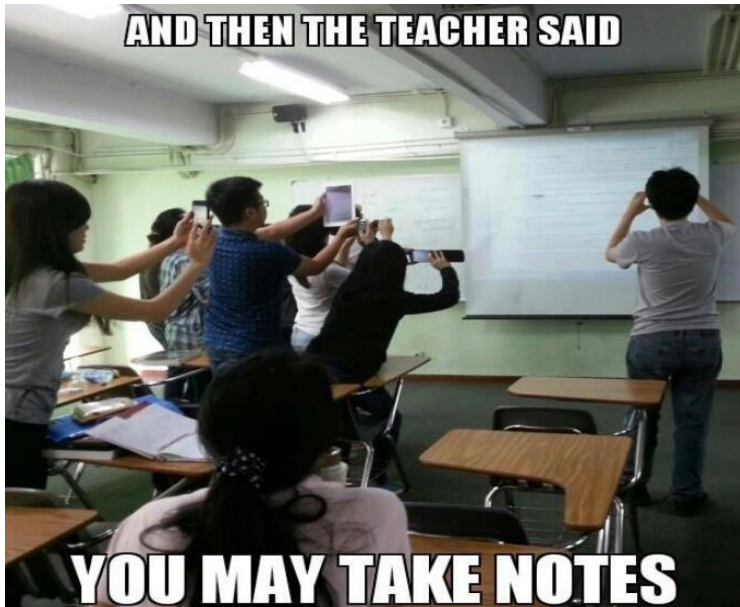




# ***ICT Tools in Mathematical Projects***

*Warsaw 08 - 11.10.2015*

**AND THEN THE TEACHER SAID**



**YOU MAY TAKE NOTES**





What is GeoGebra?

Why Geogebra ?

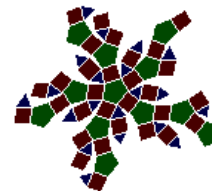
Introduction to GeoGebra – interface, tools

GeoGebra worksheets – examples

Creating own GeoGebra worksheets



Tess.exe



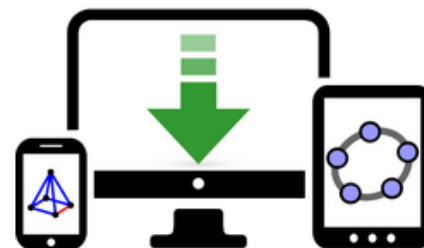
Dynamic mathematics for learning and teaching



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# GEOGEBRA

IS A MULTI-PLATFORM MATHEMATICS SOFTWARE THAT  
GIVES EVERYONE THE CHANCE TO EXPERIENCE THE  
**EXTRAORDINARY INSIGHTS THAT**  
**MATH MAKES POSSIBLE**

# What is GeoGebra?

GeoGebra is dynamic mathematics software for all levels of education that brings together geometry, algebra, spreadsheets, graphing, statistics and calculus in one easy-to-use package. GeoGebra has become the leading provider of dynamic mathematics software, supporting science, technology, engineering and mathematics education and innovations in teaching and learning worldwide.



**TEACHERS LOVE IT BECAUSE...**



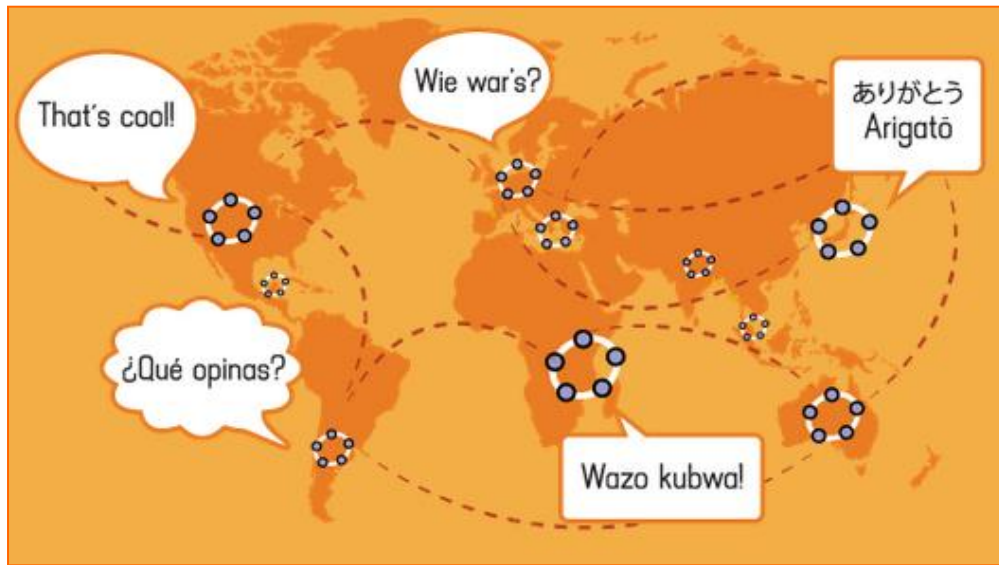
**IT ALLOWS TEACHERS TO  
CONTINUE TEACHING**

**GEOGEBRA DOESN'T REPLACE TEACHERS. IT  
HELPS TEACHERS DO WHAT THEY DO BEST -  
TEACH**



IT ALLOWS TEACHERS  
TO PLAN AND DELIVER  
BETTER LESSONS

**GEOGEBRA GIVES TEACHERS THE  
FREEDOM TO BE THEMSELVES,  
CREATING LESSONS THEY KNOW THEIR  
STUDENTS WILL FIND INTERESTING**



IT ALLOWS TEACHERS TO CONNECT  
WITH OTHER TEACHERS

**GEOGEBRA TEACHERS ARE PART  
OF A GLOBAL MATH COMMUNITY**

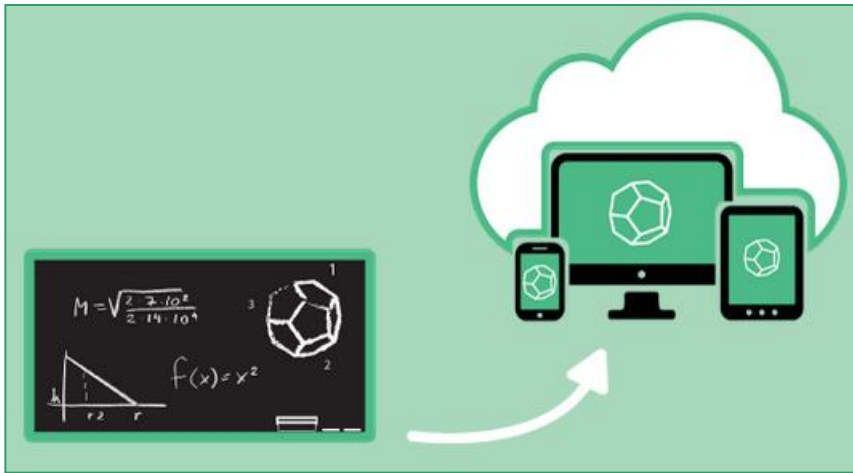


# STUDENTS LOVE IT BECAUSE...



IT MAKES MATH TANGIBLE

**GEOGEBRA MAKES A LINK BETWEEN GEOMETRY AND ALGEBRA IN AN ENTIRELY NEW, VISUAL WAY - STUDENTS CAN FINALLY SEE, TOUCH, AND EXPERIENCE MATH**



