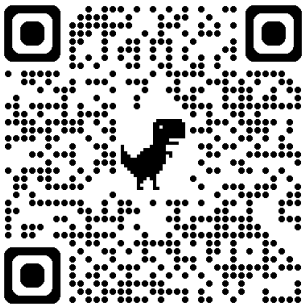
MATHESIS

An Integrated Intelligent Tutoring System for Mathematics

Teacher's Manual

Dr Dimitrios Sklavakis, BSc, MSc, PhD

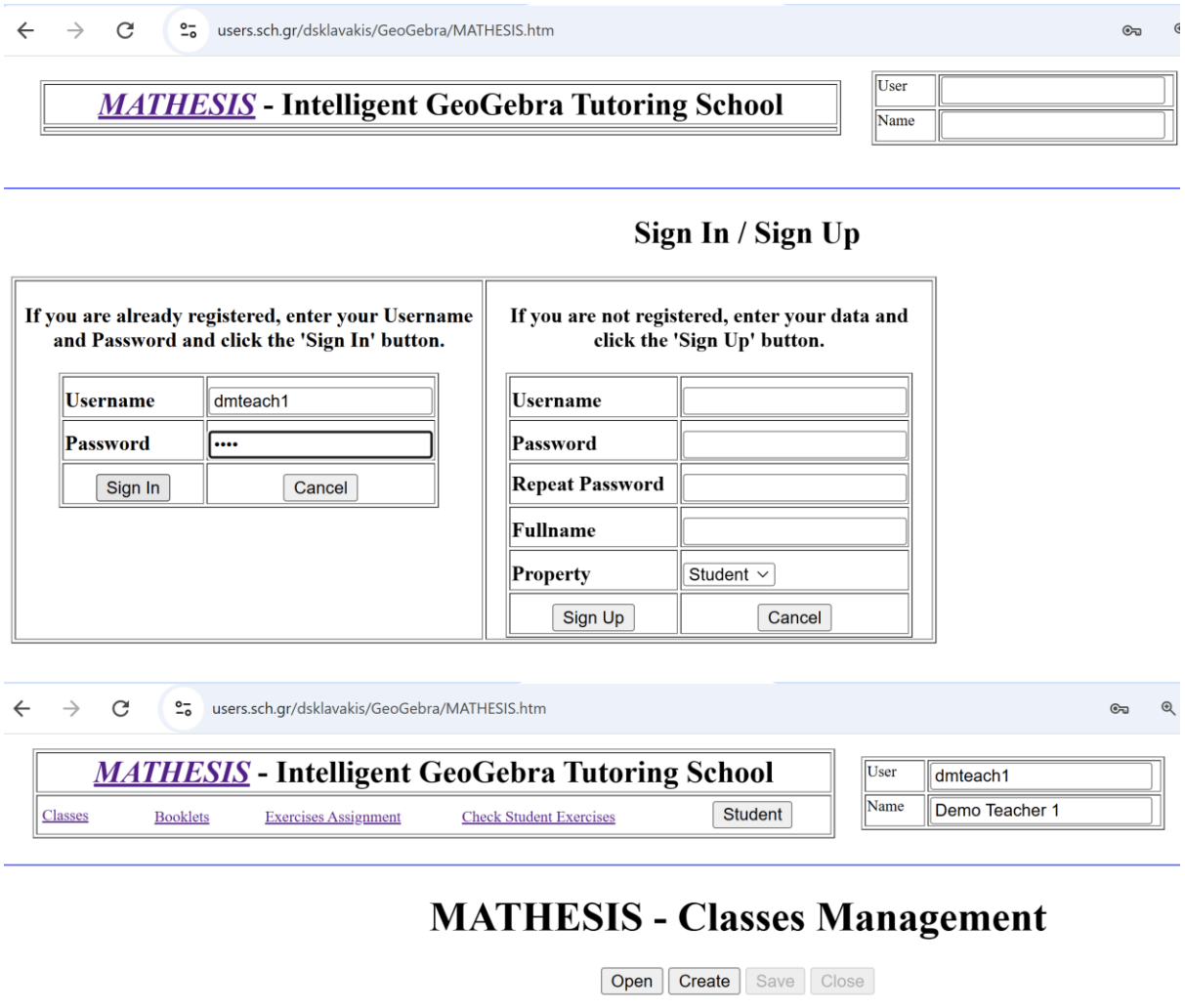
European School Brussels II



https://users.sch.gr/dsklavakis/GeoGebra/MATHESIS.htm

1. Registration

2. Sign In



3. Class creation

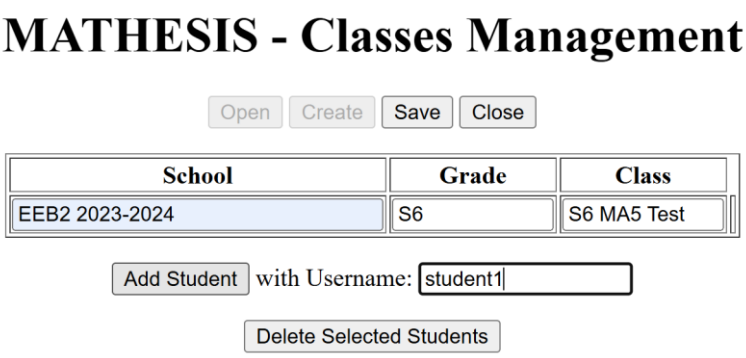
3.1 Click the *Create* Button

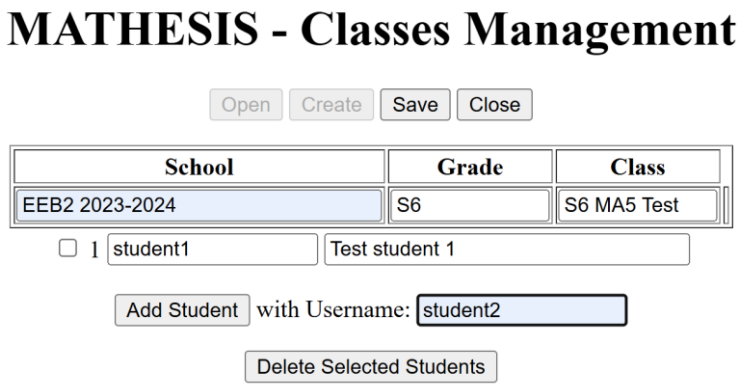
3.2 Enter the School and School Year, Grade and Class

