



**JKU**

JOHANNES KEPLER  
UNIVERSITÄT LINZ

# GeoGebra

## News & Future

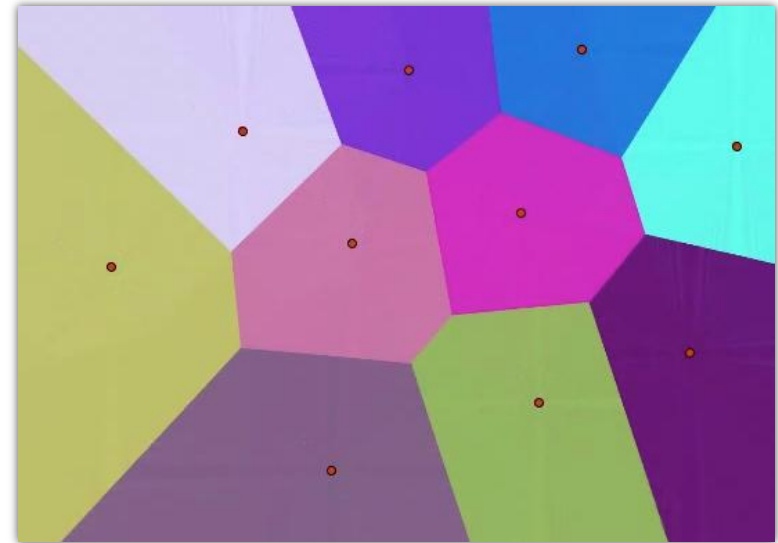
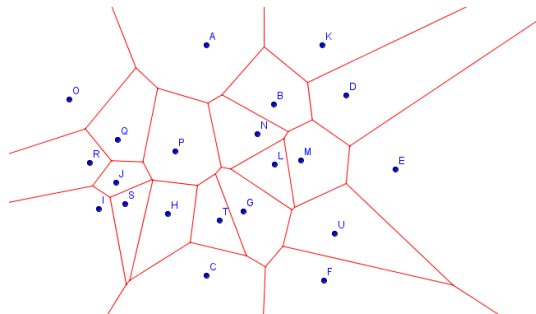
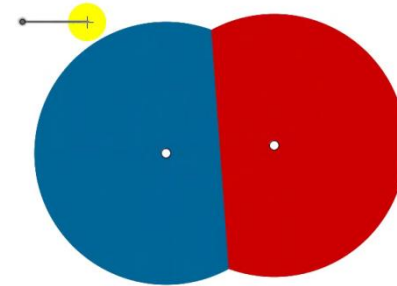
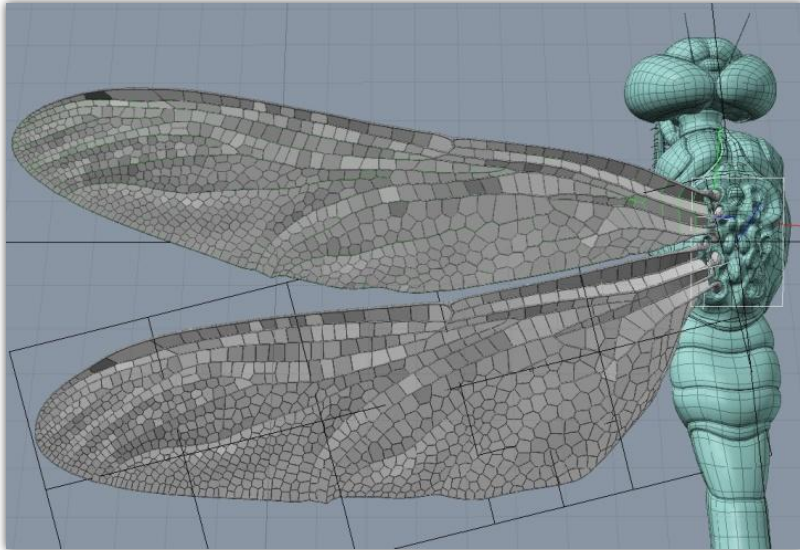
Markus Hohenwarter  
Mathematics Education, JKU Linz  
[www.geogebra.org](http://www.geogebra.org)