IT MAKES MATH DYNAMIC,  
INTERACTIVE AND FUN

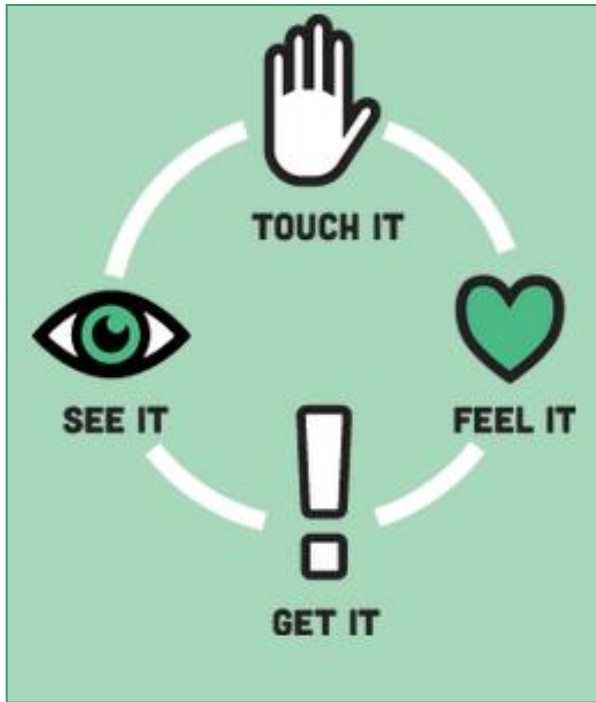
**GEOGEBRA TEACHES STUDENTS  
MATH IN A NEW AND EXCITING WAY  
THAT GOES BEYOND THE  
BLACKBOARD AND LEVERAGES  
NEW MEDIA**



IT MAKES MATH  
ACCESSIBLE AND  
AVAILABLE



**GEOGEBRA ALLOWS STUDENTS TO CONNECT  
WITH MATH ANYWHERE AND AT ANY TIME – IN  
SCHOOL, AT HOME, ON-THE-GO**



IT MAKES MATH  
EASIER TO LEARN

**GEOGEBRA CREATES THE INTERACTIONS THAT  
STUDENTS NEED IN ORDER TO “ABSORB”  
MATHEMATICAL CONCEPTS**

# SCHOOLS LOVE IT BECAUSE...

STUDENTS WHO  
USE GEOGEBRA

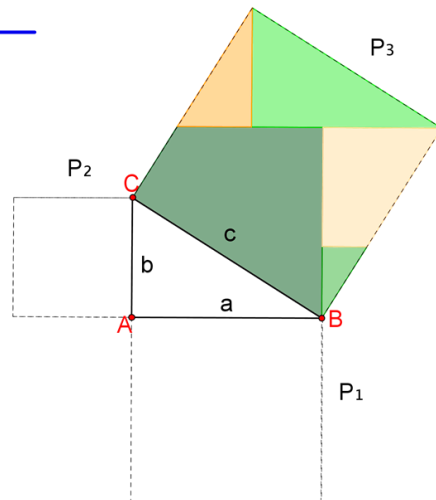
=

STUDENTS WHO  
ARE MORE  
MOTIVATED

=

STUDENTS WHO  
GET BETTER  
RESULTS

$$n = -0.5$$



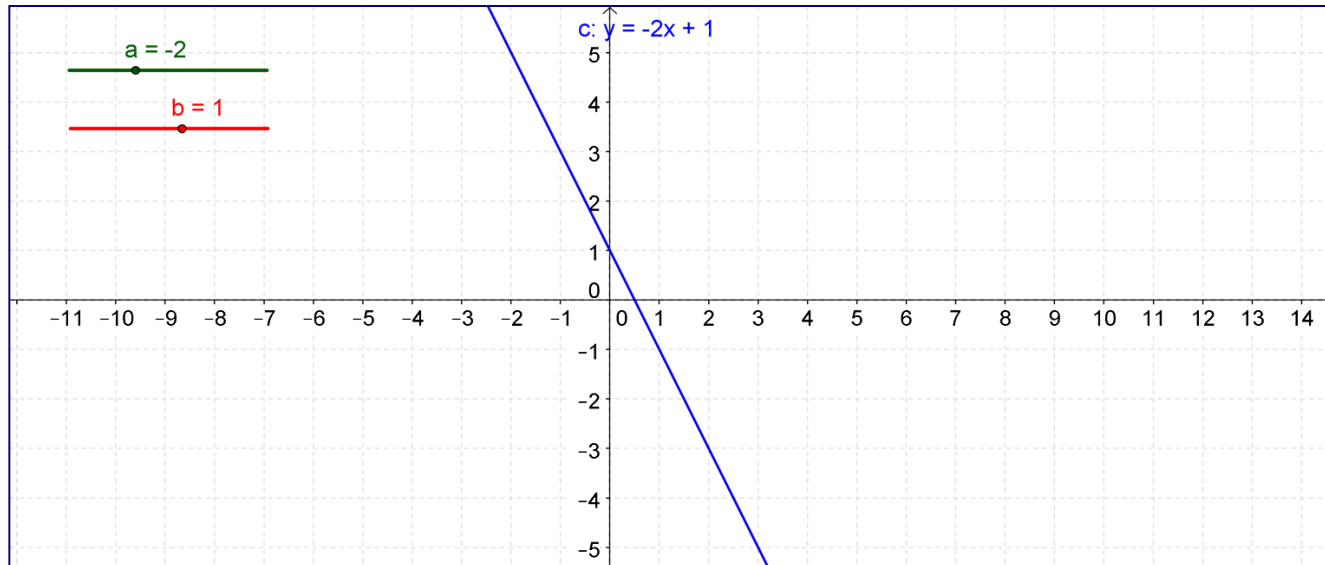
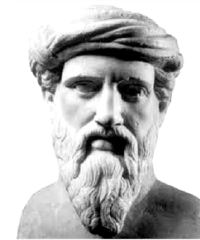
$$a^2 + b^2 = c^2$$