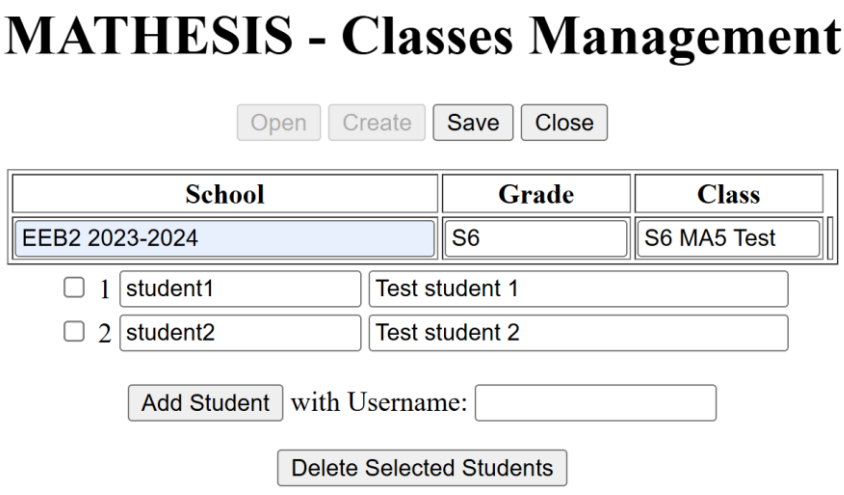
3.3 Type the student's Username and click the *Add Student* button

3.4 Repeat step 3.3 for each student you want to add

3.5 Click the *Save* and *Close* buttons



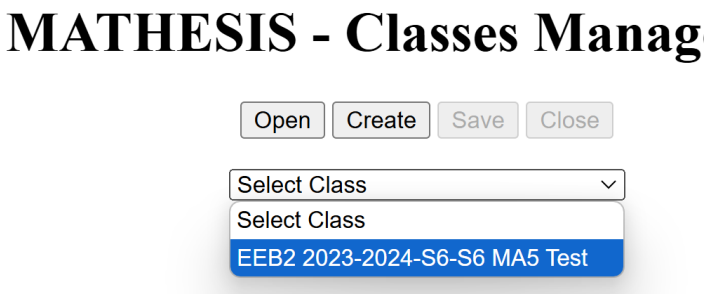




4. Class management

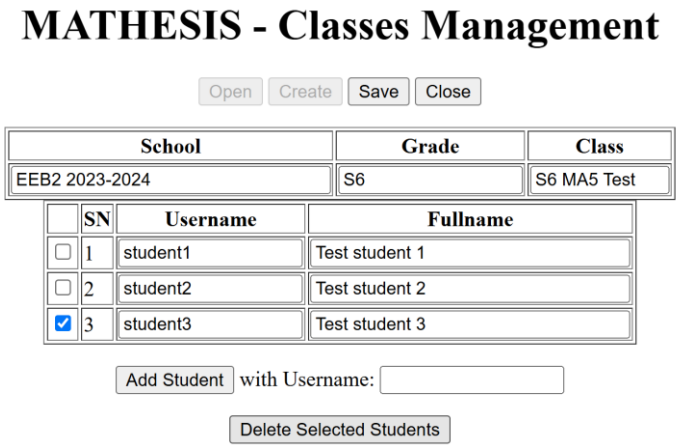
4.1 Click the *Open* button

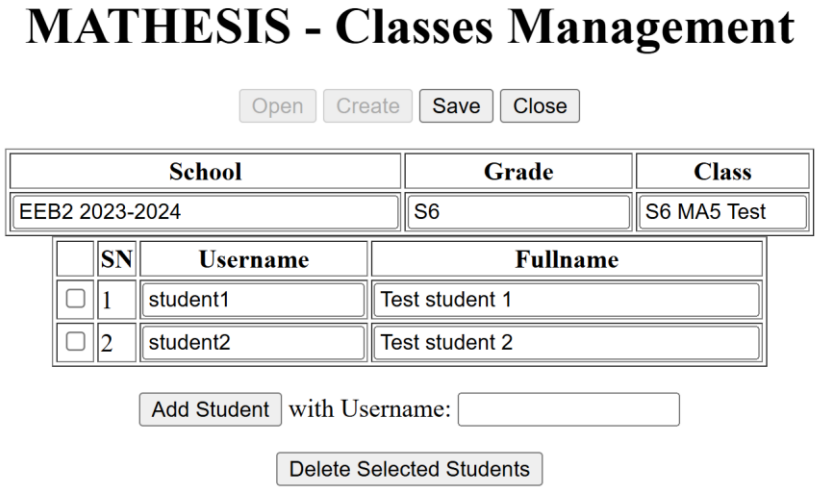
4.2 Select your class from the drop-down list



4.3 To Add a student see 3.3

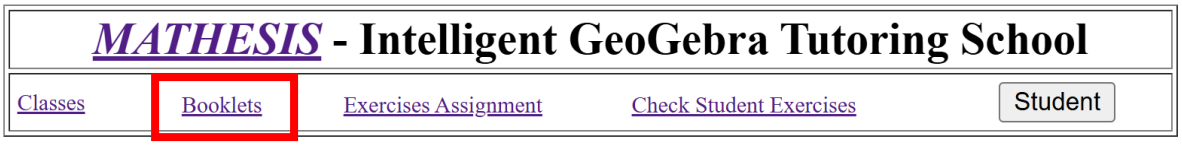
4.4 To Delete one or more students, check the boxes in front of their names and click the *Delete Selected Student* button

