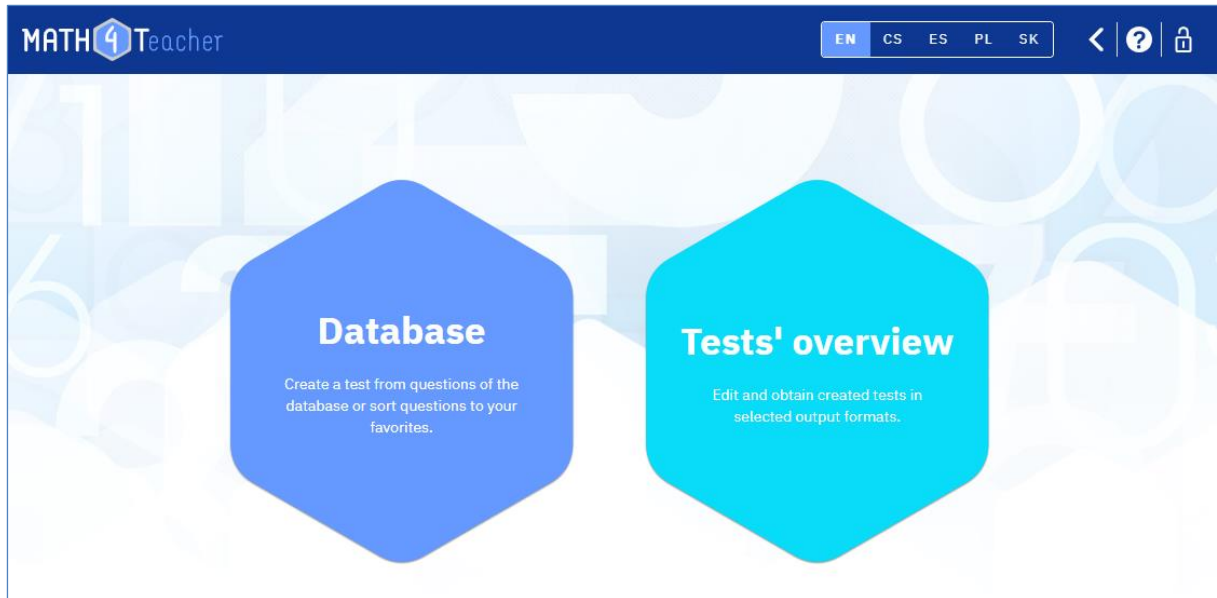


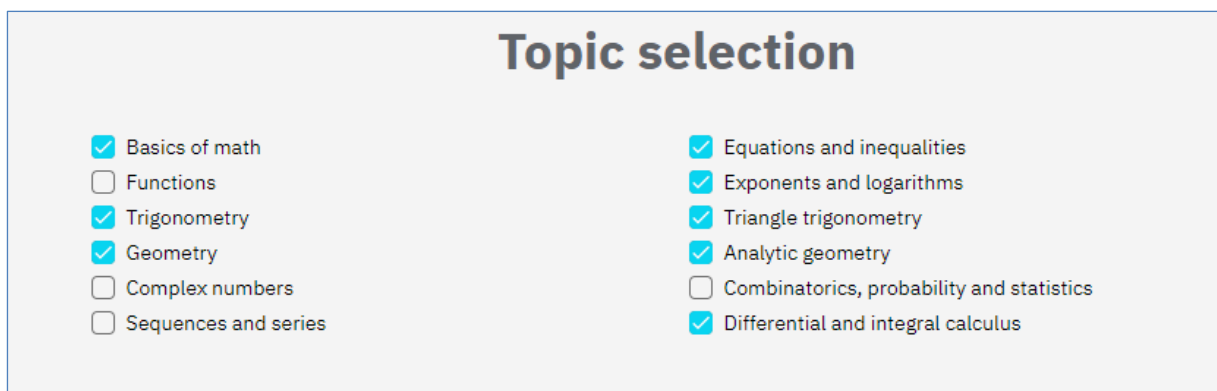
## HELP FOR THE APPLICATION MATH4TEACHER NEW

### 1. Log In



To log in to the app, use the "lock" sign on the top right. If you have not yet created an account, select the "Register" option. You will receive two emails after entering your contact email and your chosen login "name". The second one will contain a link to log in. Please wait, it may take even several hours to set up your account.

