Welcome Back MYP Math 9!

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: 10/23 Topic: Create your own problem!	0 1 2	I'm almost done!
Tuesday Date: _____ Topic: _____	0 1 2	
Wednesday Date: _____ Topic: _____	0 1 2	
Thursday Date: _____ Topic: _____	0 1 2	
Friday Date: _____ Topic: _____	0 1 2	

Class Plan:

1. Mathematician Monday!
2. How do I defend my self-score?
2. Worktime: **Due Tuesday**
3. Done? Extension problems

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Mathematician Monday!

Jama Musse Jama

Jama was born in 1967 in Hargeysa, Somalia where he had his primary and secondary education. He then left for Mogadishu and attended the Somali National University, where he studied Mathematics for four and half years.

Mathematician Monday!

Jama Musse Jama

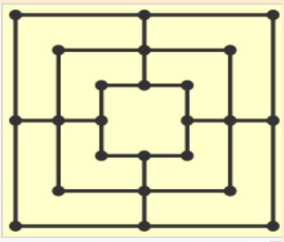
Fluent in Italian, Jama left Hargeisa to study as a mathematician at Pisa University in Italy. He has particular interest in civil liberties and he is the author (or co-author) of six books, two of them on Somali traditional games.

Books [edit]

- *Cittadinanza è partecipazione*, Bianca&Volta Edizioni, Trieste, 2013, ISBN 978-88-96400-50-0 (ePub ISBN 978-88-96400-51-7)
- *Gobannimo Bilaash Maaha / Freedom is not free*, 2007. ISBN 88-88934-06-5.
- *A NOTE ON MY TEACHER'S GROUP - News Report of an Injustice*, 2003. ISBN 88-88934-01-4.
- *Shax: the preferred game of our camel-herders and other traditional African entertainments*, 2002. ISBN 88-87332-05-3.
- *Layli Goobalay: Variante Somala del Gioco Nazionale Africano*, 2002, ISBN 88-88934-00-6.

Mathematician Monday!

One of Jama's favorites: Shax



The board used for Shax. Pieces are placed on the intersections and players try to get three in a row.

The game is usually played by marking a board on the ground, and using stones or sticks as pieces. Shax has had a significant influence on Somali literature, which often mentions gameplay and strategies. In the historical nomadic lifestyle of the Somali people, Shax was also utilized as a means of communication between different clans.

Rules of Shax

The board consists of a grid with twenty-four intersections or points. Each player has nine pieces, or "men", usually coloured black and white. Players try to form 'mills'—three of their own men lined horizontally or vertically—allowing a player to remove an opponent's man from the game. A player wins by reducing the opponent to two pieces (where he could no longer form mills and thus be unable to win), or by leaving him without a legal move.

Mathematician Monday!

Jama Musse Jama

At Pisa University, Jama began researching traditional Somali games as well as the history of mathematics in the Horn of Africa, a topic which he has written about in several journals.[1] His interests include Education in Somalia,[2] and as an activist, Jama is deeply involved in the affairs of the Somali diaspora during festivals[3] and conferences which he chairs or is present as a key contributor. **A specific interest of Jama's is to promote Somali language, literature, and promoting reading, he is the founder and the organiser of Hargeysa International Book Fair.[4]**

Mathematician Monday!

Jama Musse Jama

The Hargeysa International Book Fair was inaugurated in 2008 by Jama Musse Jama, who serves as Director.[1] It grew from 200 to 10,000 participants over the following six years.

Mathematician Monday!

Jama Musse Jama

Jama Musse Jama is an ethno-mathematician and author. He has a PhD in African Studies specializing in Computational Linguistics of African Languages. He has created and currently directing Somali Corpus, an online platform to manage corpus database for Somali language. **Dr. Jama is also notable for his research to improve basic education and development in Africa, in particularly teaching mathematics in "a culturally sensitive way".** Jama Musse is now leading the establishment of the Hargeysa Cultural Centre in Somaliland.

Mathematician Monday!

Jama Musse Jama

Jama's Mathematical Accomplishments

1) Writing a book on teaching mathematics using cultural elements rooted in the Somali culture.

A note on" My Teachers' Group":
news report of an injustice (2003)

2) Revival of African games for the use of teaching mathematics.

3)Developing morphological and syntactical parsers based on algorithms that consider Somali language peculiarities.

What is Mr. Ehlke's grade?

Do: Examine rubric and key

Discuss at table: Score (2 min)

6 7 7

7 5 8

Whole group: Why did he get that score?