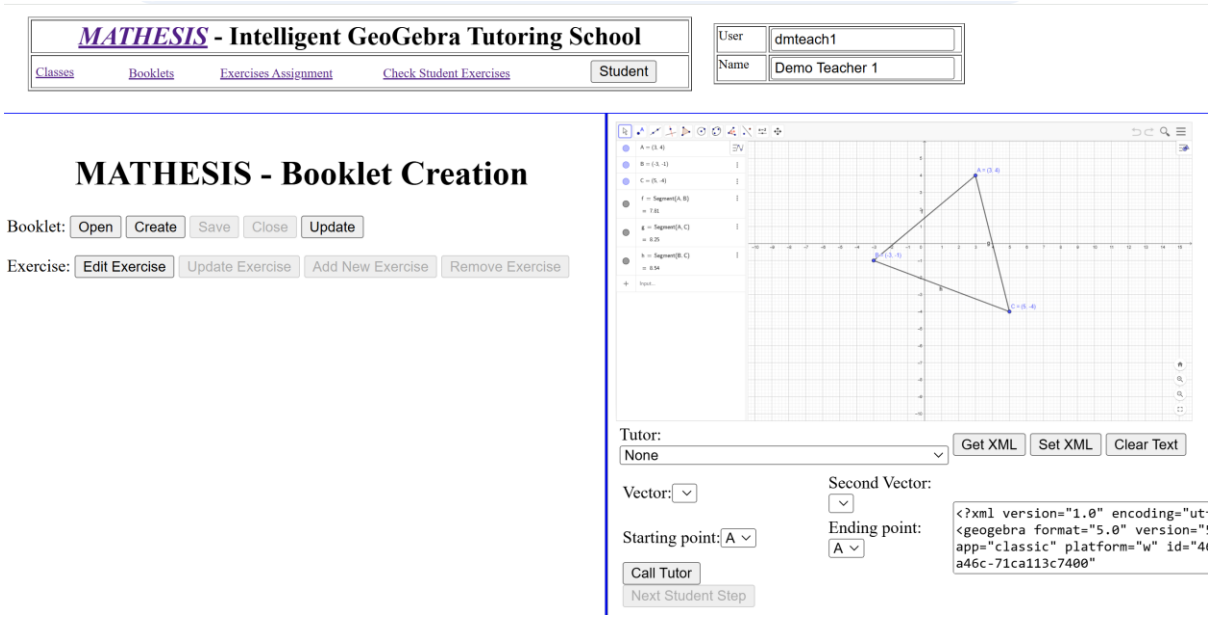




5. Booklet creation

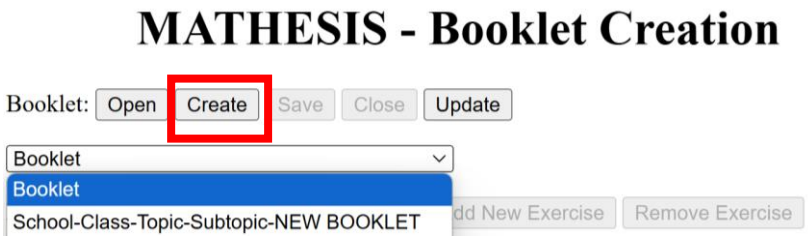
5.1 Click on the *Booklets* link

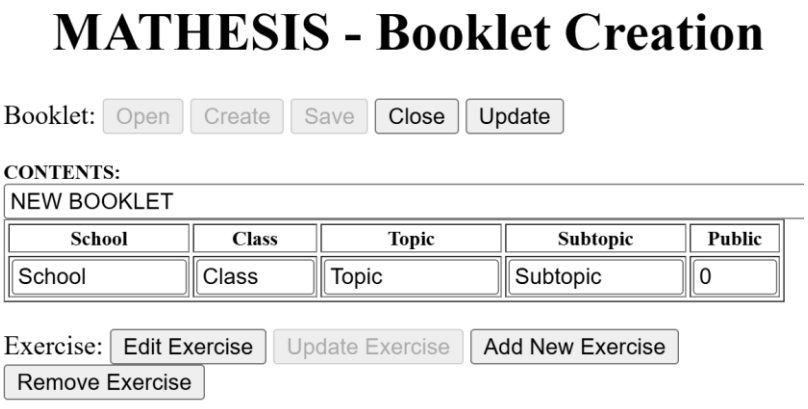




5.2 Click the *Create* button

5.3 Select the newly created Booklet from the drop-down list





5.4 Enter the CONTENTS description, School, Class, Topic, Subtopic. Leave Public 0

MATHESIS - Booklet Creation

Booklet: Open Create Save Close Update

CONTENTS:

Test Booklet: Vector coordinates, Midpoints, Length, Distance, Parallel vectors

School	Class	Topic	Subtopic	Public
EEB2 2023-24	S6	Geometry	2-D Vectors	0

Exercise: Edit Exercise Update Exercise Add New Exercise Remove Exercise

5.5 Click button *Add New Exercise*

5.6 Check the box next to the exercise number and click the *Edit Exercise* button

5.7 Enter the Topic and Subtopic description as well as the text of the exercise

MATHESIS - Booklet Creation

Booklet: Open Create Save Close Update

CONTENTS: Test Booklet: Vector coordinates, Midpoints, Length, Distance, Parallel vectors

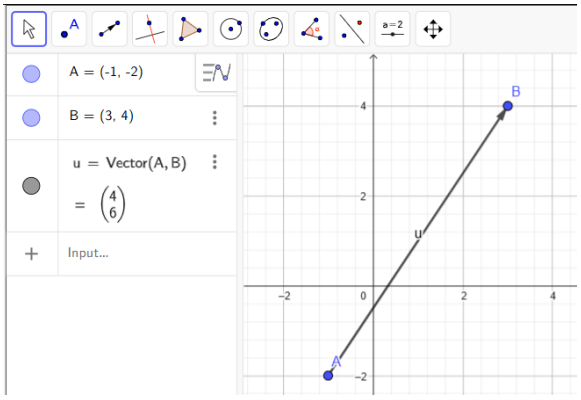
School	Class	Topic	Subtopic	Public
EEB2 2023-24	S6	Geometry	2-D Vectors	0

Exercise: Edit Exercise Update Exercise Add New Exercise Remove Exercise

1. Topic: Geometry Subtopic: 2-D Vectors - Vector Coordinates

Find the coordinates of vector with start A(-1,-2) and B(3,4)

