

The EuroMath application includes a **QUIZ** module, which works two modes - **Developer mode** (edit) or **Quiz mode** (executive). The first one is the default for the teacher as it allows to create a quiz and then define questions, answers, solutions and point-scoring. The executive mode is the default for the student, but is also available to the teacher. In this mode, the student solves the quiz, and the teacher can check its correctness and the automatic assessment for various combinations of answers during the creation process.

**1. Before you create a quiz, make sure:**  
 a) you have registered on the EuroMath portal as a Teacher (only teachers can create quizzes in the EuroMath application)

[How to start working with the EuroMath?](#)

b) you are logged in to the EuroMath application

The login status is confirmed by the user's email address visible in the upper right corner.

c) developer mode is ON

Click the button on the toolbar (it should have a gray background) or select *Developer mode* option in the *Quiz* menu.

Tutorial videos on [YouTube](#)

**2. Define quiz parameters**  
 When you create a quiz, you have several options to choose from within a quiz. Go to the **Quiz** menu and select *Insert quiz* to define quiz details.

Title your quiz (you could change it later)

Enter the number of questions in the quiz

Select the type of question from the drop-down list:

Enter the number of answers for each question (an open type question has one answer field).

Enter the number of points for the correct answer to the question (this parameter does not appear for open type questions evaluated manually by the teacher).

**2a. Insert the new quiz into the math document**

[How to create new quiz object in the document?](#)  
[How to edit questions and answers?](#)

**3. Complete the questions and answers**  
 Enter the questions and answers in the appropriate fields. Place text, formulas and graphics in them (use the built-in formula editors and the graphics editor). You can add and remove questions/answers and change their order. All these operations are available in the **Quiz** menu as well as on the quiz toolbar.

**Sample questions:**

What is the perimeter of a square with side length equal to a?

a.  $4a$

b.  $\frac{a\sqrt{3}}{2}$

c.  $a + a + a + a$

1. What are the coordinates of point A?

a. (1,3)

b. (3,1)

What is the formula for increasing sequence?

a.  $a_n = \frac{2n+1}{n}$

b.  $a_n = \frac{(n-1)/n}{n-1}$

4 properties of a square:

Enter your answer...

Open question

Quiz structure generated in the document body

[QSG2: Formulas](#)

#### 4. Set the correct answers and point-scoring

For each question, indicate the correct answers and indicate the maximum number of points that can be scored. There are two marker columns on the right. The left one is filled in by the student while completing the quiz in executive mode, the right one is the answer key specified by the teacher when creating the quiz.

Title: Short test

1. What are the coordinates of point A?

2. Complete the sentence: "The set of points (x,y) so that  $x^2 + y^2 = 1$  is a ....."

3. Input at least 4 properties of the square:

4. What is the perimeter of a square with side length equal to a?

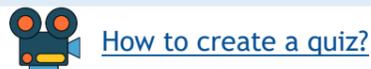
Result (sum): 0 / 8

Annotations:

- Max. number of points to get for the question (points to '1' in question 1)
- Answer selected by the student when solving quiz. (points to 'A = (1,3)' in question 1)
- The answer key (defined by the teacher) necessary to automatically grade quiz solution by the system. (points to 'Correct answ.' column in question 1)
- An open question has no answer key because it is evaluated by the teacher and not by the system. (points to question 3)

Total points obtained by the student for the quiz.

Total points that can be scored for correctly completing the quiz.



[How to create a quiz?](#)

#### 5. Check the quiz

Turn on executive mode and try the quiz to test if the grading function works correctly for different combinations of responses. If the quiz contains open questions, then after switching back to developer mode, rate them and check whether the total points are updated correctly. Don't forget to remove your solution before the next attempt.

1/1

a) Turn on the executive mode (the mode change button on the toolbar should have a light background).

b) Solve the quiz by selecting and entering the answers.