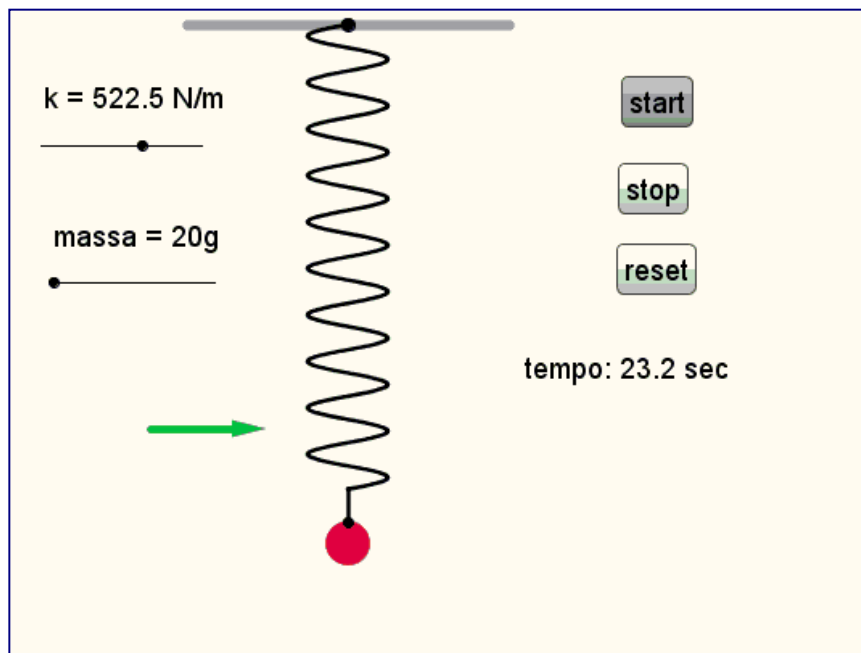
$$P_1 = a^2$$

$$P_2 = b^2$$

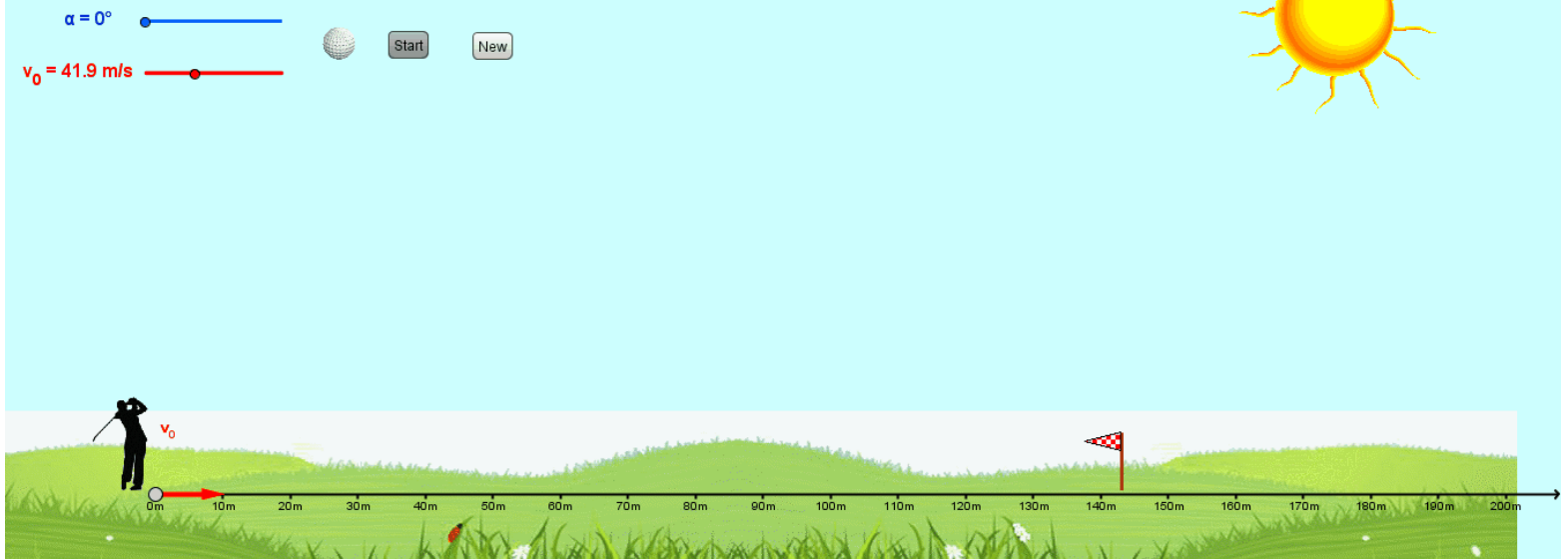
$$P_3 = c^2$$

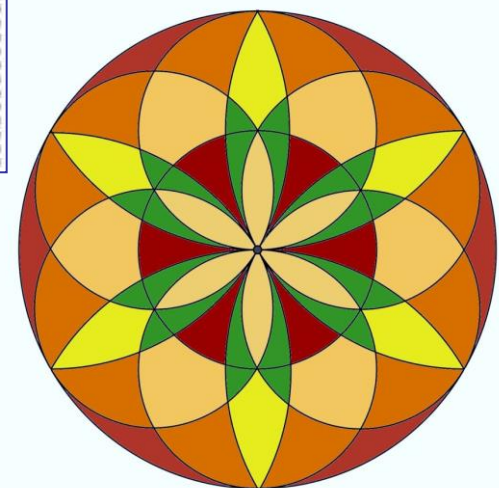
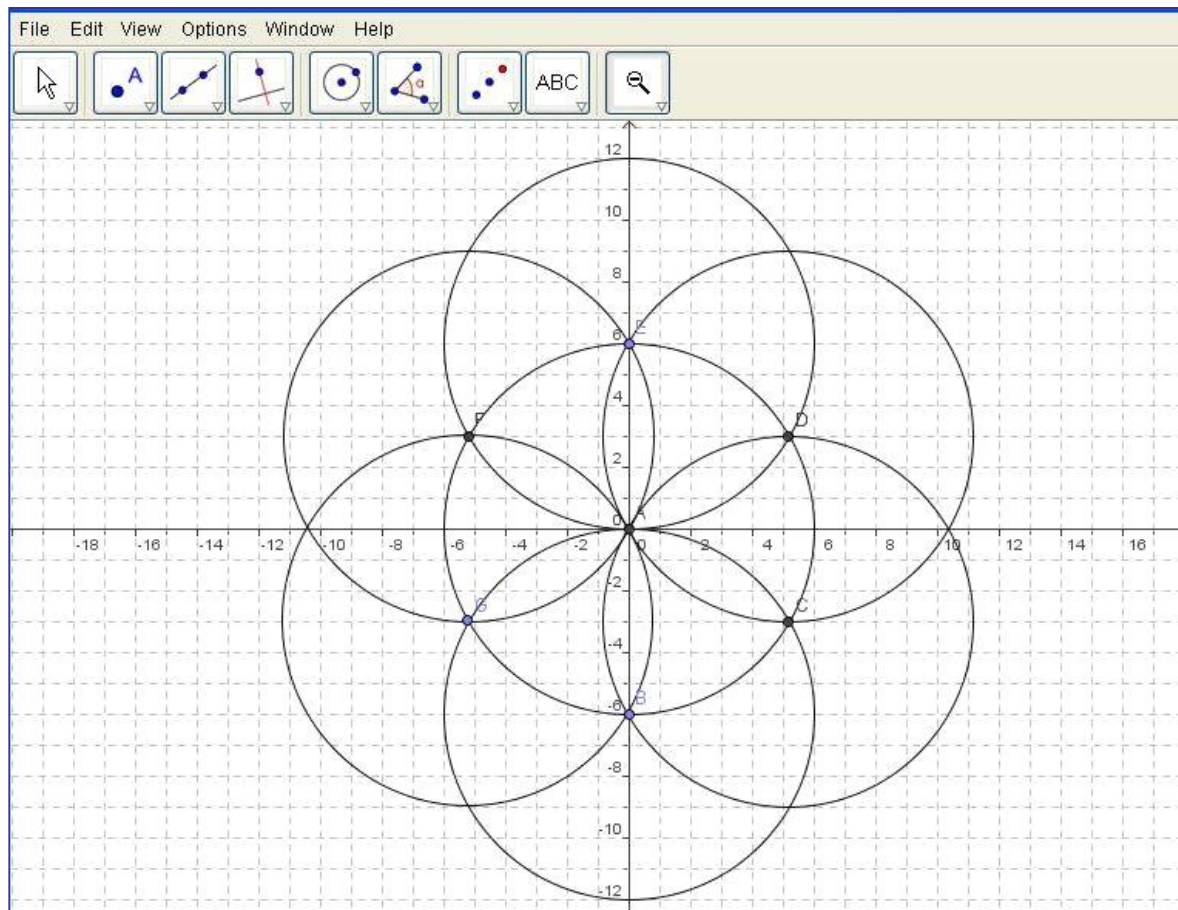