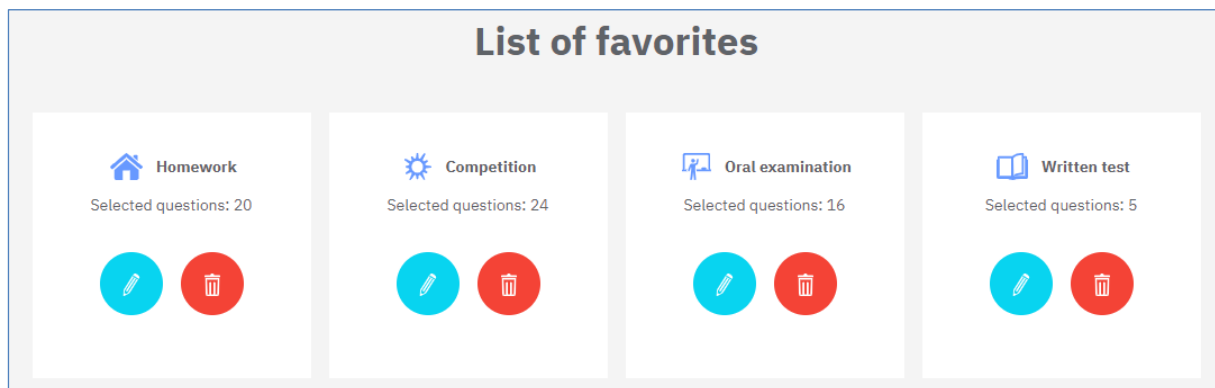
### 2. Question Database – Customizing Favorites



You can use the "Settings" (the "cog" icon in the top menu) to set up the topics you use and your favorite questions.

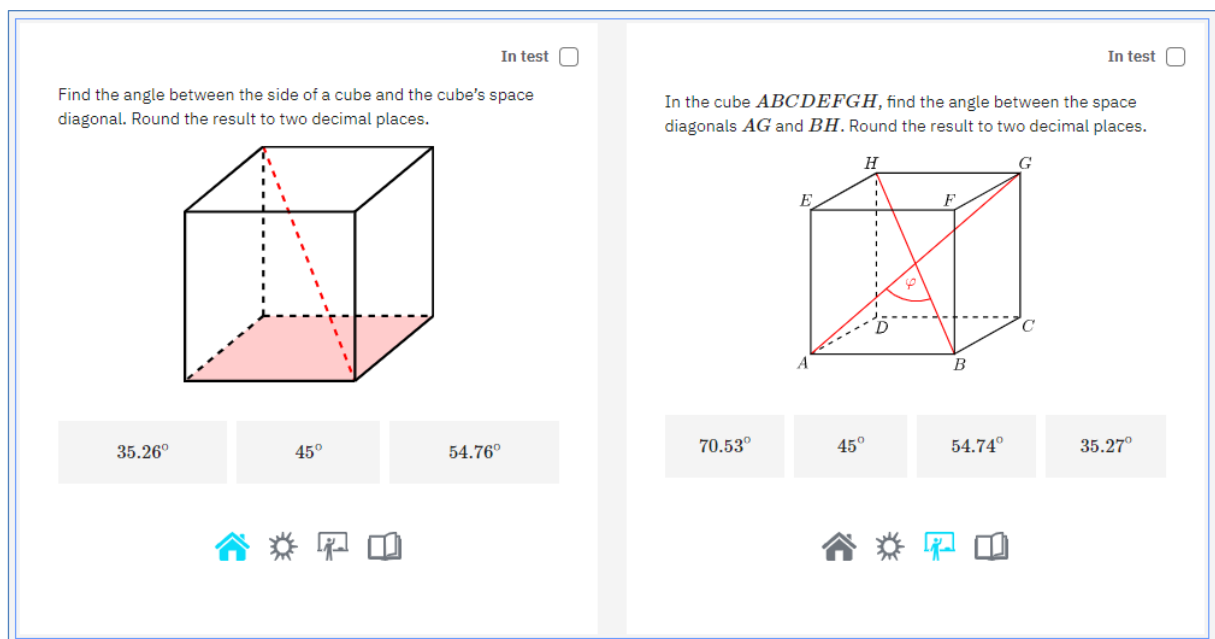
You can select the topics you will use in the near future (e.g. in a given year). Only these topics will then be displayed in the drop-down menu of the database, which will improve clarity and speed up your work. The settings can be changed at any time.