# New in **GeoGebra 4**



# Dragon Flies & Mathematics





# GeoGebra's Spreadsheet

GeoGebra - spreadsheetCardHands.ggb

File Edit View Options Tools Window Help

Spreadsheet View

Deal

Show

2 of Clubs, Jack of Diamonds, 5 of Hearts, Jack of Clubs

Show

Four red patterned cards

Input

One Variable Statistics

Statistics

N	38
Mean	2007.18
Sigma	1124.7
s	1139.8
Min	419
Q1	1067
Median	1954
Q3	2828
Max	5711

Histogram classes: 6

Show Data  Show Plot2

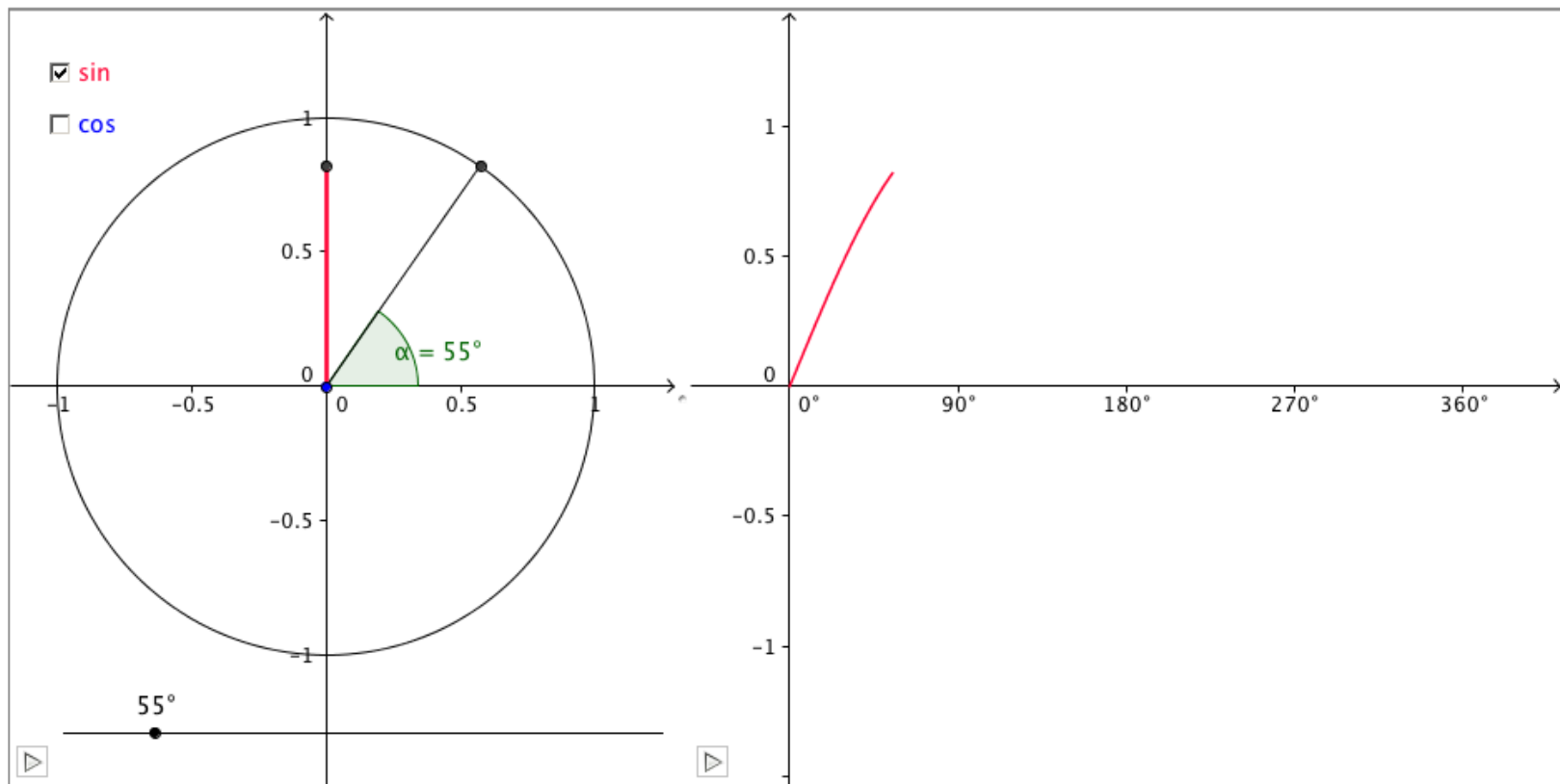
Close

George Sturr



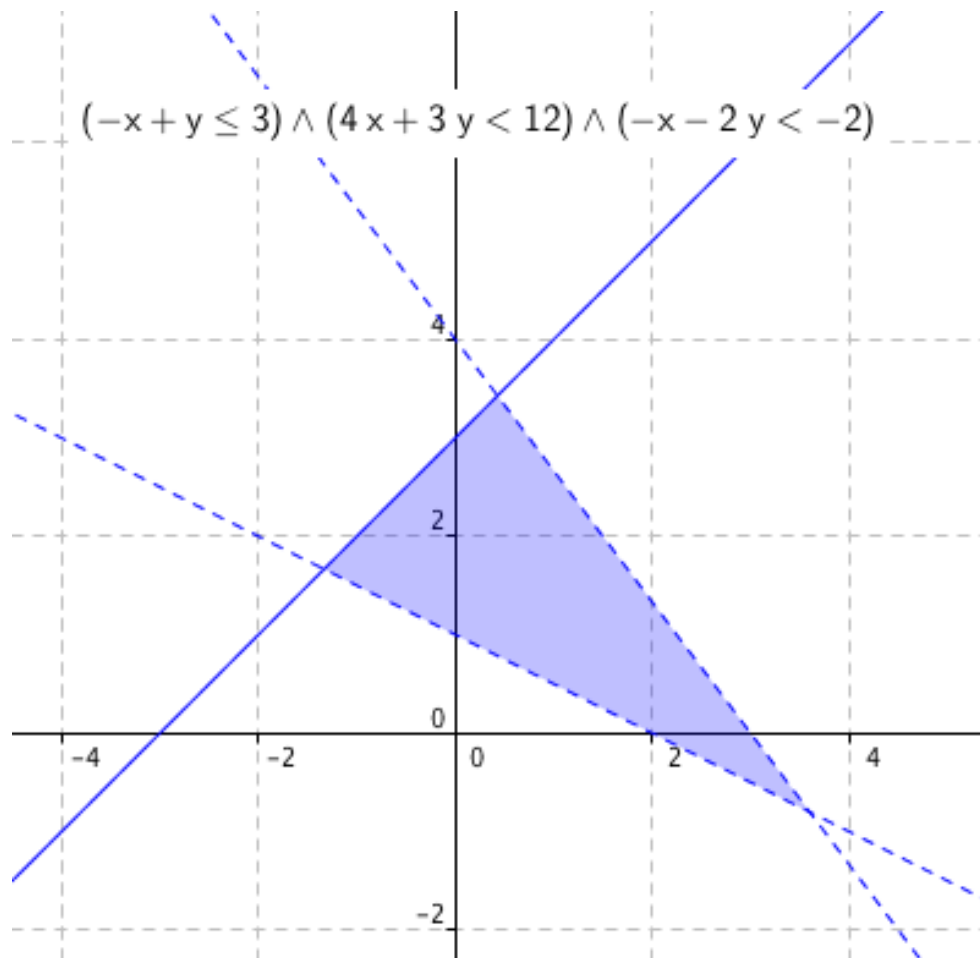
# Two Graphics Views

## Sin & Cos



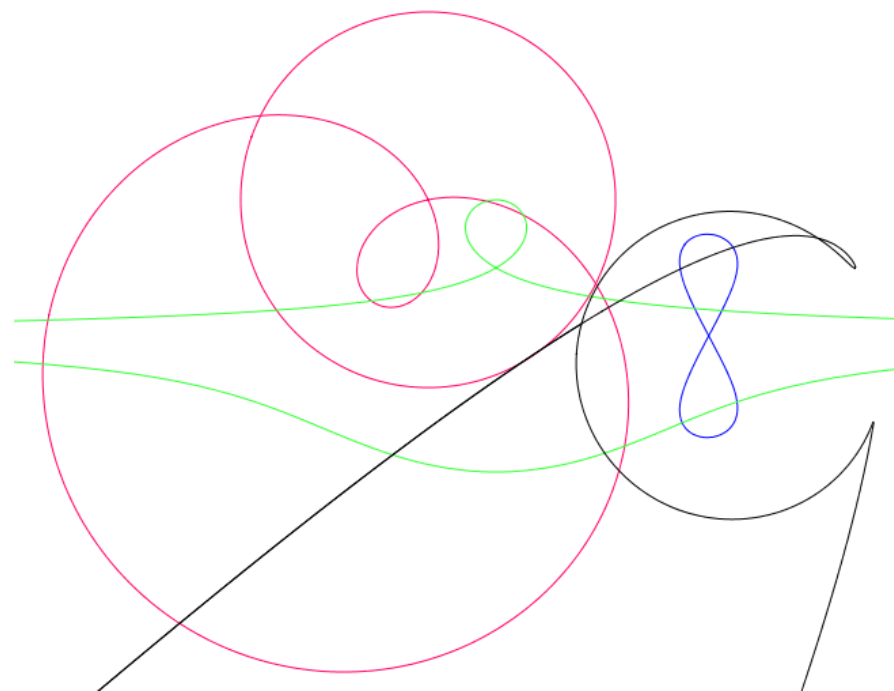
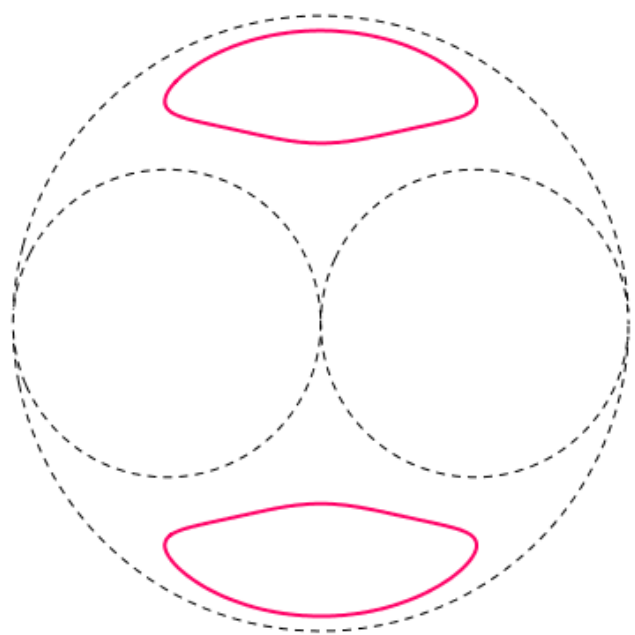