$$P_1 + P_2 = P_3$$





Adjust shooting parameters (initial speed, angle, etc. ..)







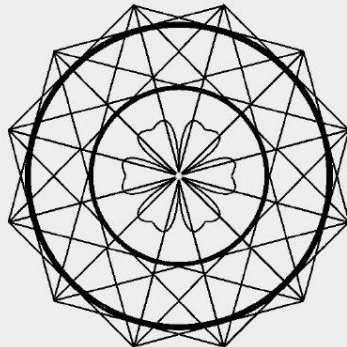
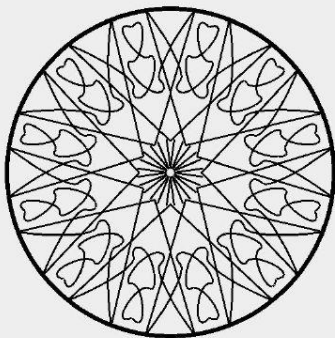
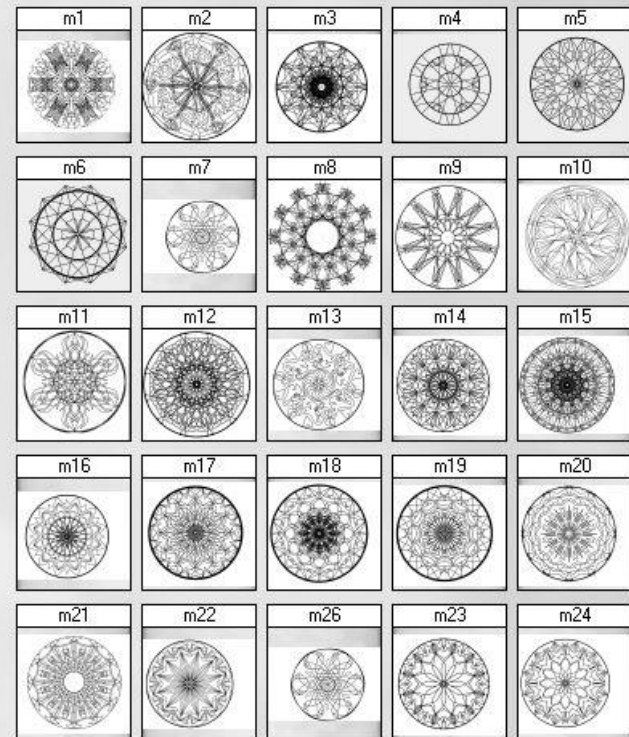
# MANDALAS