You then set up "folders" for your favorite questions. The database contains 5,900 questions. Questions vary in many ways - difficulty, length of calculation, drill practice, questions requiring ideas, applications to physics, etc. Therefore, their inclusion in lessons (test, homework, independent work, competition, etc.) will also vary.



Before working with the database for the first time, we therefore recommend thinking over the question sorting system and setting up "List of favorites". You have the option to create up to 10 "folders" for favorite questions. For each "folder" of favorites, come up with a name and select a unique icon. The names can be chosen, for example, by purpose (Homework, Seminar, Test, Five Minute, Competition), by difficulty (Easy, Hard) or by any way you like.

These settings will then remain functional for all further logins and for work with the database. Of course, you can change these settings at any time.



Once you have set the names and icons of your "folders" of favorites, these icons will appear at each question in the database. By clicking on the icon, you will save the question into the folder, see the picture. These "folders" can also be used to filter when creating tests.

### 3. Question Database – Filters Single/Twin, Easy

In the "Database" section, you can view the questions, save them into your "folders" of favorites, and select questions for a test. In the "Tests' overview" section, you manage your already created tests and generate different test formats (T4U test, PDF test, interactive PDF test).

The first step to create a new test is to select questions from the database.

The screenshot shows the test creation interface. At the top, there are several filter dropdowns: Topic (Analytic geometry), Subtopic (Analytic geometry in a plane), Part (I), Single/Twin (Twin Quest...), Easy (All), and Favorites (All). Below the filters, it says "Questions in test: 0". There are two buttons: "Create test" and "Clear test". In the center, there are navigation buttons: "Previous", "1", "2", "3", "4", and "Next". Below this, there are two question cards side-by-side. Each card has a yellow "e" icon in the top left corner and an "In test" checkbox. The left card has the question: "In the following list identify a vector having the same direction as the line passing through the points  $A$  and  $B$ ." with  $A = [2; 1]$ ,  $B = [3; 2]$ . The options are  $(1; 1)$ ,  $(-1; 1)$ ,  $(5; 3)$ , and  $(3; 5)$ . The right card has the same question but with  $A = [4; 1]$ ,  $B = [3; 2]$  and options  $(-1; 1)$ ,  $(1; 1)$ ,  $(7; 3)$ , and  $(5; 5)$ . At the bottom of each card are icons for home, settings, help, and a book.

Questions can be filtered by topics, subtopics, question types and by the favorites you set:

- The entire secondary school curriculum is divided into 12 topics, 56 subtopics and 160 parts (this categorization can be found in the [manual](#)).
- Twin questions are questions that are very similar in both content and difficulty and can be used to create two versions of the test (versions A and B). In the database, twin questions are placed in shared box (one box for two questions). Single questions are those for which there is no twin.
- Easy questions are questions that can be solved in head, i.e., without pen and paper. Such questions are marked in the database with a yellow "e" in the upper left corner of the question box. The database now contains 2,000 Easy questions.

#### 4. Question Database – Test Creation

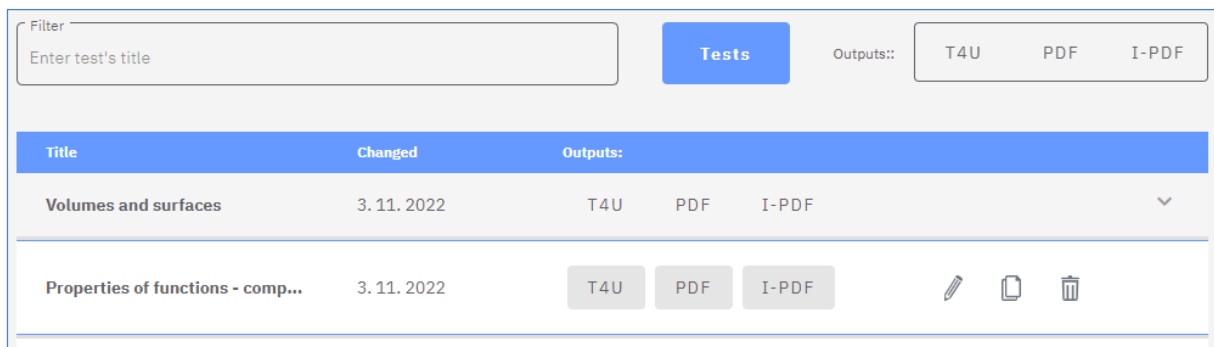
This screenshot is similar to the previous one but shows the state after selecting two questions. The "Questions in test" count is now 2. The "Create test" button is now blue and the "Clear test" button is red. The "In test" checkbox for the first question is checked. The rest of the interface, including the filters and the two question cards, remains the same as in the previous screenshot.