# Inequalities



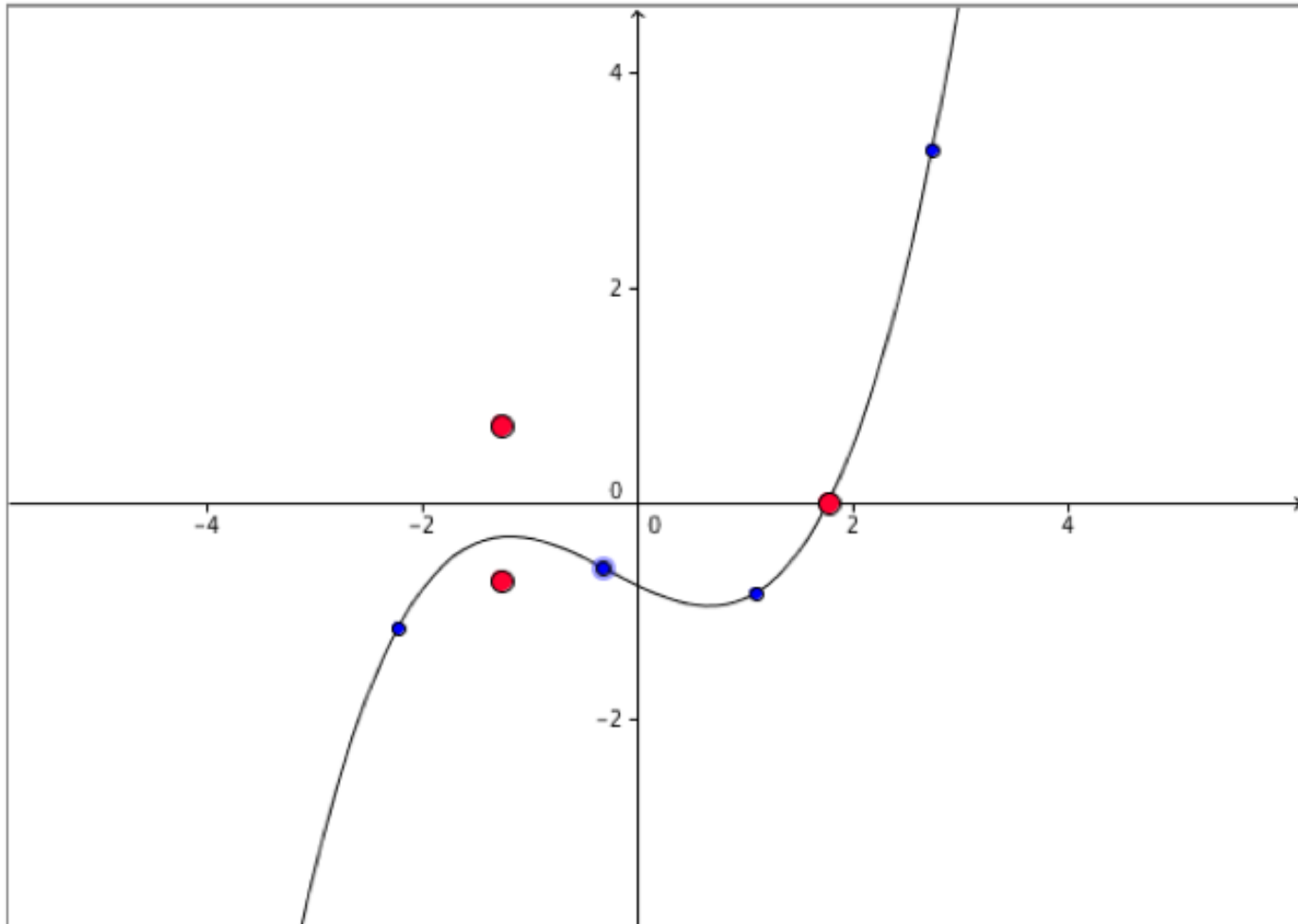


# Implicit Curves: $f(x,y) = 0$





# Complex Roots

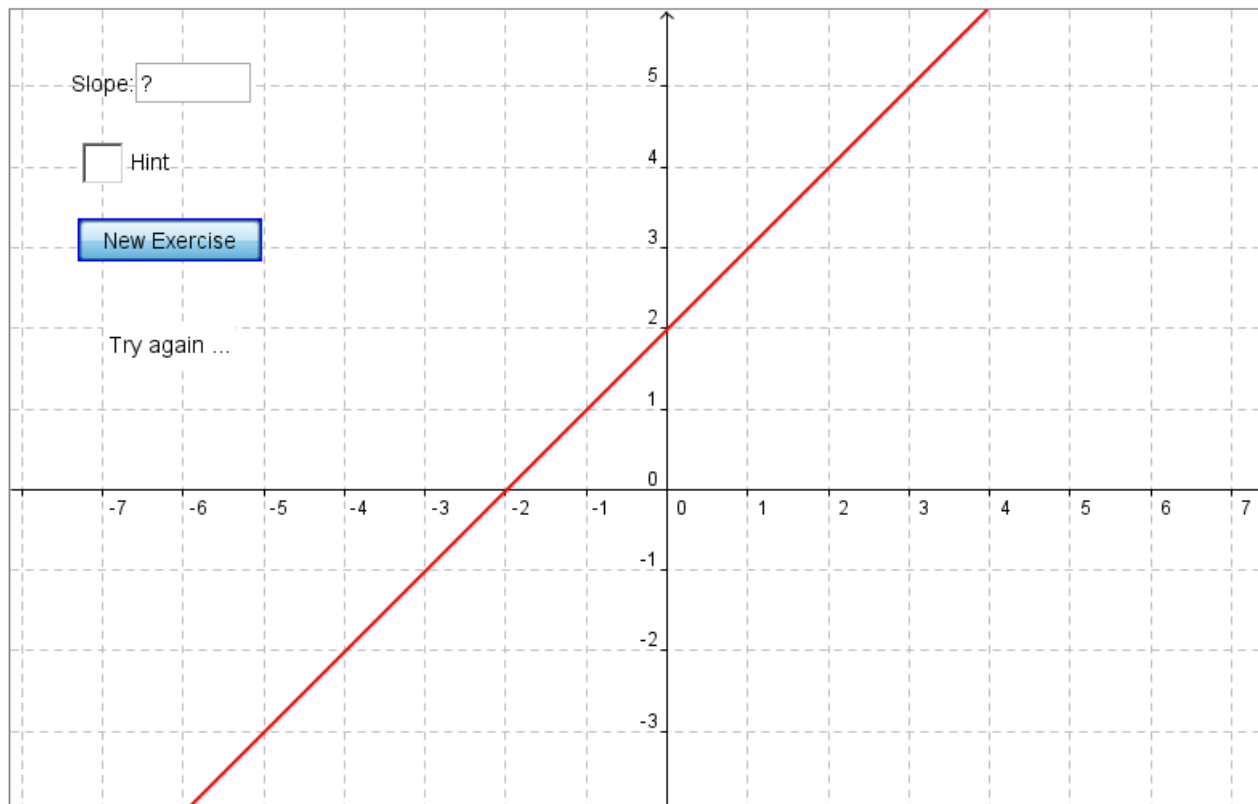






# Randomized Exercises

What's the Slope of this Line?





# Past: GeoGebraWiki

The screenshot displays the GeoGebraWiki interface. On the left is the navigation sidebar with links for Main Page, English, French, Recent changes, and Help. The main content area shows the 'Main Page' with a welcome message and language options. Overlaid on this is a 'Mirror Experiment' dynamic worksheet. The worksheet features a diagram of a person standing next to a vertical mirror. A red ray originates from the person's eye, reflects off the mirror, and reaches the person's feet. The angle of incidence is labeled as  $\alpha = 52.86^\circ$ . Two other angles of  $42.7^\circ$  are shown at the mirror's surface. A legend on the left of the diagram lists various ray types: Foot Ray, In and Out Angles, Head Ray, Virtual Ray, Virtual Image, Image on Mirror, and Vertical + Horizontal. To the right of the diagram is a spreadsheet with numerical data:

	A	B	C	D
		0.43	0.288	
		0.288	0.621	
		0.621	0.525	
		0.525	0.245	
		0.245	0.385	
		0.385	0.817	
		0.817	0.342	
		0.342	0.497	
