

Title : The Implementation of 'eSCay' for Form 5 Additional Mathematics Learners in Learning Trigonometric Functions Topic

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Highlights

'eSCay' is a learning tool which designed for Form 5 Additional Mathematics learners in enhancing their basic understanding of Trigonometric Functions concept. This tool contains two basic Trigonometry concept which is 'Sin' and 'Cosine' graphs. The use of colourful and attractive materials in this tool are able to attract students to learn Additional Mathematics and enjoy answering the questions according to teacher's guidance.

Key words: *Form 5 Additional Mathematics learners, Trigonometric Functions, Sin, Cosine, basic understanding*



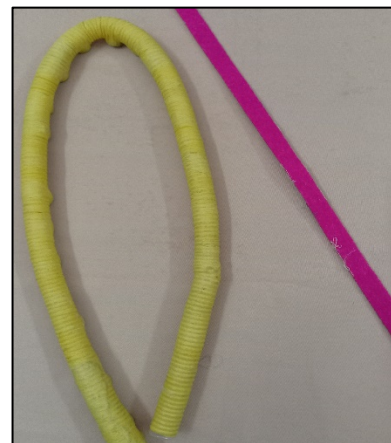
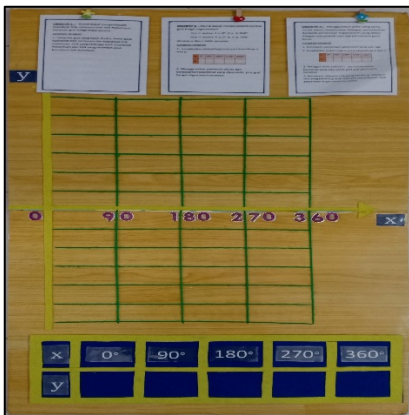
Introduction

The product 'eSCay' (Efficient Sin Cos Always Yours) is a portable learning tool which is developed to help in Additional Mathematic subject specifically Trigonometric Functions topic for Form 5 school students. Most of the students always have a perception that Additional Mathematic is a difficult subject to learn. Hence, 'eSCay' is a tool that can attract their attention to learn and understand the specified topic in easiest way. The content of this product mainly focuses on 'sin' and 'cosine' graphs. This product purely produced based on the SPM standard questions, so, students can enhance the pattern of answering the exam questions.

Besides, this learning tool also proven that it can help students in improving students' visualization and fasten the calculation. 'eSCay' is a new approach to make the learning process of solving Trigonometric Functions questions in a fun way. 'eSCay' also has flashcards that contains questions which will be demonstrated by teachers to the students. Additionally, the notes cards also provided including the guide to draw correct 'sin' and 'cosine' graphs.

Features and Contents of 'eSCay'

'eSCay' is a A1 sized magnetic graph board. The size of tools attached in this graph board (numbers, graph lines and graph ruler) used are big and clear. This will be helpful for the teachers to do the demonstration in classes with many students. It also contains mini questions and notes cards. The questions come along with the answers printed at the back of the cards. A magnetic graph ruler also provided to shape the sin and cosine graphs.



User Guide

1st step:

1. Complete the table to find the x and y coordinates.

x	0°	90°	180°	270°	360°
y					

2. Using the eSCay ruler and based on the coordinates obtained, plot the graph of the trigonometry function.

2nd step:

1. From the graph plotted, identify the minimum point coordinates and maximum point coordinates. The highest point is the maximum coordinate and the lowest point is the minimum point coordinate.

3rd step:

1. Identify another straight line equation.
2. Complete the table to find the x and y coordinates.

x	0°	90°	180°	270°	360°
y					

3. Using the straight ruler and based on the coordinates obtained, plot the straight line on the graph.
4. Identify the number of intersecting points. The number of intersecting points is the number of solutions for the trigonometric equation.

Advantages

- Specially designed according to the Form 5 Additional Mathematic Syllabus (Trigonometric Functions)
- Contains colourful notes and questions cards. Complete set of tools provided.
- Designed as a portable learning tool.
- Long lasting and quality tools included.

Importance of 'eSCay' in Education

- **Teachers:** As a new alternative to attract students in learning Trigonometric Functions topic instead of using the textbook only.
- **Students:** Helps the students to visualize the concept Sin and Cosine graphs and also make the cognitive process easier.

Commercial Value

- Can be commercialized by promoting 'eSCay' in secondary schools specifically for higher level students and Mathematics teachers.

References

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