For each question, there is a "In test" box at the top right. Check it to select the question for the test. Once you have the questions selected, use the blue "Create test" button to move to the test setup form. Here you can view the selected questions, remove some of the questions or add new ones, and enter a name for the test. The created test (test definition) is saved in the test list. (You can access the test list at any time from the home page by clicking on "Tests' overview" or from the top menu by clicking on the "hexagons" icon. The "hexagons" icon is used to quickly switch between "Database" and "Tests' overview").

If you are creating two test variants (A and B), then for Twin questions (they share one box), check the "In test" box for only one question of the pair. The question you check will be included in variant A. The other question from the pair will then be in variant B. If you tick both questions, then both questions will be included in both variants. If you select a question that does not have a twin (Single question) then this question will be included in both variants.

## 5. Overview of Tests and their Outputs

In the "Tests' overview" section you manage your already created tests and generate different test outputs (T4U test, PDF test, interactive PDF test).



Title	Changed	Outputs:
Volumes and surfaces	3.11.2022	T4U PDF I-PDF
Properties of functions - comp...	3.11.2022	T4U PDF I-PDF   

For each test you can see the name, the date of the last change and the outputs offered. Each test can be re-edited (pencil icon), a new copy created (paper sheet icon) or deleted (trash can).

It is quite important that you choose an appropriate strategy to use for naming the tests. For example, it can be a name composed of the topic name and the purpose (Linear Function - Hw). If you have a large number of tests stored, it is then possible to filter by names or name segments. Thus, for example, all tests with "function" or "Hw" in the name can be easily filtered.

Once you have created a test, you can select one of the following outputs:

- T4U - HTML test for the new Test4U app
- PDF - printable test in PDF format
- I-PDF - interactive test in PDF format

## 6. Output "T4U" – Test for Test4U App

Filter: Enter test's title

Tests

Outputs:: T4U PDF I-PDF

Title	Changed	Outputs:
Volumes and surfaces	3.11.2022	T4U PDF I-PDF
Properties of functions - comp...	3.11.2022	T4U PDF I-PDF

Create T4U test

Items per page: 10 1 - 2 of 2

In the "Tests' overview" section, pressing the "T4U" button will take you to the T4U test setup form. Here you can set the name of the test, start and end of the test (date and time), time limit for solving, enable the ability to scroll through the test while solving, permutation of questions, and the option to create two variants of the test.

T4U test's title \* Properties of functions - competitio X

Time limit \* 10

**Start:**

Start date \* 17.11.2022

Start hour \* 09

Start minute \* 10

**End:**

End date \* 17.11.2022

End hour \* 09

End minute \* 25

Allow browsing through the test.  Create two test variants A and B.  Permute the questions.

If you set the permutation option, then each student gets a test with the same questions but in a different order. Answers within questions are always permuted automatically.




After saving your settings, you will be redirected to the T4U test list, where you will see a six-digit access code. Only one code is generated - even if you have chosen to create two test variants (A and B). Students will only see the variant selection signpost once they have logged in with the unique access code.

You provide this access code to your students, and they then use the Test4U app and the code to run the test. Students solve the given problems and when the test is completed, the results are sent back to your Math4Teacher app.

Filter: functions

Tests

Outputs: T4U PDF I-PDF

Title	Start	End	Time	Code	
Properties of functions - comp...	17. 11. 2022 9:10	17. 11. 2022 9:25	10	aKHYZW	  

Items per page: 10 1 - 1 of 1

Once students have completed the test, you can view the results immediately. Click on the "two envelopes" icon to access a summary of student results. From there, click on the icon in the circle at the top right to switch to the answer statistics for each question. The images below show a preview of student results and success rates for each question. You can see how many students chose each answer or did not answer at all. You can immediately see where the most mistakes were made, and you can react.

