

Visual Mathematics in Practice



Name of the teacher:	Mileva Jelić
Name and address of the school:	SSŠ „Dr Radivoj Uvalić” 23 Trg bratstva i jedinstva Street, Bačka Palanka,
Lesson theme:	Trigonometry
Place in curriculum: (type of school, grade)	Secondary Economic school, 2nd grade
Age of the students/pupils:	16 years
Lesson title:	Graph of trigonometric functions

Description of the lesson

Time	Exercises, matters, parts of the lesson	Methods and forms of student activities	Developable competencies
5 mins	<i>Repeat the previous knowledge about the trigonometric circle, sine, cosine, tan and cotan of an angle.</i>		
20 mins	<i>With the teacher's help students sketch the graph of the sine and cosine on paper, and then watch the presentation made in GeoGebra. Discussing the graphs, analysing (domain, range, period, minimum and maximum)</i>	<i>Frontal instruction, Individual work, Group discussion</i>	<i>Image creating skills, Looking for connections, Problem presentation, Problem solving, Generalization, Recognizing relations</i>
20 mins	<i>Students look at the presentation in GeoGebra how to draw the function $f(x) = 2\sin x$ and sketch the same on their papers. After that students sketch the function $f(x) = -\frac{3}{4}\sin x$, $f(x) = -3\cos x$, $f(x) = \frac{2}{3}\cos x$, $f(x) = 2 - \sin x$, $f(x) = \cos x + 3$ Checking the results using GeoGebra. Discussing the graphs.</i>	<i>Individual work, Group discussion</i>	

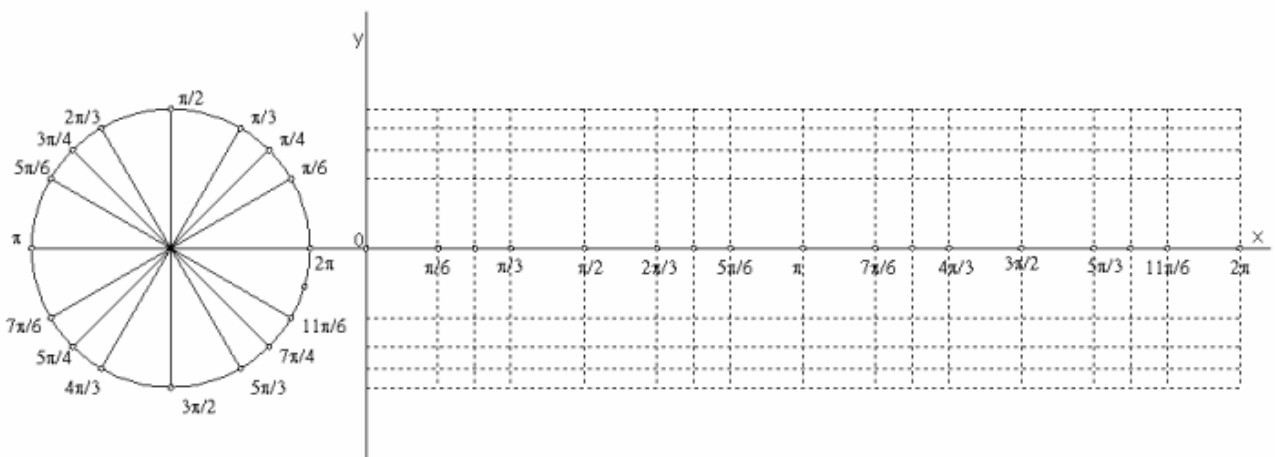
Summary

Pupils quickly and easily master the technique of sketching the basic functions.

Supplements

Used materials:	<i>Inspiration came from Mathematical Modeling with Geogebra workshop by Đurđica Takači and from a presentation by Vesna Babović on Teacher's Day</i>
Photos:	<i>If you have made photos about the lesson or the products of the lesson, please add some (also you can send it in another file, and just mention the name of the file here)</i>

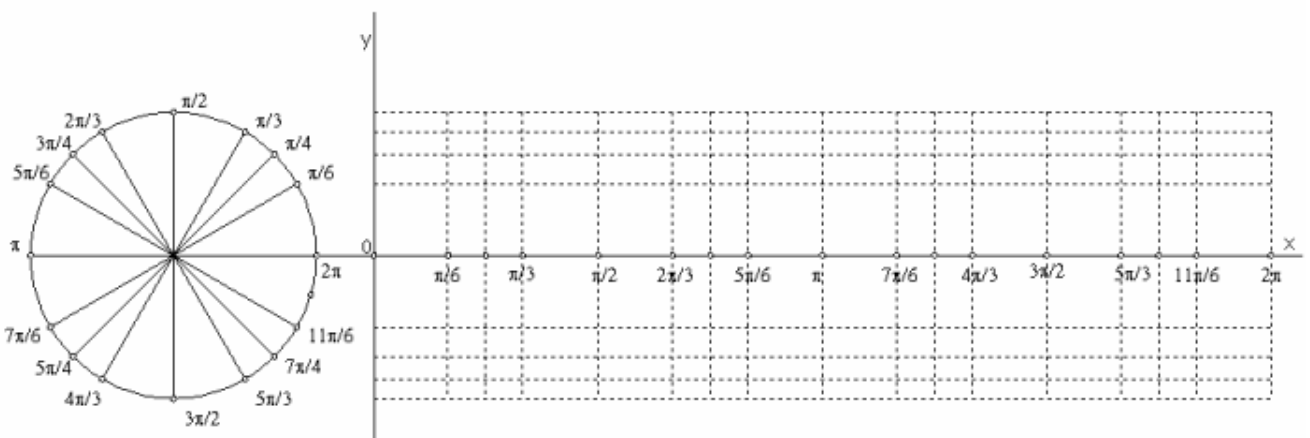
Sinusoida - $f(x) = \sin x$



Domen/Domain: _____ Kodomen/Range: _____ Period/Period: _____

Nule funkcije/Intersection x: _____ Minimum: _____ Maksimum: _____

Kosinusoida - $f(x) = \cos x$



Domen/Domain: _____ Kodomen/Range: _____ Period/Period: _____

Nule funkcije/Intersection x: _____ Minimum: _____ Maksimum: _____