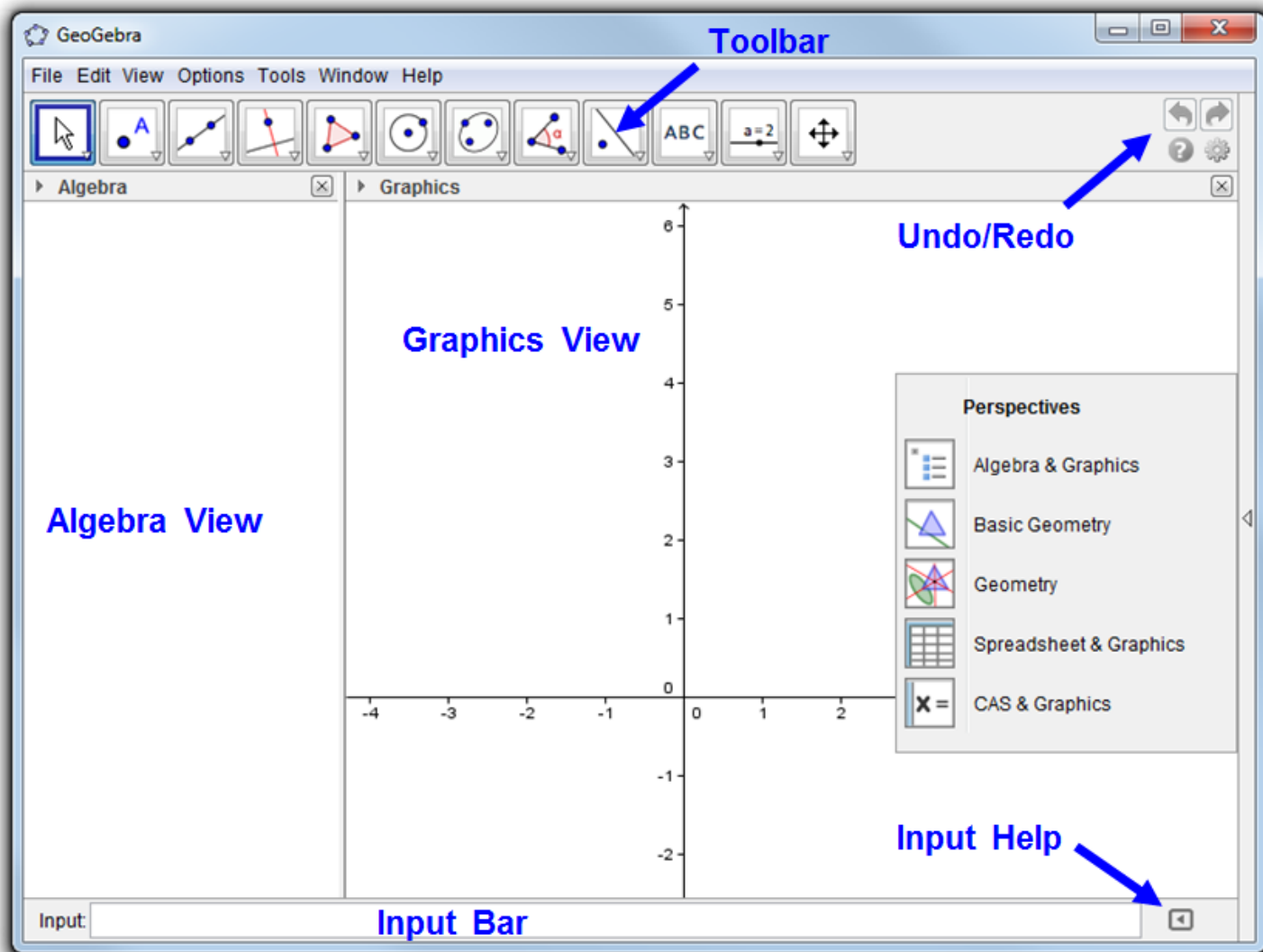
## part I

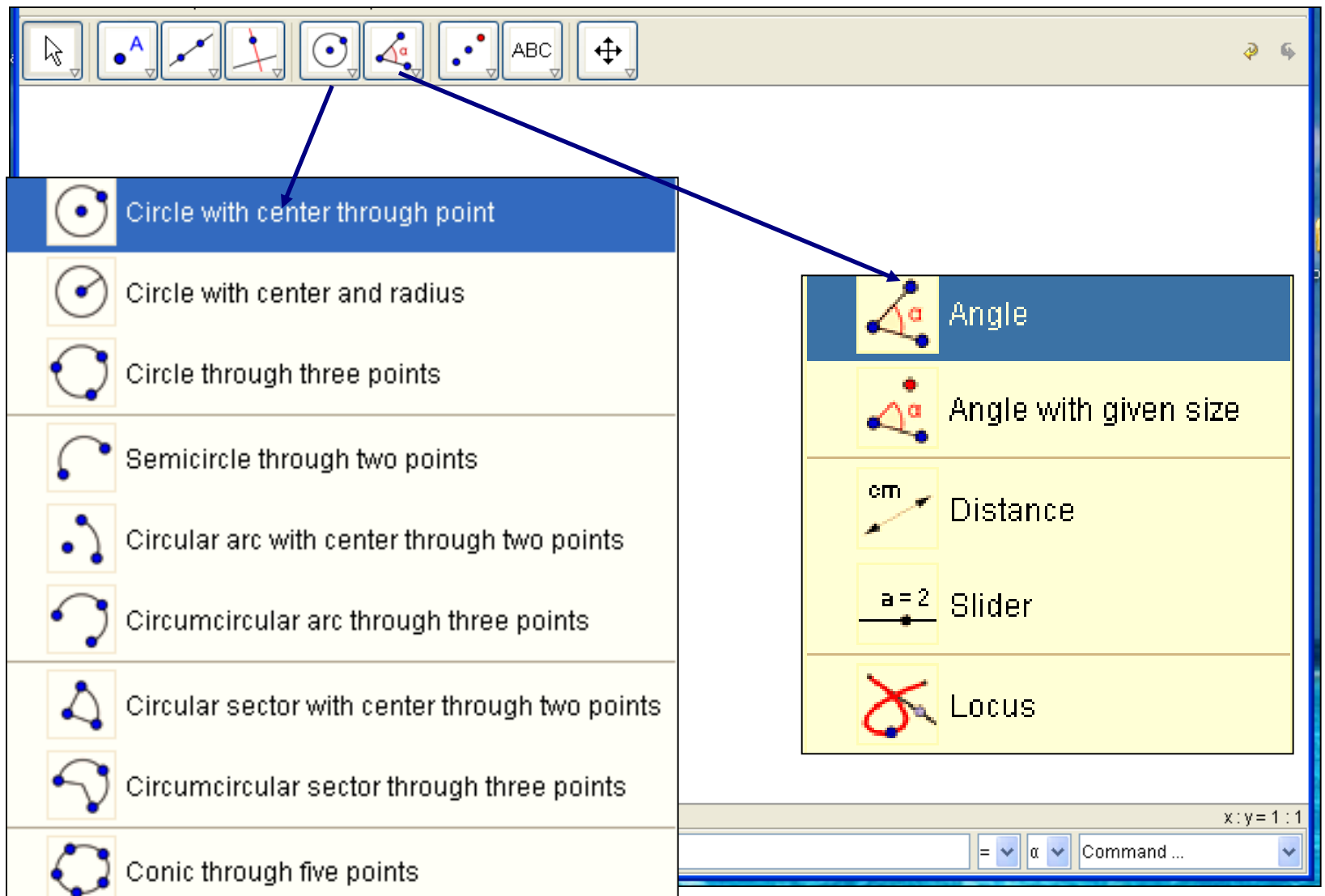
Kasia, Dorota, Karolina, Tomasz,  
Piotr, Angelika (IIIB, IIA class)  
Poland