5.8 Enter the construction elements, points A(-1,-2) and B(3,4) in the GeoGebra applet on the right



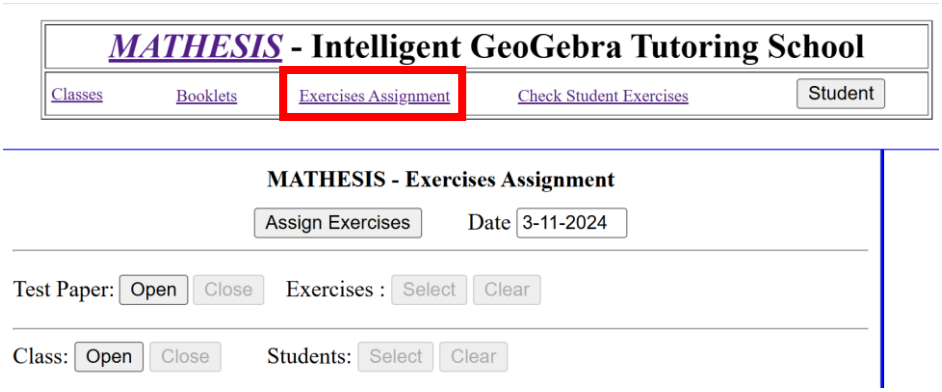
5.9 Click the *Update Exercise* button

5.10 Repeat steps 5.5 - 5.9 for each new exercise

5.11 When you finish, click the *Save and Close* buttons.

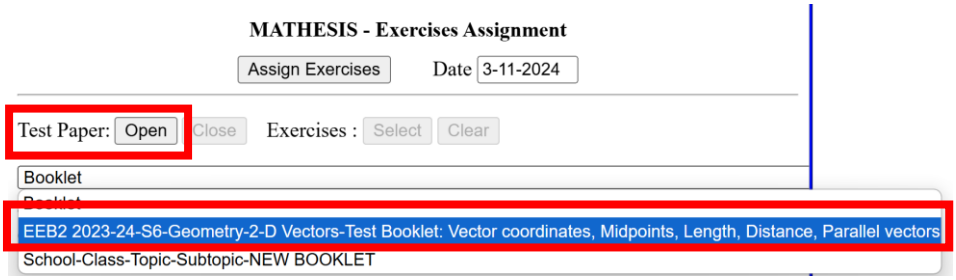
6. Exercises Assignment

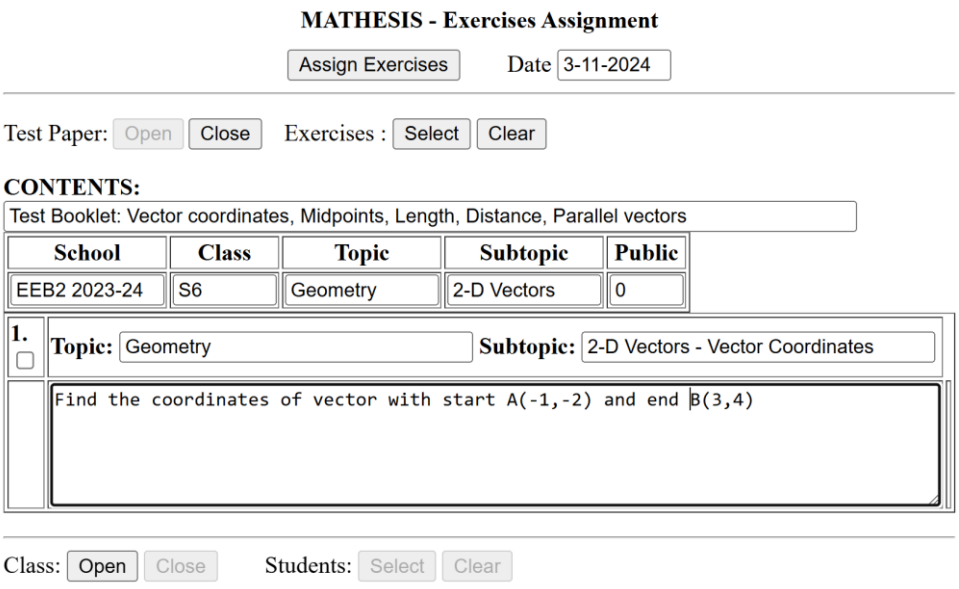
6.1 Click the *Exercises Assignment* link



6.2 Click the Test Paper: *Open* button

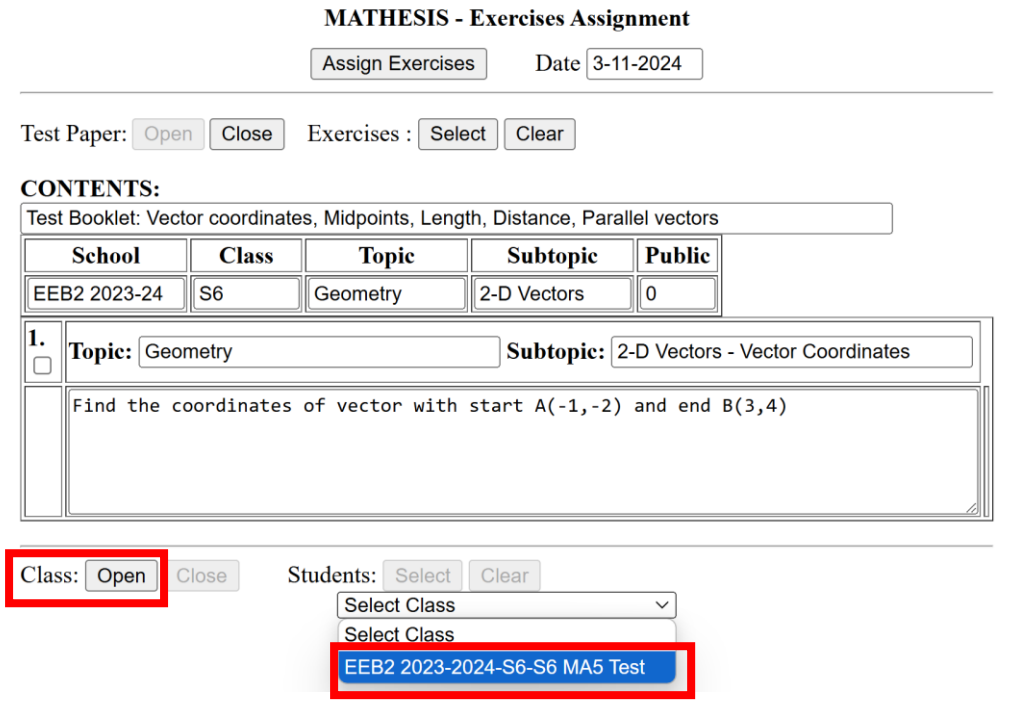
6.3 Select the Booklet you want from the drop-down list