Name	Variant	Score	1 (14.29%)	2 (57.14%)	3 (85.71%)
John	B	2/3 (66.67%)	✗	✓	✓
Alice	A	2/3 (66.67%)	✗	✓	✓
Tom	A	2/3 (66.67%)	✗	✓	✓
Jack	B	1/3 (33.33%)	✗	✗	✓
Kate	A	0/3 (0.00%)	✗	✗	✗
Peter	A	1/3 (33.33%)	✗	✗	✓
Mary	B	3/3 (100.00%)	✓	✓	✓

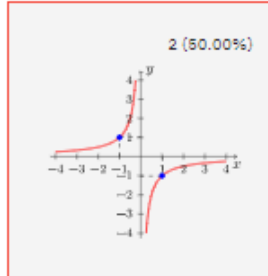
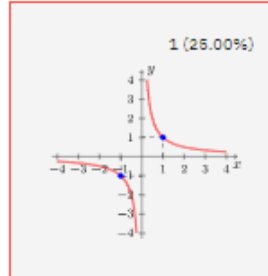
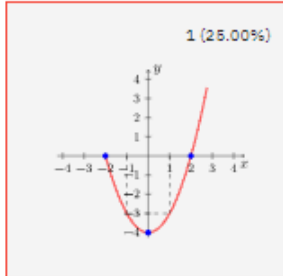
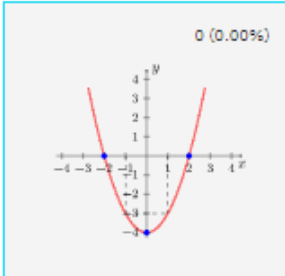
Items per page: 10 1 - 7 of 7

In the student list, you can sort students by name, by results, or by variant (A, B).

Question no. 1

✓ 0 (0.00%) ✗ 4 (100.00%)

Identify a possible graph of an even function.

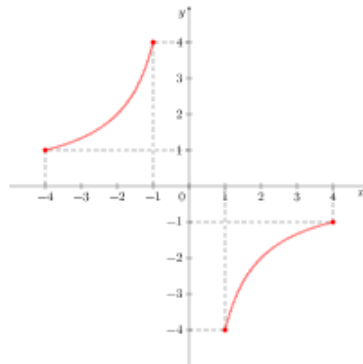


Not answered 0 (0.00%)

Question no. 2

✓ 2 (50.00%) ✗ 2 (50.00%)

The function  $f$  is given by the graph. Identify which of the following statements is true.



2 (50.00%)  
The function  $f$  is neither increasing nor decreasing.

1 (25.00%)  
The function  $f$  is increasing.

0 (0.00%)  
The function  $f$  is non-decreasing.

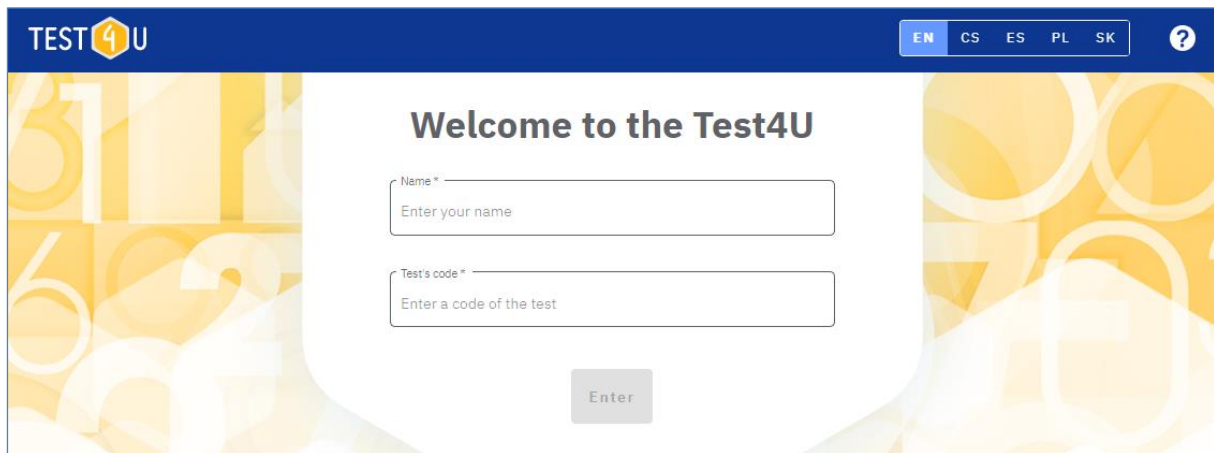
0 (0.00%)  
The function  $f$  is increasing in the interval  $[-4; 1]$ .

1 (25.00%)  
Not answered

In the question-by-question results statistics, you can switch between the results of variant A and the results of variant B.