2. Complete the sentence: "The set of points (x,y) so that  $x^2 + y^2 = 1$  is a ....."

3. Input at least 4 properties of the square:

4 sides are equal; the diagonals are equal; 4 angles are  $90^\circ$ ; opposite sides must be parallel

c) Choose *Check quiz option* from the **Quiz** menu or popup menu (**SHIFT+F10**). The system will check the completeness of the quiz and grade it (except for open questions).

Check quiz

Some questions were not answered. Are you sure you want to check the quiz?

You received 1 points out of 4 from the closed part of the quiz. You can still get 4 from the open part

This message indicates an incomplete solution but does not block the check function.

d) Turn on the developer mode and complete the points for open questions, then check the values in the *Result (sum)* section.

3. Input at least 4 properties of the square:

4 sides are equal; the diagonals are equal; 4 angles are  $90^\circ$ ; opposite sides must be parallel

The result includes the points for open and closed questions.

Result (sum): 5 / 8

e) Clean the solution and, if necessary, repeat steps a-d for various combinations of answers.

Quiz

- Insert quiz
- Clean the solution

Use the menu option or press the button on the quiz toolbar (see p.7)

#### 6. Save the quiz and share it with students

The EuroMath application does not support the distribution of quizzes among students, nor the receipt and collection of their solutions. The teacher organizes it on his own, in cooperation with the school network administrator, using a school server or cloud drive (OneDrive, Google, Dropbox). Student access to resources can be controlled by the appropriate folder structure and granted permissions.



[Where does the teacher save math content?](#)

You can also save the quiz on your local disk as an .epub file and then send it to the students via email.

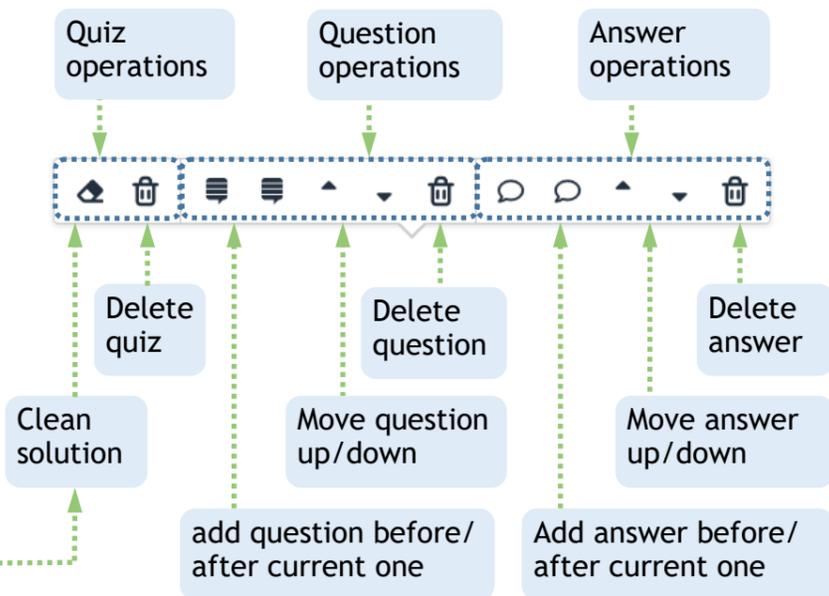
If the quiz has been prepared with the intention of making it available to other teachers, as an auxiliary material to be used by them to create their own quizzes, it can be published in the OER repository on the EuroMath portal. Each resource must go through the review and approval process, before being published on the portal.



[How to publish math content in the OER repository?](#)  
[Content description by metadata](#)

#### 7. Quiz toolbar

After clicking the mouse in the quiz area or placing the cursor in any quiz field, the context quiz toolbar will appear with buttons for operations on the quiz and its elements (it is visible and active only in developer mode).



## 8. Solving a quiz by the student

The student, after logging in to the EuroMath application, opens the quiz provided by the teacher. To use the resource from the OER repository on the portal, the student selects **Portal->Documents** menu option and then downloads and opens the quiz in the application. In the next step, the student marks the answers and confirms the solutions by the *Check quiz* function (it works even if some questions have not been answered). The last step is to save the solutions to the appropriate location. For easier identification of the students' work by the teacher, it is recommended to put the student's name in the name of the file.