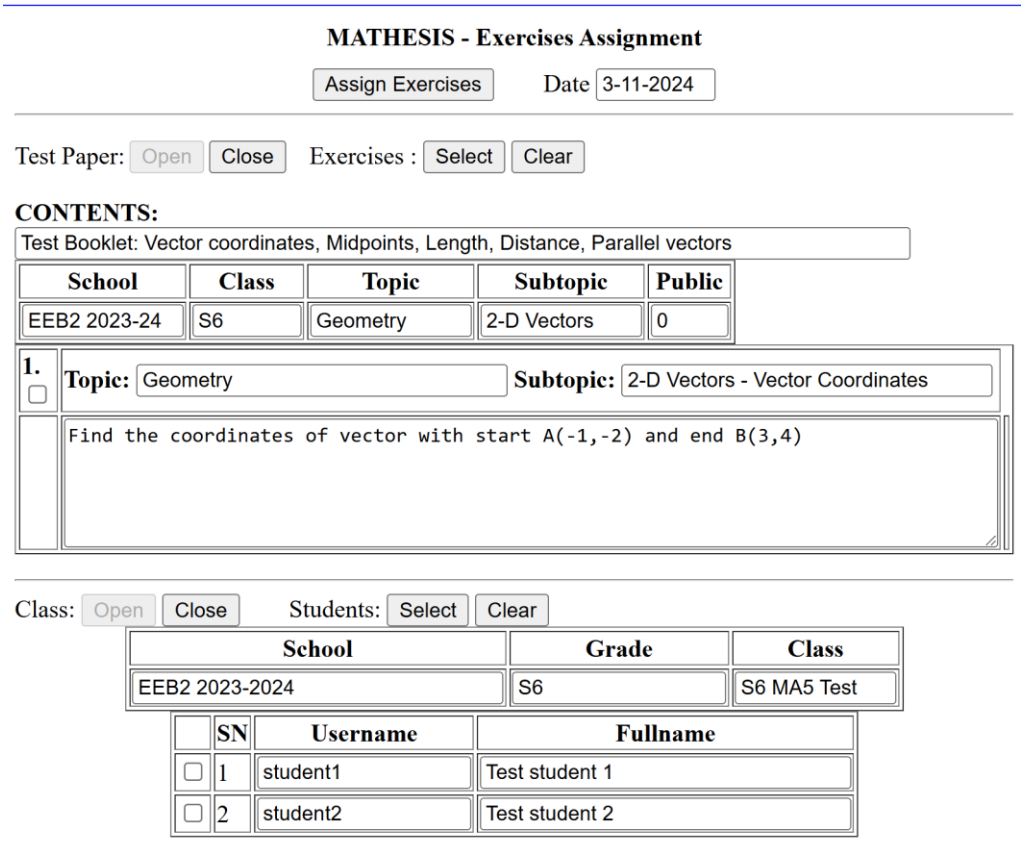




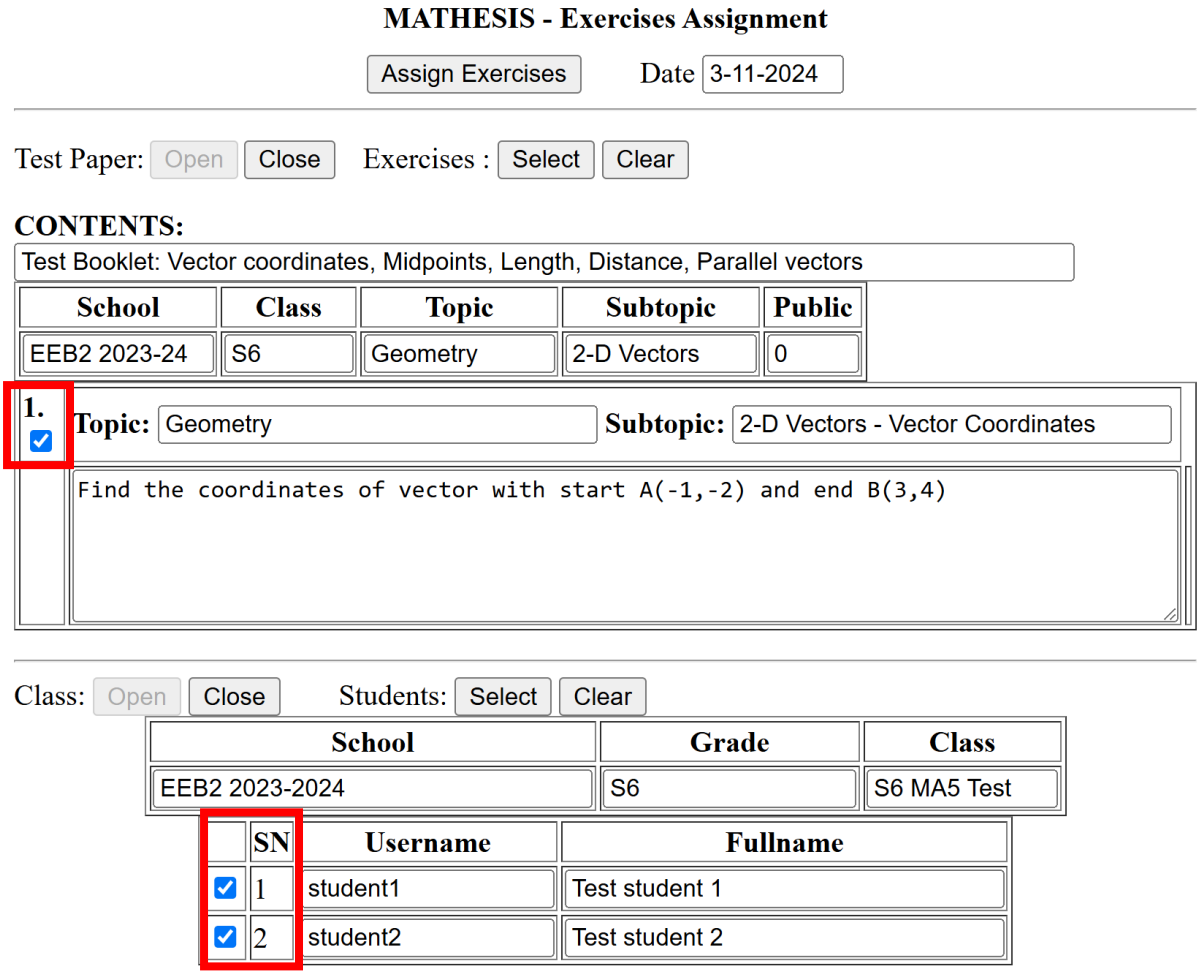
6.4 Click the Class: *Open* button

6.5 Select the Class you want from the drop-down list

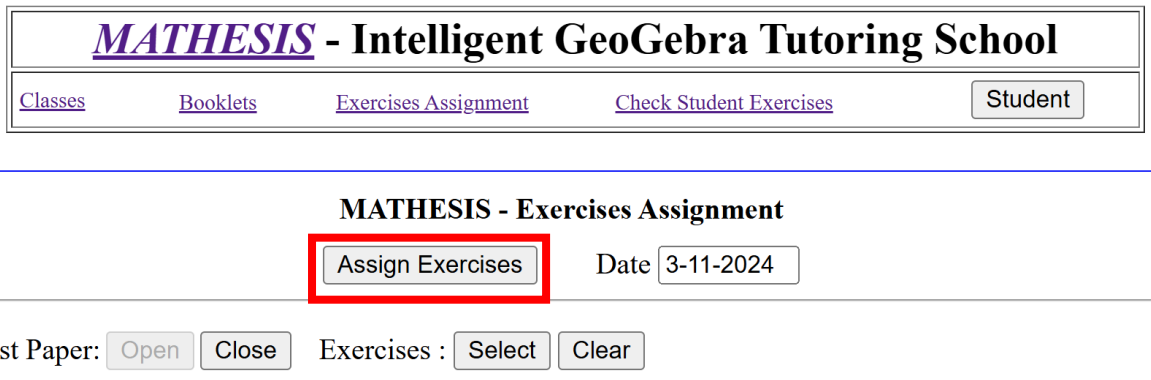




6.6 Select the exercises you want to assign and the students you want to assign them to, by ticking the boxes next to their serial numbers



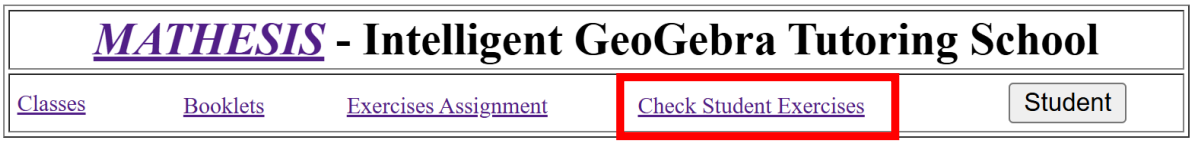
6.7 Click the *Assign Exercises* button at the top of the Test Paper