		0.497	0.924	
		0.924	0.164	
		0.164	0.462	
		0.462	0.16	
		0.16	0.338	
		0.338	0.475	

Below the spreadsheet is a coordinate plane with a red parabola opening downwards. The equation  $y =$  is shown in a text box, and a 'Check' button is present. The bottom of the screenshot shows the 'Done' status and the 'zoZero' logo.

*15,000 Learning Objects in 50 Languages*



Now: [www.GeoGebraTube.org](http://www.GeoGebraTube.org)

English (UK) [Advanced language settings](#)

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YOU ARE HERE: [GeoGebraTube](#) - Area of a Circle - Wedge Demo 1 Welcome visitor!  
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## Area of a Circle - Wedge Demo 1

Shared by LFS — August 11th, 2011 - 18:21

This is a visual demonstration of the sector-proof of the formula for the area of circle.



Rating: ★★★★★

Material Type:	<a href="#">Worksheet</a>	Language:	English (UK)
Tags:	<a href="#">circle</a> <a href="#">area</a> <a href="#">sector</a> <a href="#">proof</a> <a href="#">wedge</a>	GeoGebra version:	4.0
Target group (age):	11-14	Views:	339

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- Sharing Platform
- Direct Upload from GeoGebra 4
- Rate
- Comment
- Embed

