

MathE e matemática no ensino superior: possíveis abordagens

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Julho de 2019

Introdução

- Colaboração entre várias instituições europeias
- Público-alvo – ensino superior
 - Professores
 - Alunos
- **Melhorar competências em matemática no ensino superior**
- Plataforma *online*: <https://mathe.pixel-online.org/>
 - Disponibilização para a comunidade de diversos recursos educativos
 - Conjuntos de questões de escolha múltipla
 - Autoavaliação por parte dos alunos
 - Realização de testes de avaliação
 - Vídeos sobre temas específicos ou sobre resolução de tarefas

Plataforma MathE

The screenshot shows the homepage of the MathE Platform. At the top, there is a navigation bar with the MathE logo and several menu items: Home, Student's Assessment, MathE Library, Community of Practice, Partnership, Information & Contacts, and Project Management. Below the navigation bar, there are two main content areas. The left area features a large MathE logo and a link to 'Main information about the MathE Project'. The right area has a 'Register to MathE Platform' button and a 'Welcome to MathE Project' section with a description of the project's goals and funding. Below these, there are two smaller sections: 'Student's Assessment' with a 'Self Need Assessment' link and a photo of a student, and 'MathE Library' with a 'Coming Soon' message and an image of books and a laptop.

https://mathe.pixel-online.org/index.php

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Home Student's Assessment MathE Library Community of Practice Partnership Information & Contacts Project Management

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Main information about the MathE Project

Register to MathE Platform

Welcome to
MathE Project
To Improve Math Skills in Higher Education

The MathE project is funded by the [European Commission](#) through the [Portuguese National Agency for the Erasmus+ Programme](#) with the aim of enhancing the quality of teaching and improving pedagogies and assessment methods.

Student's Assessment

Self Need Assessment
This toolkit allows students to carry out a self-evaluation of their knowledge on selected Math topics

MathE Library

Coming Soon

Plataforma MathE – Registo



Home



Student's
Assessment



MathE
Library



Community
of Practice



Partnership



Information &
Contacts



Project
Management

Sign Up To MathE Platform

Homepage > MathE Platform > Sign up



Registration Page

Thanks for deciding to joining th MathE Community. By registering to the portal you will be able to:

- to carry out a self-evaluation of your knowledge on selected Math topics.
- if your university officially joined the community, to participate in the final evaluations of your teacher

Name

Surname

Email

Email Confirmation

Password

Please specify if you are a:

STUDENT **LECTURER**

Confirmation of registration

Hereby I confirm that I would like to register on the project portal of the Erasmus+ project MathE.

Plataforma MathE – Autoavaliação

Select language

username



-  Home
-  Student's Assessment
-  MathE Library
-  Community of Practice
-  Partnership
-  Information & Contacts
-  Project Management

Self Need Assessment

[Homepage](#) > [Student's Assessment](#) > [Self Need Assessment](#)



This toolkit allows students to carry out a self-evaluation of their knowledge on 10 selected Math topics.

Here you can perform a self-assessment evaluation about diverse math topics.
To make a self-assessment test you need to login:

If you do not have username and password, please [register to the portal](#).

You can do a self-assessment on the following math topics/subtopics:

- » **Analytic Geometry**
- » **Complex Numbers**
- » **Differential Equations**
- » **Differentiation**
 - » *Derivatives*
 - » *Partial differentiation*

Plataforma MathE – Autoavaliação

The screenshot displays the MathE platform interface. At the top left is the 'ma the' logo. A navigation bar contains icons for 'Community of Practice', 'Partnership', 'Information & Contacts', and 'Project Management'. The main content area features a 'Self Need Assessment' section with a video thumbnail and text: 'This toolkit allows students to carry out a self-evaluation of their knowledge on 10 selected Math topics.' A dropdown menu is open, listing 15 topics with their respective question counts: Analytic Geometry (30), Complex Numbers (33), Differential Equations (16), Differentiation (20), Fundamental Mathematics (54), Graph Theory (34), Integration (75), Linear Algebra (151), Optimization (13), Probability (30), Real Functions of a single variable (1), Real Functions of several variables (4), and Statistics (40). Below the dropdown is a radio button selection for 'Level' with 'Basic' selected and 'Advanced' unselected. A green 'START ASSESSMENT' button is at the bottom. A message box says 'Por favor selecione um item na lista.' (Please select an item from the list.)

Select Topic

- Analytic Geometry (30)
- Complex Numbers (33)
- Differential Equations (16)
- Differentiation (20)
- Fundamental Mathematics (54)
- Graph Theory (34)
- Integration (75)
- Linear Algebra (151)
- Optimization (13)
- Probability (30)
- Real Functions of a single variable (1)
- Real Functions of several variables (4)
- Statistics (40)

Select Topic

* Level

Basic Advanced

START ASSESSMENT

ment please select the topic and the level.
ockets indicate the number of available questions.

Por favor selecione um item na lista.

Plataforma MathE – Autoavaliação



Home



Student's
Assessment



MathE
Library



Community
of Practice



Partnership



Information &
Contacts



Project
Management

Self Need Assessment

Homepage > Student's Assessment > Self Need Assessment



This toolkit allows students to carry out a self-evaluation of their knowledge on 10 selected Math topics.