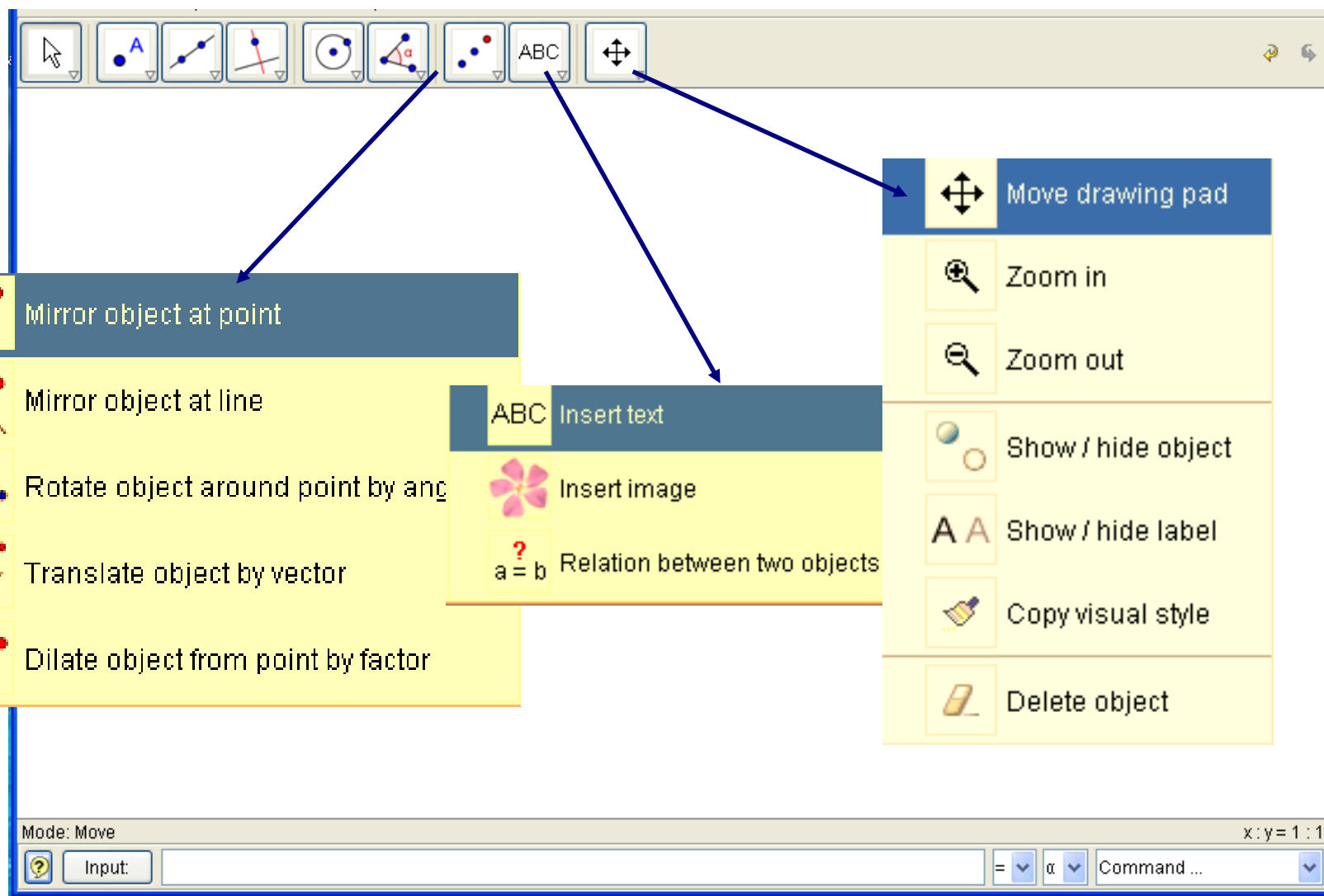
Cristiana, Mirabela, Ionut, Vlad,  
Jonathan, Atilla, Aleksandra, Iulia,  
Marian (IX A, IX C, X C class)  
Romania

FlipAlbum

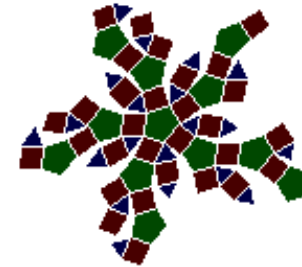
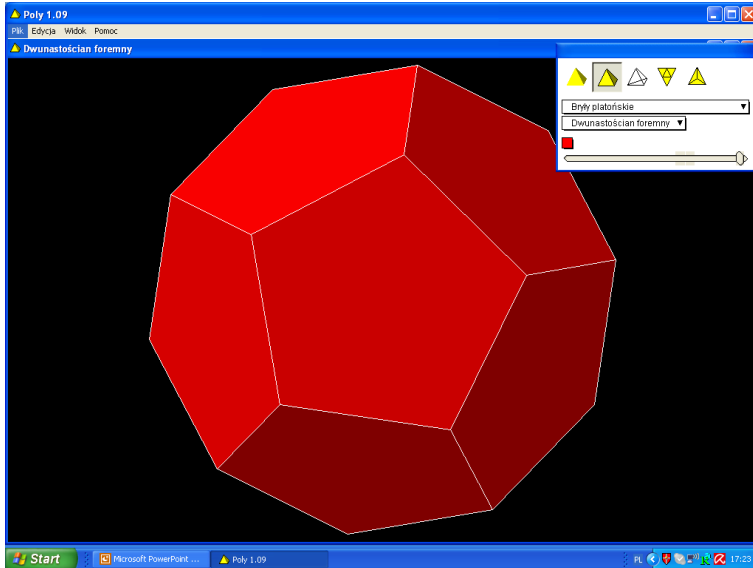