*Florian Sonner, Arpad Fekete, Judit Elias*



# Future Current Projects



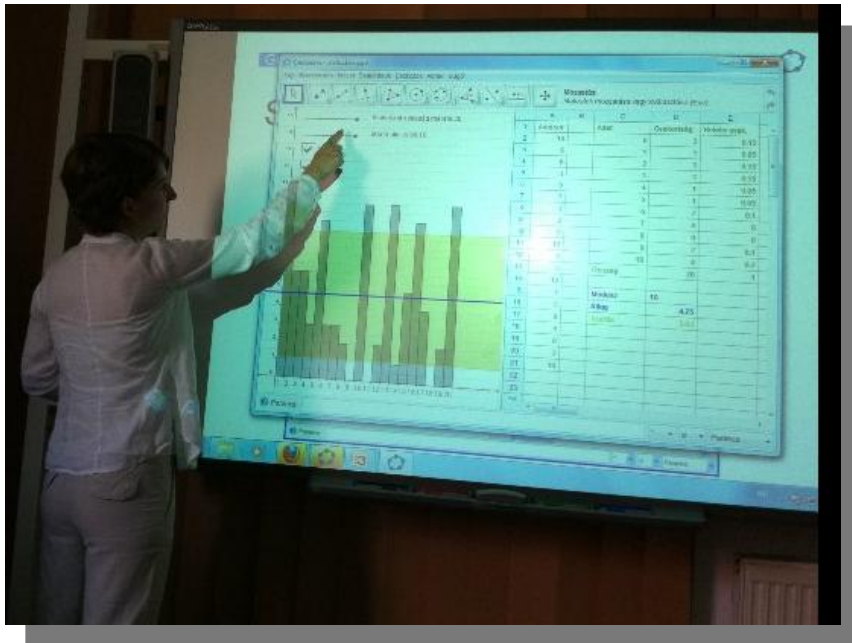
# GeoGebra Student Projects

- Google Summer of Code
- 2010: 5 Students
- 2011: 13 Students





# GeoGebra & Interactive Whiteboards

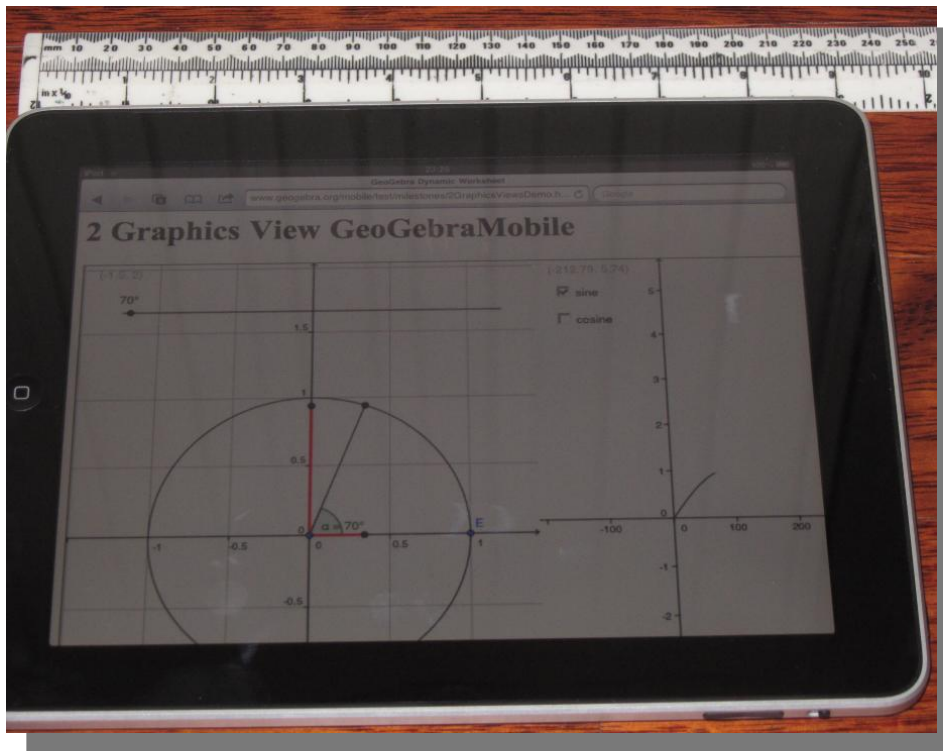


- Adapt GeoGebra for IWBs and Tablet Computers
- Cooperation with Smart Technologies

*Michael Borchers, Corinna Kröhn*



# GeoGebraWeb & Mobile



- GeoGebra Applets for Smartphones
- iPhone, iPad, Android, etc.
- Goal: complete Webapplication

*Gabor Ancsin, Zoltan Kovacs, Julian Lettner*



# GeoGebra 4.2 with CAS View

- Fully integrated symbolic View
- Dynamic Dependencies
- Easy to Use for Students from Age 13