To start the assessment please select the topic and the level.
The numbers between brackets indicate the number of available questions.

* Topic

Fundamental Mathematics (54)

Elementary Geometry (44)

All Subtopics

Elementary Geometry (44)

Manipulation of algebraic expressions (10)

* Level



Basic



Advanced

START ASSESSMENT

Plataforma MathE – Autoavaliação



This toolkit allows students to carry out a self-evaluation of their knowledge on 10 selected Math topics.

Question 3

Topic: Fundamental Mathematics
Subtopic: Elementary Geometry
Level: Basic

Which set of numbers stand for the lengths of the sides of a triangle?

Choose the right answer or skip to the next question.

Answer 1:

{1, 3, 7}

Answer 2:

{2, 4, 8}

Answer 3:

{3, 3, 6}

Answer 4:

{2, 4, 5}

SKIP

CONFIRM

Plataforma MathE – Autoavaliação

Self Need Assessment

Homepage > Student's Assessment > Self Need Assessment



This toolkit allows students to carry out a self-evaluation of their knowledge on 10 selected Math topics.

Question 7

Topic: Fundamental Mathematics
Subtopic: Elementary Geometry
Level: Basic

The sum of the number of faces with the number of vertices of a solid is 17. Choose the correct answer.

Choose the right answer or skip to the next question.

Answer 1:

The solid is a pentagonal prism.

Answer 2:

The solid is a hexagonal prism.

Answer 3:

The solid is a pentagonal pyramid.

Answer 4:

The solid is a hexagonal pyramid.

SKIP

CONFIRM

Plataforma MathE – Autoavaliação



This toolkit allows students to carry out a self-evaluation of their knowledge on 10 selected Math topics.

Topic: Fundamental Mathematics
Subtopic: Elementary Geometry
Level: Basic



The number of correct answers is 1 on a total number of 7 questions.
Your performance is **not good** and it would be advisable to go back to the theory

Question 1

Choose the value that corresponds to the sum of the amplitudes of the internal angles of an octagon.

Your answer is **CORRECT**:



1080

Question 2

Choose the correct statement.

Your answer is **WRONG**:



The sum of the external angles of any convex polygon is $(n - 2) \times 180^\circ$, where n is the number of sides of the polygon.

Potencialidades – Aluno

- Acesso a uma fonte fidedigna de informação
- Possibilidade de aprendizagem a distância
- Estudo autónomo
 - Motivação
 - *Feedback* imediato
 - Rever assuntos que não tenham compreendido nas aulas
- Alunos que chegam mais tarde – Orientação e apoio
 - Acesso a recursos que versam sobre os temas já lecionados
 - Testar os conhecimentos relativos a tópicos já abordados nas aulas
- Aspeto formativo
 - Identificação de dificuldades (aula/casa)
 - Conceitos que precisam de clarificar com o professor

Potencialidades – Professor

- Partilha de recursos com os pares
- Guiar os alunos no estudo
 - Facilidade na recomendação de recursos
- Apoio para algumas estratégias a desenvolver
 - Aula invertida
 - Visualização e análise orientada de vídeos
 - Trabalho em grupo e debate em grande grupo
 - Resolução de questões da plataforma (pequeno grupo)
 - Identificação das respostas erradas – autocorreção
 - Debate das resoluções com a turma
 - Alunos a trabalhar em temas diferentes (na mesma aula)
- Aspectos avaliativos
 - Testes *online* para avaliação sumativa
 - Teste de verificação de conhecimentos
 - Pedir como complemento as resoluções dos alunos

Desvantagens

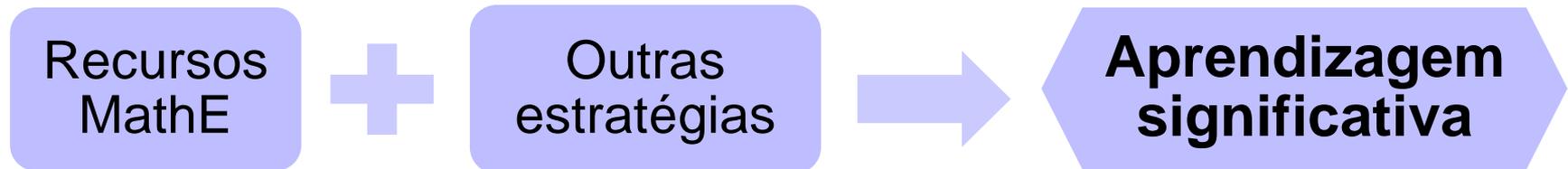
■ Questões

- Os alunos responderem “à sorte”
- Os alunos acertarem na resposta pelas “razões erradas”
- Não ter acesso às resoluções dos alunos
 - Não permite perceber o seu raciocínio
 - Dificulta a identificação dos processos que levam a raciocínios que não são válidos
- Idioma – Inglês

Conclusões

Plataforma MathE

Fonte de recursos vantajosa para o processo de ensino e aprendizagem, quando combinada com outras estratégias





Obrigada pela atenção.

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