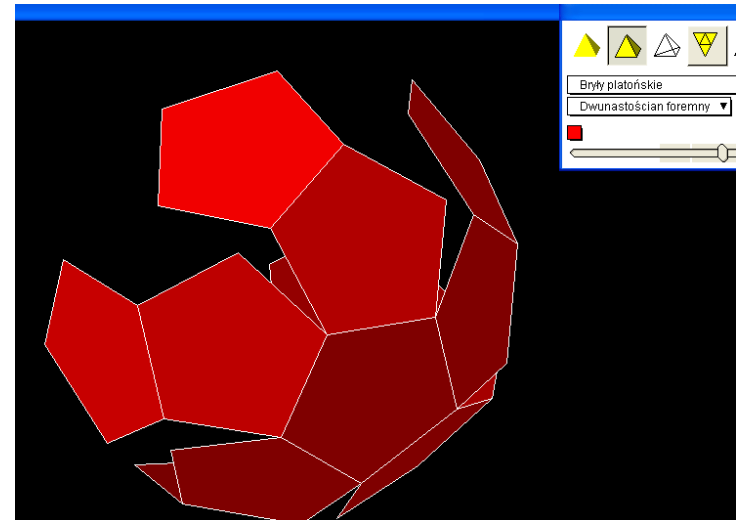


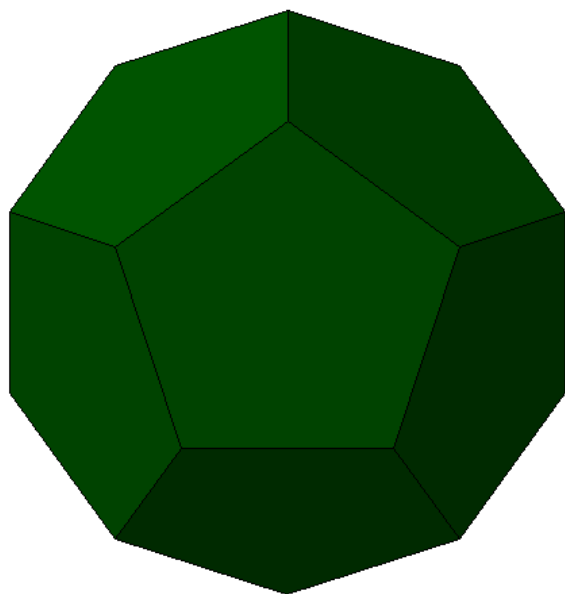


# POLY

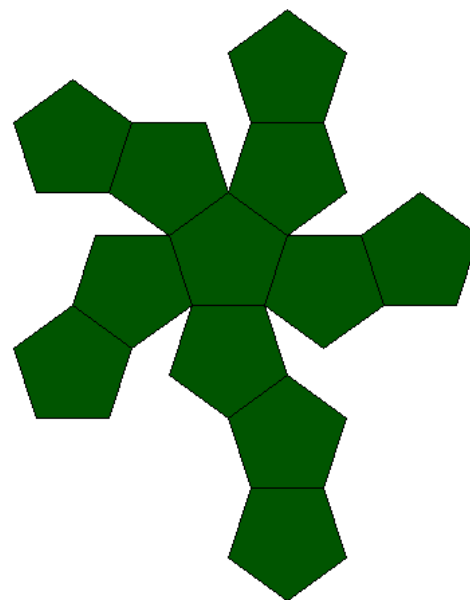


<http://www.peda.com/poly>

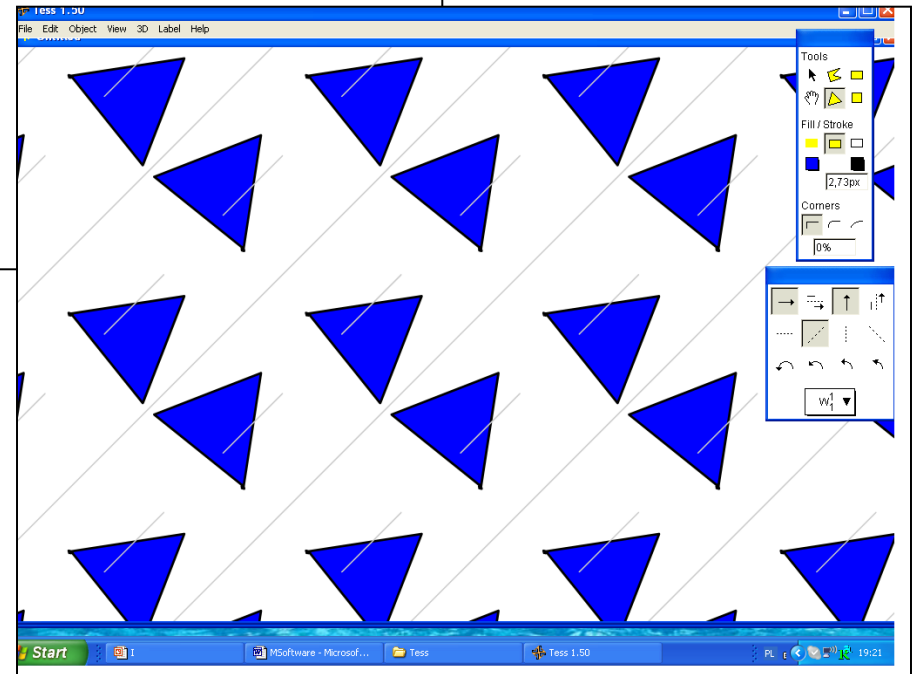
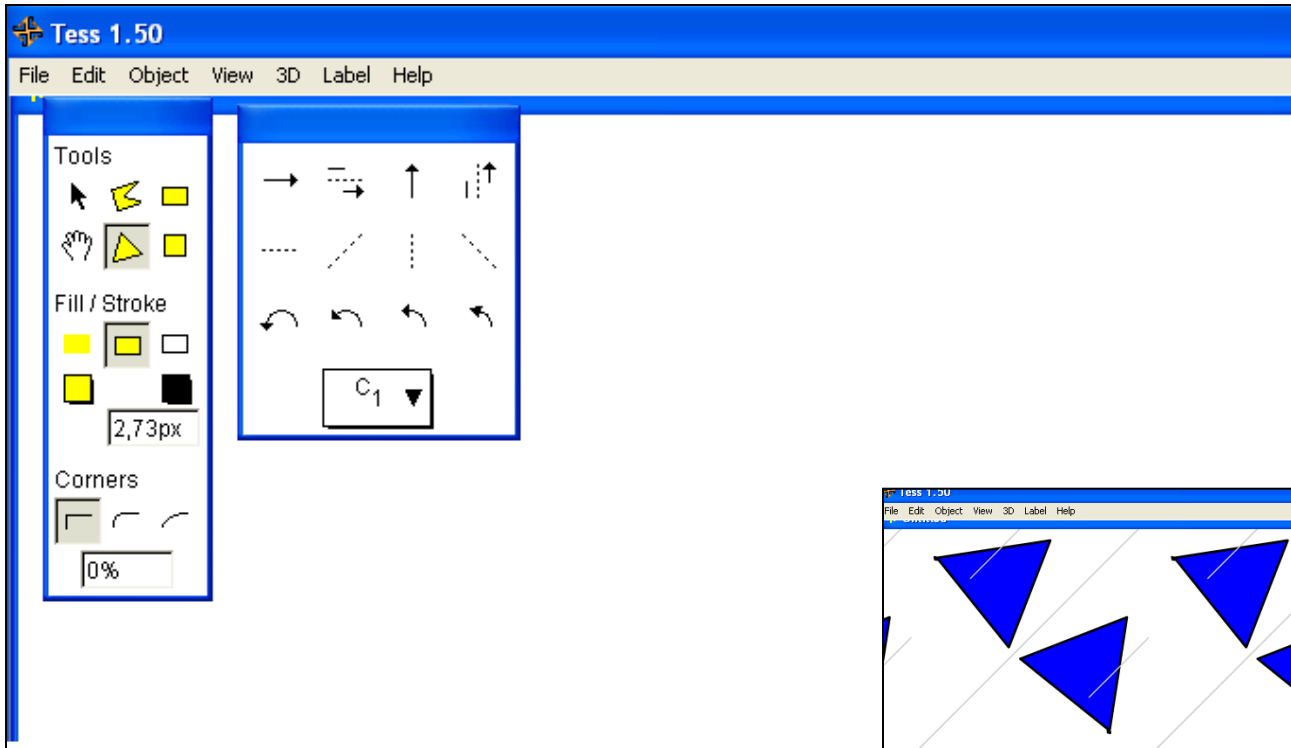