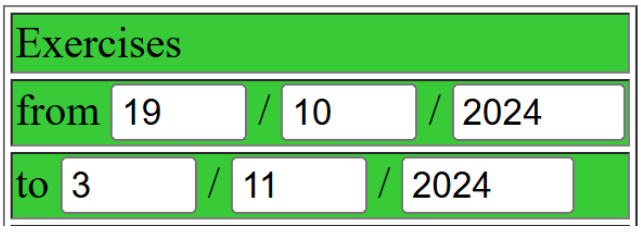
6.8 Repeat steps 6.6 and 6.7 to assign different exercises to different students. You can use the Exercises: *Select/Clear* and Students: *Select/Clear* buttons to select/deselect all Exercises/Students.

7. Assessment

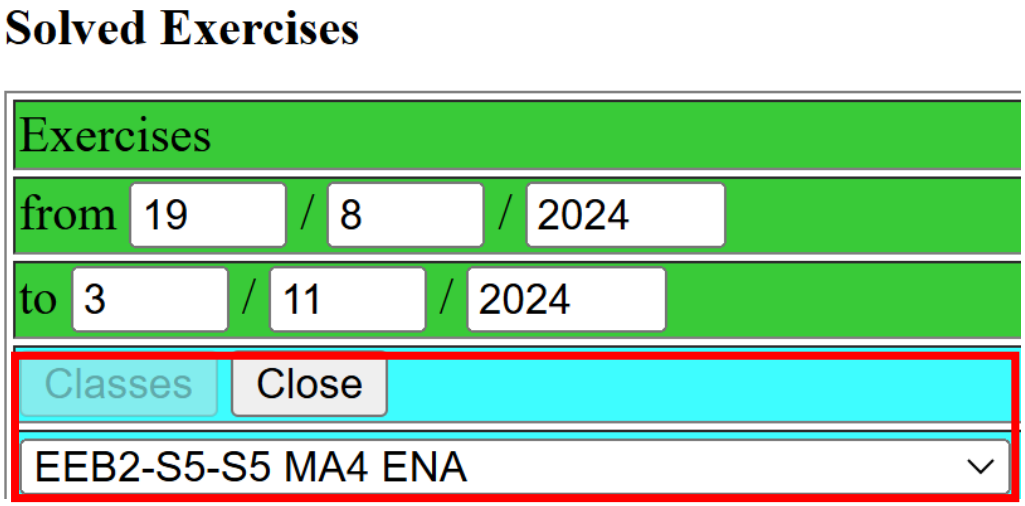
7.1 Click the *Check Student Exercises* link



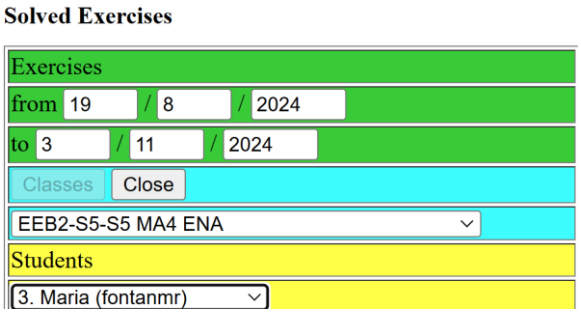
7.2 Set the *From* and *To* dates. The system by default selects the past 15 days from the current date.