**Title:**  Result (sum):  /  ← **Max. number of points to receive**

1. The number  $(2\sqrt{6})^2$  is equal to:  /  ← **The number of points obtained by the student, displayed after using the *Check quiz* function.**

a.

b.

c.

d.   ← **The student marks the correct answers with a mouse click or the **Space** key. The selection can be freely changed while the quiz is being solved.**

2. Indicate the correct ordering of numbers:  /  ← **The student marks the correct answers with a mouse click or the **Space** key. The selection can be freely changed while the quiz is being solved.**

a.

b.

c.

The quiz is a standard form, which means that blind students can navigate it using the up/down arrow keys. The **Space** key is used to mark answers (screen reader in browse mode, **INS+Space** switching modes in NVDA).

The *Check quiz* function (see p. 5c) completes the quiz and blocks the possibility of further changes, so make sure you have completed the work before starting it. A message about the points obtained will appear for closed questions and the number of points that can be obtained for open questions. The student saves the solution (**File->Save as**) and, if necessary, forward it to the teacher for further assessment.



[How to solve a quiz?](#)

[Reading and solving a quiz by blind students](#)

[Reading and solving complex math tasks with linkable fields](#)

[How to download math content \(.epub file\) from the OER repository?](#)



Read more about quizzes, p. 33

Read more about linkable fields, p.34

**NASK**

Designed by Małgorzata Rubin

## 9. Complex tasks with matching technique

In the EuroMath application you can create complex matching type tasks, also available for blind students who can use the keyboard to navigate through elements of such task, combine them with each other and edit their content. You build the tasks using special fields called **Linkable field**. You decide how many objects you use in your task and what content you put in them. You can insert text, graphics, formulas (and combination) inside. To do this, use the built-in *Math editors* and *Graphics editor*. Solving this type of tasks requires that the student matches two objects, e.g. questions with the corresponding answers. It is allowed to combine objects in a 1:1 relation, which means that every question corresponds with only one correct answer. It is not possible to give more than one correct answers to one question.

**Insert**

- Table of Con...
- Image...
- Media...
- Link... Ctrl+K
- Braille Math Editor Ctrl+Shift+B
- Structural Math Editor Ctrl+Shift+E
- AsciiMath Editor Ctrl+Shift+A
- UnicodeMath Editor Ctrl+Shift+U
- Math Navigator Ctrl+Shift+1
- Graphics Editor Ctrl+Shift+G
- Graphics Navigator Ctrl+Shift+2
- Linkable field

**Go to the **Insert** menu and select **Linkable field**. The field will be inserted into the document, you can fill it with any content.**

**Examples:** Each of the four buckets contains 4.5 liters of paint and  $\frac{4}{5}$  of a liter of paint in a can. How many liters of paint are in all five containers?

**Move over the field with the mouse, a blue frame will appear. Click inside the frame to place the cursor there. Now you can start filling the field.**

**Linkable field**

### Matching - how to connect a linkable field?

How to calculate the perimeter of a square?

**Double-click the field with your mouse, it will be highlighted in yellow, which means it has been selected to connect to another field.**

**Now double click the second field that you want to connect with the first. The yellow color will disappear and both fields will be connected by a solid line.**

A blind student navigates the *linkable fields* with the arrow keys and selects them by the **CTRL+Space** hot key (screen reader need to be in browse mode). Editing the content of the linkable field requires switching the screen reader into edit mode.

Each of the four buckets contains 4.5 liters of paint and  $\frac{4}{5}$  of a liter of paint in a can. How many liters of paint are in all five containers?

**The linkable field is not a graphic object, so to move it to a specific place in the document use **Enter** and **Space** keys.**

Connect fractions with their decimal equivalences

**To disconnect two fields, double click on any of them.**

Connect the graph with the appropriate type of function.

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Quick Start 4

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