Dwunastościan foremny

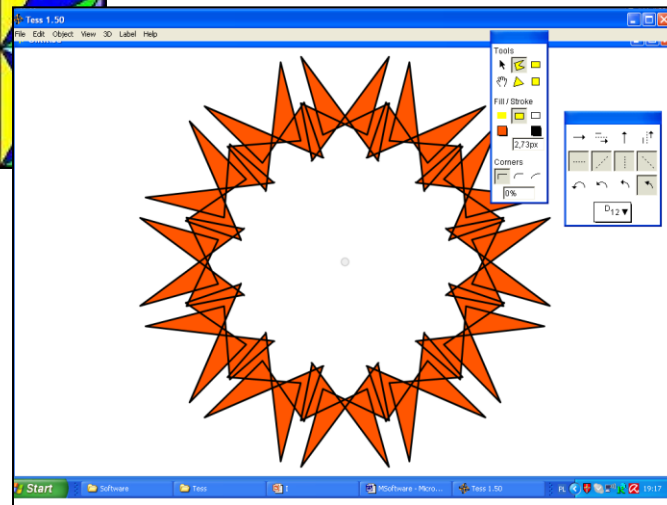
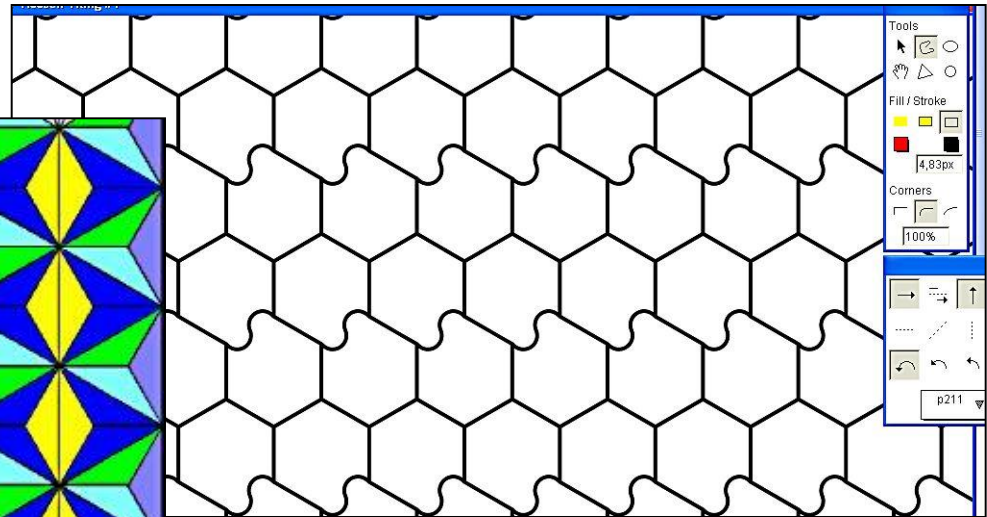
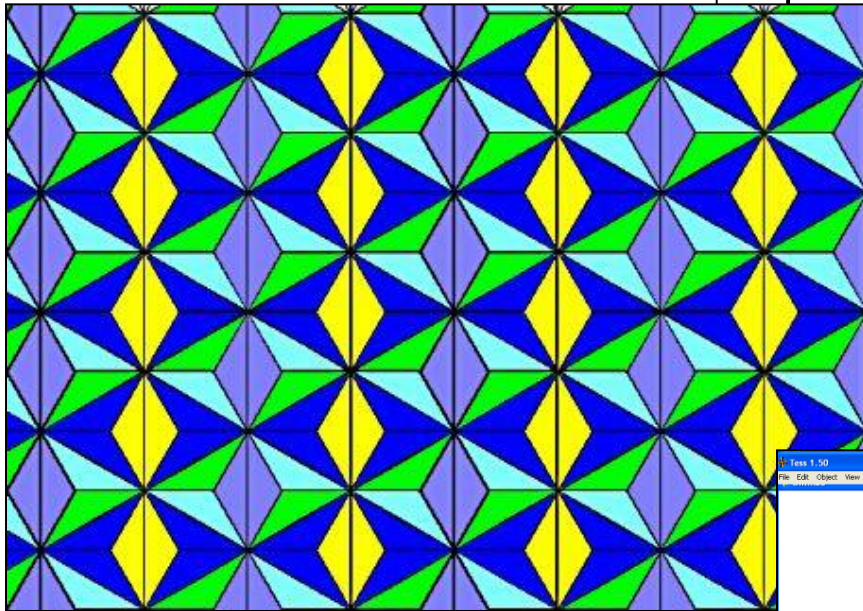


Dwunastościan foremny



Pedagoguery Software Inc <http://order.kagi.com/>

# Patterns, tilings and tessalations







*A lot of fun and success working with GeoGebra!*

*Thank You : )*

*Jolanta Grzywnowicz*

*[jgrzyw@op.pl](mailto:jgrzyw@op.pl)*