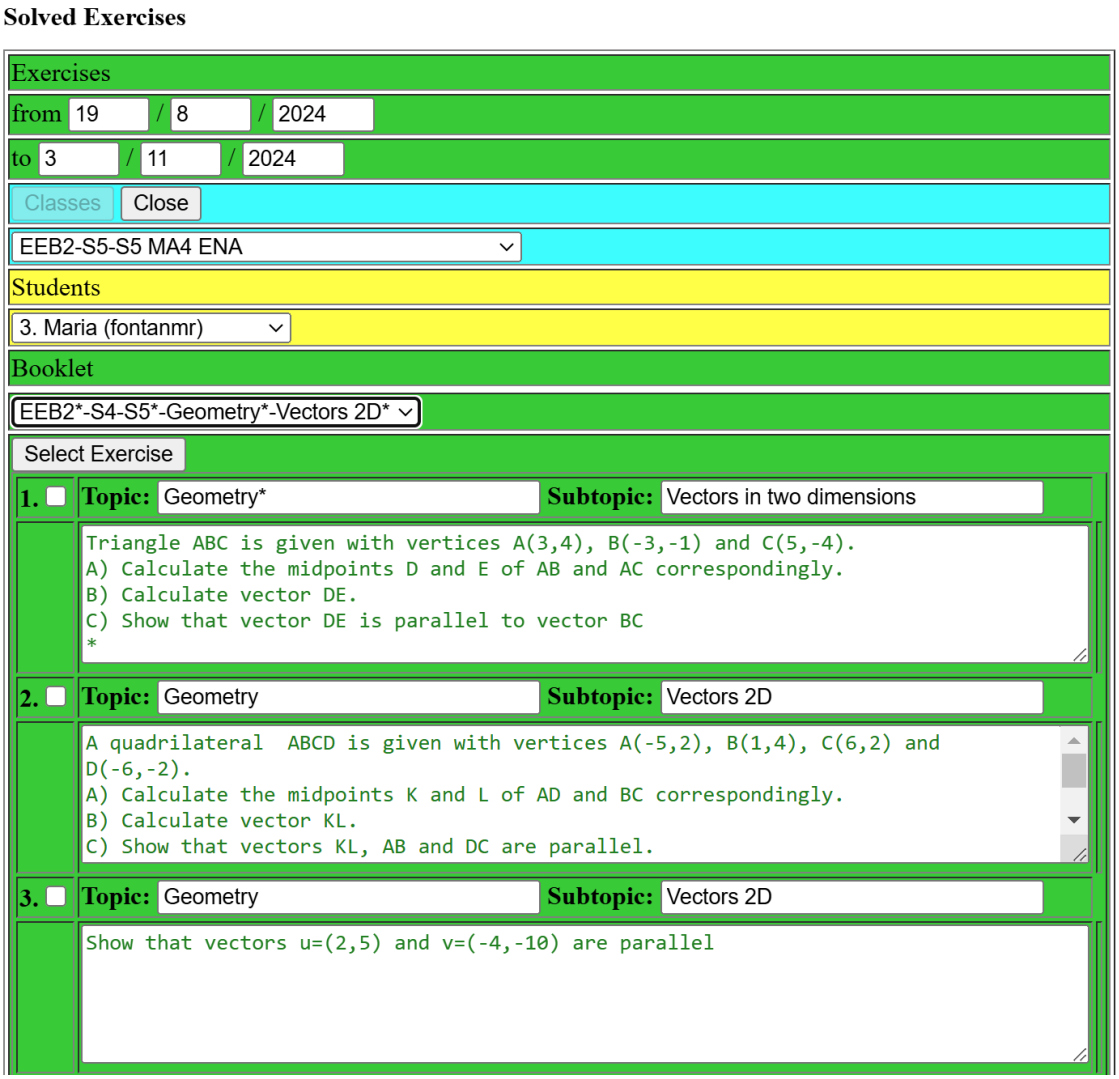
7.3 Click the *Classes* button and select the *Class* you want from the drop-down list



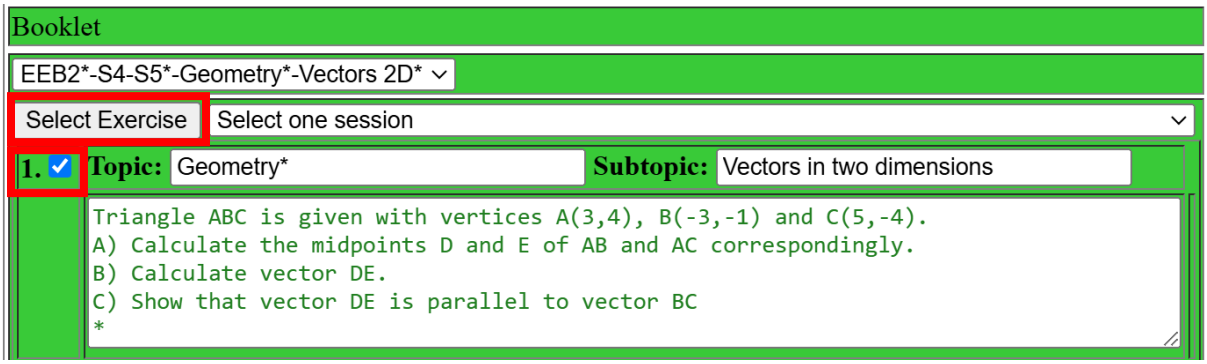
7.4 Select a Student form the drop-down list



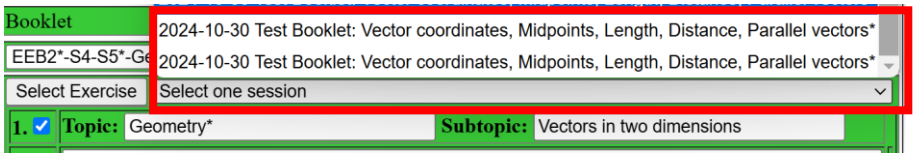
7.5 Select a Booklet from the drop-down list. The exercises assigned from the Booklet appear below. Exercises with attempted solutions appear in green text, while these with no attempted solutions, appear in red_ text.



