

The background features a large, textured sphere on the left, resembling a planet or moon with various shades of brown and tan. Several smaller, translucent spheres float in the background. A horizontal band of light orange color spans the middle of the image, serving as a backdrop for the text. Below this band, there are abstract, rounded shapes in shades of gray and white, suggesting a landscape or architectural elements.

The Search for a Title

A Profound Subtitle

Dr. John Smith

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1. Logika Matematika

1.1 Pernyataan Berkuantor

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1.2 Pernyataan Penyangkal (Lingkaran)

This statement requires citation [**book_key**]; this one is more specific [**article_key**].

1.3 Penarikan Kesimpulan

Lists are useful to present information in a concise and/or ordered way¹.

1.3.1 Numbered List

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

1.3.2 Bullet Points

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

1.3.3 Descriptions and Definitions

Name Description

Word Definition

Comment Elaboration

¹Footnote example...

2. Induksi Matematika

2.1 Metode Pembuktian Langsung dan Tidak Langsung

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:

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

$$||\sum_{i=1}^n \mathbf{x}_i|| \leq \sum_{i=1}^n ||\mathbf{x}_i|| \quad \text{where } n \text{ is a finite integer} \quad (2.2)$$

2.1.2 Single Line

This is a theorem consisting of just one line.

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

2.2 Kontradiksi

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:

$$||\mathbf{x}|| = 0 \Rightarrow \mathbf{x} = \mathbf{0} \quad (2.3)$$

$$||\lambda \mathbf{x}|| = |\lambda| \cdot ||\mathbf{x}|| \quad (2.4)$$

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

2.3 Induksi Matematis

Notation 2.1. Given an open subset G of \mathbb{R}^n , the set of functions φ 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 $\mathbb{K} = \mathbb{C}$.

2.6 Kontradiksi

This is an example of propositions.

2.6.1 Several equations

Proposition 2.6.1 — Proposition name. It has the properties:

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

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

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.

2.7.1 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:

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

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

2.7.2 Paragraph of Text

■ **Example 2.2 — Example name.** Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

■

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.



3. Pertidaksamaan Linear Dua Variabel

- 3.1 Pengertian Pertidaksamaan Linear Dua Variabel
- 3.2 Penerapan Pertidaksamaan Linear Dua Variabel

A close-up photograph of a red rose with vibrant red petals and visible green sepals, serving as a background for the title section.


4. Program Linear Dua Variabel

- 4.1 Pengertian Program Linear Dua Variabel
- 4.2 Sistem Pertidaksamaan Linear Dua Variabel
- 4.3 Nilai Optimum Fungsi Objektif
- 4.4 Penerapan Program Linier Dua Variabel



5. Matriks

- 5.1 Pengertian Matriks
- 5.2 Operasi Matriks
- 5.3 Determinan dan Invers Matriks Berorde 2x2 dan 3x3
- 5.4 Pemakaian Matriks Pada Pransformasi Geometri



6. Barisan dan Deret

- 6.1 Pola Bilangan
- 6.2 Barisan dan Deret Aritmatika
- 6.3 Barisan dan Deret Geometri

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7. Limit Fungsi Aljabar

7.1 Table

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

Table 7.1: Table caption

7.2 Figure

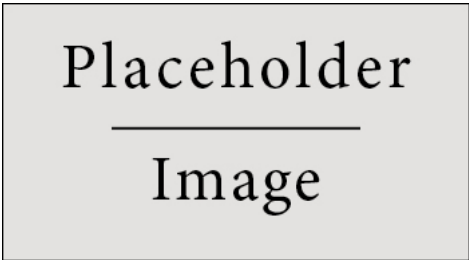


Figure 7.1: Figure caption



8. Turunan Fungsi Aljabar

- 8.1 Pengertian Turunan
- 8.2 Sifat-Sifat Turunan Fungsi Aljabar
- 8.3 Penerapan Turunan Fungsi Aljabar
- 8.4 Nilai-Nilai Stasioner
- 8.5 Fungsi Naik dan Fungsi Turun
- 8.6 Persamaan Garis Singgung dan Garis Normal



9. Integral Tak Tentu Fungsi Aljabar

- 9.1 Pengertian Integral Tak Tentu Fungsi Aljabar
- 9.2 Sifat-Sifat Integral Tak Tentu Fungsi Aljabar
- 9.3 Penerapan Integral Tak Tentu Fungsi Aljabar



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