ ,  $|\cdot|_0$ .

### 2.2 Definitions

This is an example of a definition. A definition could be mathematical or it could define a concept.

**Definition 2.2.1** — **Definition name**. Given a vector space E, a norm on E is an application,

denoted  $||\cdot||$ , E in  $\mathbb{R}^+ = [0, +\infty[$  such that:

$$||\mathbf{x}|| = 0 \Rightarrow \mathbf{x} = \mathbf{0} \tag{2.3}$$

$$||\mathbf{x}|| = 0 \Rightarrow \mathbf{x} = \mathbf{0}$$

$$||\lambda \mathbf{x}|| = |\lambda| \cdot ||\mathbf{x}||$$
(2.3)

$$|\mathbf{x} + \mathbf{y}|| \le ||\mathbf{x}|| + ||\mathbf{y}||$$
 (2.5)

### 2.3 Notations

**Notation 2.1.** Given an open subset G of  $\mathbb{R}^n$ , the set of functions  $\varphi$  are:

- 1. Bounded support G;
- 2. Infinitely differentiable;

a vector space is denoted by  $\mathcal{D}(G)$ .

#### 2.4 Remarks

This is an example of a remark.

The concepts presented here are now in conventional employment in mathematics. Vector spaces are taken over the field  $\mathbb{K} = \mathbb{R}$ , however, established properties are easily extended to  $\mathbb{K} = \mathbb{C}$ .

#### 2.5 **Corollaries**

This is an example of a corollary.

Corollary 2.5.1 — Corollary name. The concepts presented here are now in conventional employment in mathematics. Vector spaces are taken over the field  $\mathbb{K} = \mathbb{R}$ , however, established properties are easily extended to  $\mathbb{K} = \mathbb{C}$ .

#### **Propositions** 2.6

This is an example of propositions.

#### 2.6.1 **Several equations**

**Proposition 2.6.1 — Proposition name.** It has the properties:

$$|||\mathbf{x}|| - ||\mathbf{y}||| \le ||\mathbf{x} - \mathbf{y}||$$
 (2.6)

$$\left|\left|\sum_{i=1}^{n} \mathbf{x}_{i}\right|\right| \leq \sum_{i=1}^{n} \left|\left|\mathbf{x}_{i}\right|\right| \quad \text{where } n \text{ is a finite integer}$$
(2.7)

### 2.6.2 Single Line

**Proposition 2.6.2** Let  $f, g \in L^2(G)$ ; if  $\forall \varphi \in \mathcal{D}(G)$ ,  $(f, \varphi)_0 = (g, \varphi)_0$  then f = g.

#### 2.7 **Examples**

This is an example of examples.

2.8 Exercises

### 2.7.1 Equation and Text

**Example 2.1** Let  $G = \{x \in \mathbb{R}^2 : |x| < 3\}$  and denoted by:  $x^0 = (1,1)$ ; consider the function:

$$f(x) = \begin{cases} e^{|x|} & \text{si } |x - x^0| \le 1/2\\ 0 & \text{si } |x - x^0| > 1/2 \end{cases}$$
 (2.8)

The function f has bounded support, we can take  $A = \{x \in \mathbb{R}^2 : |x - x^0| \le 1/2 + \varepsilon\}$  for all  $\varepsilon \in [0; 5/2 - \sqrt{2}[$ .

### 2.7.2 Paragraph of Text

■ Example 2.2 — Example name. Lorem ipsum.

### 2.8 Exercises

This is an example of an exercise.

**Exercise 2.1** This is a good place to ask a question to test learning progress or further cement ideas into students' minds.

### 2.9 Problems

**Problem 2.1** What is the average airspeed velocity of an unladen swallow?

### 2.10 Vocabulary

Define a word to improve a students' vocabulary.

**Vocabulary 2.1 — Word.** Definition of word.

# Part Two

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### 3.1 Table

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Cuadro 3.1: Table caption

# 3.2 Figure

Placeholder Image

Figura 3.1: Figure caption



Books Articles