



ثانوية التكنولوجيا التطبيقية
Applied Technology High School

Applications of Matrices

Grade 11 Mathematics Project

Term 1 (2011/12)

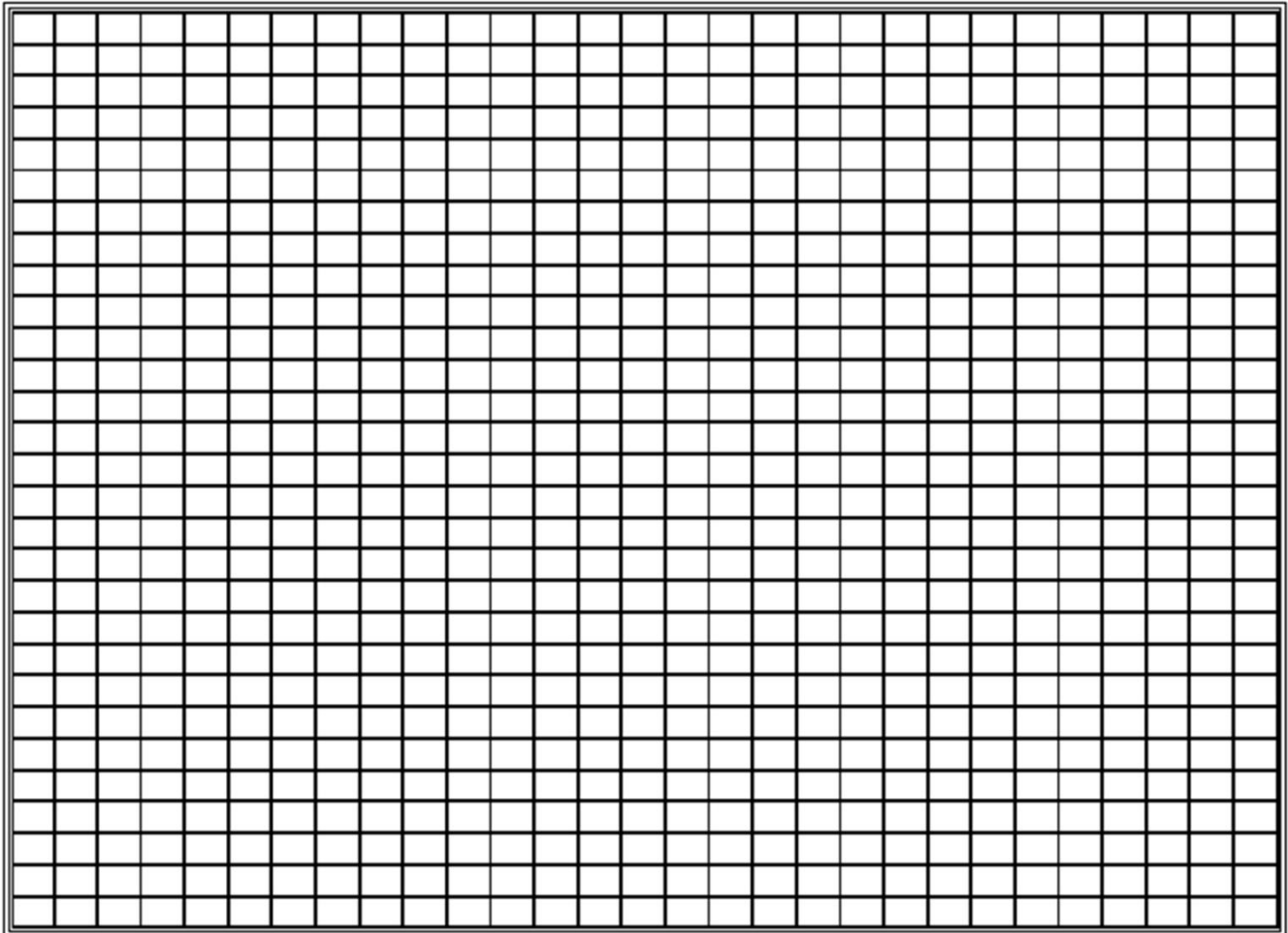
Date due: Thursday, November, 24th, 2011

GRADE :	11
SECTION:	ES
Students' Name:	

The Institute of Applied Technology

ATHS has 5 campuses in Abu Dhabi, Al ain, Dubai, Fujairah, and RAK.

Task 1: Students will find a map of their campus and paste it on a coordinate plane, find the ordered pairs (x, y) for four corners (vertices) of the campus.



Task 2: Represent the campus (polygon) by vertex matrix.

Task 3: Use the matrix to perform the following transformations.

- a. The campus is moved by 2 units right and 3 units down. Find the coordinates of the new location.

- b. Dilate the campus image so the perimeter will become 3 times more previous perimeter. What are the coordinate of the vertices of the new image?

c. Find the coordinates of the vertices of the original image of the campus after reflection in $y = x$.

d. Find the coordinates of the vertices of the original image of the campus after it is rotated 270° counterclockwise about the origin.

e. Choose three vertices on the campus image that contains a land mark on the campus, use the determinant to find its area.

Task 4: Your campus canteen sells bottle of orange juice and apples. Ahmed bought 2 apples and 1 bottle of orange juice for 10 DHs. Abdullah bought 3 apples and 2 bottles of orange juice for 17 DHs. What is the cost of 1 apple and 1 bottle of orange juice?

Task 5

IAT canteen Menu

	Regular	Half-portion
Chicken Sandwich	5	3
Apple	4	2
Orange Juice	5	3

Make a 3 by 2 matrix to organize these data, and then use that matrix to find the prices after discount of 20%.

Task 6: Post your findings in a power point presentation, share it with the class, and posted on your wiki.

Projects Rubric Guidelines

	Criteria				Points
	4	3	2	1	
Completeness of Tasks 20%	Tasks are totally completed and correct. (100%)	Tasks are partially completed, OR Partially wrong.(75%)	Tasks are partially completed, AND Partially wrong (50%).	Tasks are Attempted (25% or less)	—
Presentation and Integration of Technology 70%	Students used one mean of technology. The tool used helped the student and was useful to support his project. Moreover, the student was able to explain the work he/she submitted confidently and fluently; he/she was able to answer all of colleagues and instructor's questions	Student used a mean of technology but it was not that supportive to the topic. In addition, student was able to explain the work he/she submitted confidently and fluently and he/she reflected an understanding of his/her works. The student was able to answer most of colleagues and instructor's questions.	Student was able to explain the work he/she submitted. Student reflected a shallow understanding of his/her work; she was able to answer some of colleagues and instructor's questions,	Student use of technology was primitive and way below the level of other IAT students. Student was unable to explain the work he/she submitted. Student reflected no understanding of his/her work; he/she was unable to answer any of colleagues and instructor's questions.	—
Creativity & enrichment 10%	Student had an outstanding addition in all aspects of his/her project.	Student had an outstanding addition in some aspects of his/her project.	Student had an outstanding addition in very few aspects of his/her project.	Student had an outstanding addition in no aspects of his/her project.	—
This rubric is out of 100, percentage orientation. To make the mark out of 30 (Student's Mark/10*3)				Total---->	—