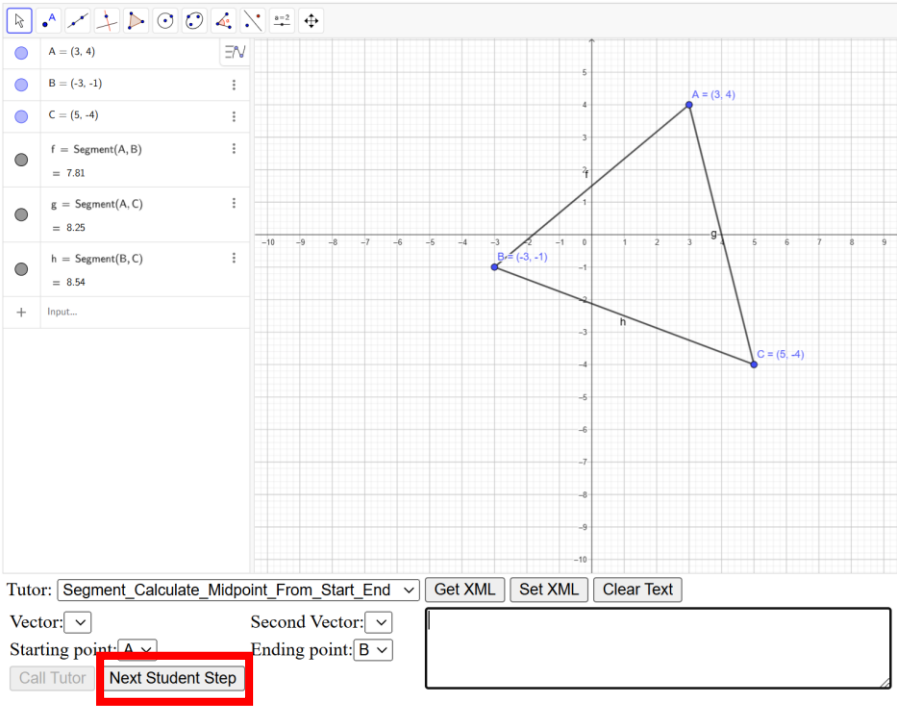
7.6 To inspect the solution steps of an exercise, tick the box next to its serial number and click the *Select Exercise* button. The construction of the exercise appears in the GeoGebra applet on the right.



7.7 Select one of the solution attempts (sessions) from the drop-down list

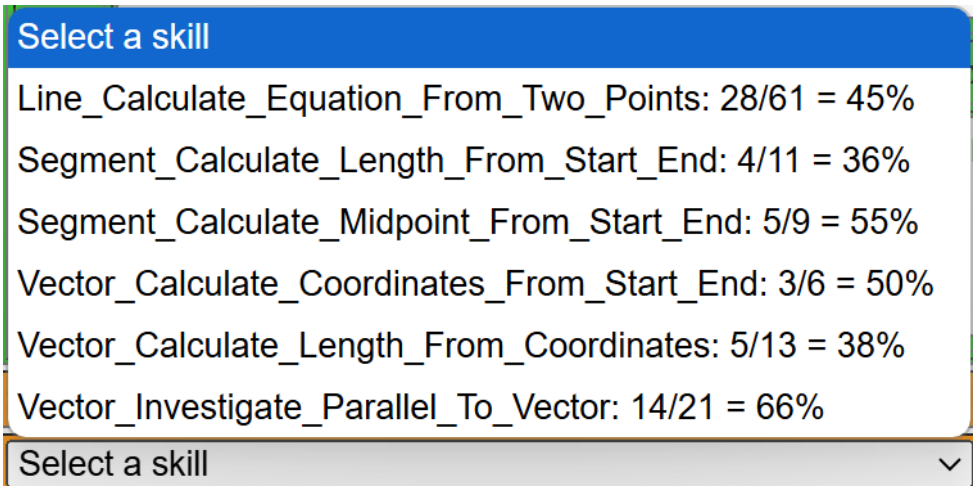


7.8 To inspect the solution steps, click repeatedly the *Next Student Step* button located below the GeoGebra applet on the right hand side of the page



8. Competence Statistics

8.1 Select a Competence (skill) from the drop-down list. Next to each competence, the ratio of successful performances over the total number of performances appear.



8.2 When you select a specific performance, a table of all the attempted performances is displayed.

Statistics

Line_Calculate_Equation_From_Two_Points: 28/61 = 45%

SN	Given	Answer	Correct	Date
45	A(3, 4), C(5, -4)	Slope a= 1	0	2024-10-27
46	A(3, 4), C(5, -4)	Slope a= (-4 - 4)/(3 - 5)=1	0	2024-10-27
47	A(3, 4), C(5, -4)	Slope a= (-4 - 4)/(5 - 3)=-4	1	2024-10-27
48	A(3, 4), C(5, -4)	Slope a= -4	1	2024-10-27
49	A(3, 4), C(5, -4),4 = -4 * 3 + b	Y-intercept b= 0	0	2024-10-27
50	A(3, 4), C(5, -4),4 = -4 * 3 + b	4 = -4 * 3 + 16	1	2024-10-27
51	A(3, 4), C(5, -4)	Slope a= -4	1	2024-10-29
52	A(3, 4), C(5, -4),4 = -4 * 3 + b	Y-intercept b= 16	1	2024-10-29
53	A(3, 4), C(5, -4)	Slope a= 4	0	2024-10-29
54	A(3, 4), C(5, -4)	Slope a= (4 - 4)/(5 - 3)=4	0	2024-10-29
55	A(3, 4), C(5, -4)	Slope a= (-4 - 4)/(5 - 3)=4	0	2024-10-29
56	A(3, 4), C(5, -4)	Slope a= (-4 - 4)/(5 - 3)= -4	1	2024-10-29
57	A(3, 4), C(5, -4),4 = -4 * 3 + b	Y-intercept b= 0	0	2024-10-29
58	A(3, 4), C(5, -4),4 = -4 * 3 + b	4 = -4 * 4 + 0	0	2024-10-29
59	A(3, 4), C(5, -4),4 = -4 * 3 + b	4 = -4 * 3 + 0	0	2024-10-29
60	A(3, 4), C(5, -4),4 = -4 * 3 + b	4 = -4 * 3 + 12	0	2024-10-29
61	A(3, 4), C(5, -4),4 = -4 * 3 + b	4 = -4 * 3 + 16	1	2024-10-29