## Test4U App

Students can access the Test4U application from the main Math4U portal page (math4u.vsb.cz) or from the top menu by selecting TEST4U.

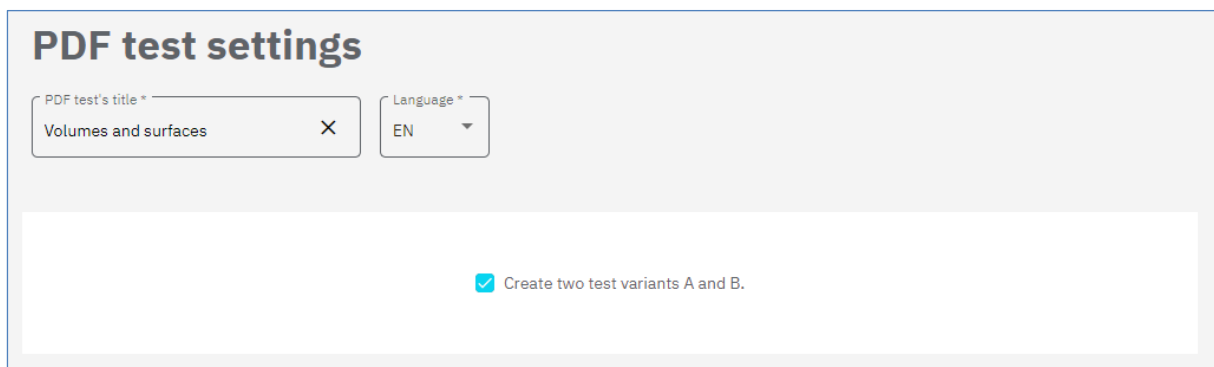


The student enters his/her name or nickname (according to the teacher's preferences) and the test access code. The code must be entered accurately distinguishing upper and lower case letters. After entering, the student will see the test parameters (name, from when to when he/she can run the test, how many questions are in the test and in how many minutes he/she must complete the test). Once the test is activated, the time limit will begin to run. The student scrolls through the questions and selects answers. Once he/she is done with all the questions or if the time limit has expired, the test is sent.

After the test expires, students can use the same code to access the test preview - they cannot complete or submit the test, only view the correct answers.

## 7. Output "PDF" – Printable Test

In the list of tests, pressing the "PDF" button will generate a request to create the test as printable PDF in the given language. You can set the test name, language and choose to create two versions of the test, A and B.



After saving these settings you will be redirected to your PDF test list. Generating your test can sometimes take a few minutes. Press "Generate" and then "Check availability" to get the finished PDF test. Once the test is ready, the "Open" button will appear.



Filter

Tests

Outputs: T4U PDF I-PDF

Title	Language	Link	
Volumes and surfaces - A	EN	Open	
Volumes and surfaces - B	EN	Open	
Properties of functions - comp...	ES	Check availability	Pending
Properties of functions - comp...	ES	Generate	

Items per page: 10 1 - 4 of 4

If you want the same test in another language, then again click on "PDF" in the test list, select another language and this will create another row in the list of PDF tests.

The pdf tests will not be stored on the server to save space - but they can be re-generated at any time with one click.

## 8. Output "I-PDF" – Interactive Test

In the list of tests, pressing the "I-PDF" button will generate a request to create an interactive test in that language. You set the test name, language and can choose to create two test variants A and B.

### Interactive PDF test settings

Interactive-PDF test's title \*

Language \*

Create two test variants A and B.  Permute the questions.

After saving these settings, you will be redirected to your I-PDF test list. Generating your test can sometimes take a few minutes. Press "Generate" and then "Check availability" to get the finished I-PDF test. Once the test is ready, the "Open" button will appear.

Filter			Outputs::	
Enter test's title			Tests	T4U PDF <b>I-PDF</b>
Title	Language	Link		
Volumes and surfaces - A	EN	Open		
Volumes and surfaces - B	EN	Open		
Properties of functions - comp...	CS	Check availability	Pending	
Properties of functions - comp...	CS	Generate		

Items per page: 10 1 - 4 of 4

If you want the same test in another language, then again click on "I-PDF" in the test list, select another language and this will create another row in the list of I-PDF tests.

The tests will not be stored on the server to save space - but they can be re-generated at any time with one click.

The interactive PDF tests need to be opened with Adobe Reader (freely downloadable). Tests opened in a browser or other programs will not work.