*Simon Weitzhofer, Thomas Unterthiner*

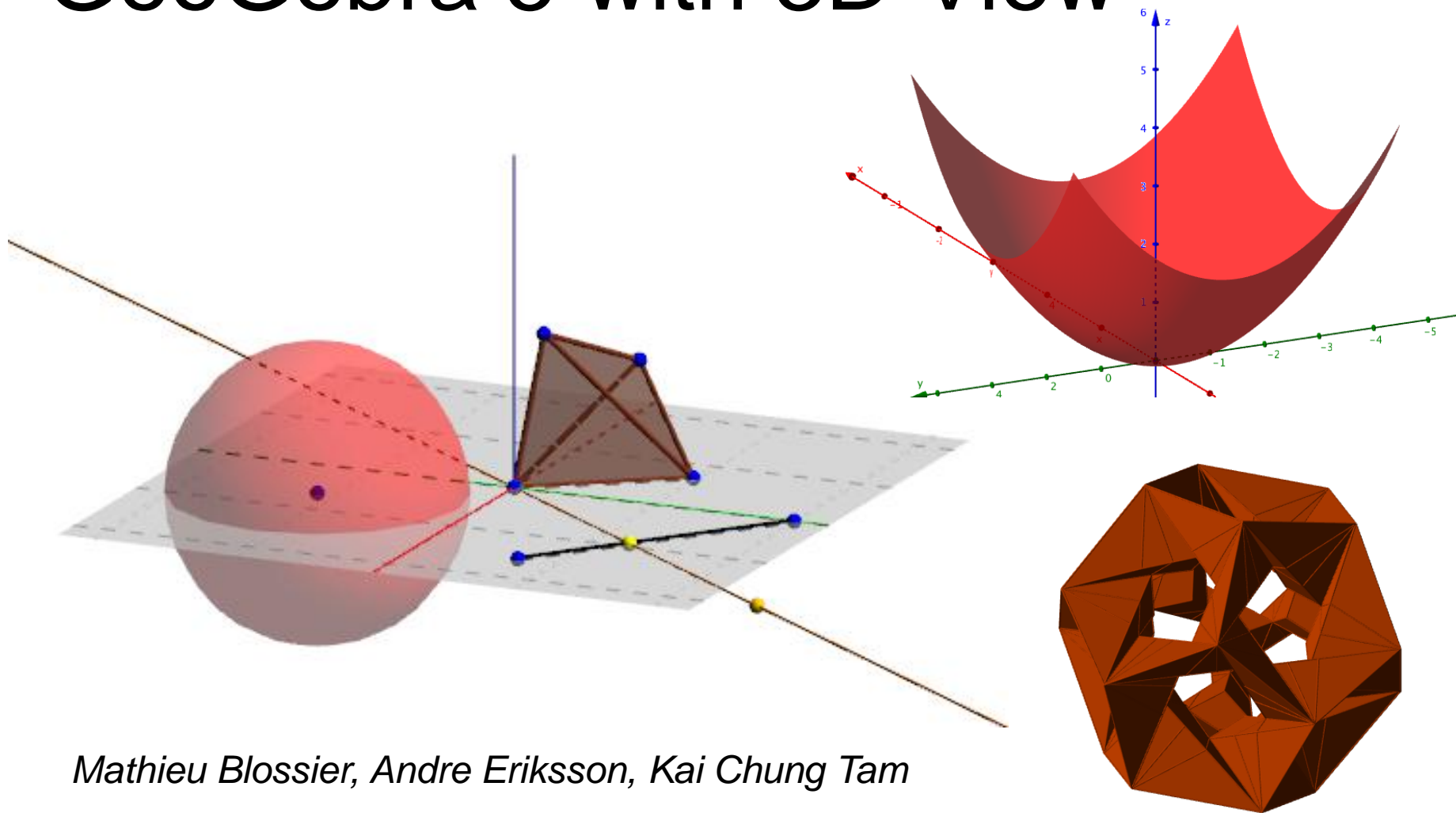
The screenshot shows the CAS (Computer Algebra System) view in GeoGebra. It displays a sequence of steps for solving a system of linear equations:

1.  $g: 2x + y = 5$   
 $\rightarrow 2x + y = 5$
2.  $h: x - 3y = 4$   
 $\rightarrow x - 3y = 4$
3.  $g - 2h$   
 $\rightarrow 7y = -3$
4.  $(7y = -3) / 7$   
 $\rightarrow y = \frac{-3}{7}$
5.  $\text{Substitute}[g, y = -3/7]$   
 $\rightarrow \frac{14x - 3}{7} = 5$
6.  $(14x - 3) / 7 = 5$   
 $\text{Solve, x: } \{x = \frac{19}{7}\}$





# GeoGebra 5 with 3D View



*Mathieu Blossier, Andre Eriksson, Kai Chung Tam*



# Thank You!

Markus Hohenwarter

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GeoGebra Software & Materials

<http://www.geogebra.org>

Presentation Slides

<http://www.geogebra.org/talks>