Ehlke key:

Key "Duluth Drive"

a) 28 miles

b) Armory to Perkins: $\sqrt{4^2 + 6^2} = \sqrt{16 + 36} = \sqrt{52} \approx 7.21$ miles

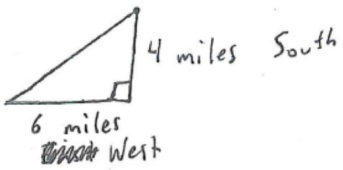
Perkins to Cider: $\sqrt{8^2 + 2^2} = \sqrt{64 + 4} = \sqrt{68} \approx 8.25$ miles

Cider to Armory: $\sqrt{4^2 + 4^2} = \sqrt{16 + 16} = \sqrt{32} \approx 5.66$ miles

c) $28 - (7.21 + 8.25 + 5.66) = 28 - 21.12 =$ 6.88 miles shorter

Ehlke key:

d) Because North, South, East, and West are set at right angles to each other, the triangles formed are right. For example: 4 miles south and 6 miles West:



e) $(-3,-2) = \left(\frac{0+-6}{2}, \frac{0+-4}{2}\right)$

f) $d = \sqrt{(-3-0)^2+(-2-0)^2} = \sqrt{(-3)^2+(-2)^2} = \sqrt{9+4} = \sqrt{13}$ miles ≈ 3.61 miles

Self Assess using the **Criterion D Real Life Applications** rubric (Give yourself a score!)

Many errors
Missig pieces/began to create a problem

0	• has not reached a standard described by any of the descriptors given below		**<u>Work is missing</u> (list missing elements)** • Or, the work has not reached a standard described by any of the descriptors.
1 2	• i. identify some of the elements of the authentic real-life situation • ii. apply mathematical strategies to find a solution to the authentic real-life situation, with limited success.		**<u>Many Errors</u>** • Math strategies and the key (*solution*) is provided with **many errors.** • There is ***an attempt*** to explain their work.

Self Assess using the **Criterion D Real Life Applications** rubric (Give yourself a score!)

Some errors, or not quite completed

3 4	• identify the relevant elements of the authentic real-life situation • ii. select, with some success, adequate mathematical strategies to model the authentic real-life situation • iii. apply mathematical strategies to reach a solution to the authentic real-life situation • iv. discuss whether the solution makes sense in the context of the authentic real-life situation.		**Some Errors** • Math strategies include: -Create a scenario -Plot 2-4 locations -Write questions to be answered using the scenario -Calculate distances and a midpoint. • **A key (*solution*) on a separate piece of paper is provided with some error.** • There is ***an attempt*** to explain why we can use the Pythagorean Theorem. • Explain whether your scenario is realistic and/or accurate.

Self Assess using the **Criterion D Real Life Applications** rubric (Give yourself a score!)

Minor errors, or not as complex as it could be

5 6	• i. identify the relevant elements of the authentic real-life situation • ii. select adequate mathematical strategies to model the authentic real-life situation • iii. apply the selected mathematical strategies to reach a valid solution to the authentic real-life situation • iv. explain the degree of accuracy of the solution • v. explain whether the solution makes sense in the context of the authentic real-life situation.		**Minor Errors** • Math strategies include: -Create a scenario -Plot 2-4 locations -Write questions to be answered using the scenario -Calculate distances and a midpoint. • **A key (*solution*) on a separate piece of paper is provided with little error.** • There is a defense of why we can use the Pythagorean Theorem. • Explain whether your scenario is realistic and/or accurate.

Self Assess using the **Criterion D Real Life Applications** rubric (Give yourself a score!)

No errors, all parts completed

7 8	• i. identify the relevant elements of the authentic real-life situation • ii. select appropriate mathematical strategies to model the authentic real-life situation • iii. Apply the selected mathematical strategies to reach a correct solution to the authentic real-life situation • iv. justify the degree of accuracy of the solution • v. justify whether the solution makes sense in the context of the authentic real-life situation.		**Without Errors** • Math strategies include: -Create a scenario -Plot 3-4 locations -Write questions to be answered using the scenario -Calculate all distances and a midpoint. • **A key (*solution*) on a separate piece of paper is provided without error.** • There is a thorough defense of why we can use the Pythagorean Theorem. • Justify whether your scenario is realistic and/or accurate.

Reflect: Why did you earn that score?

What evidence supports your score?

Your Level		
		***Draw check marks in the appropriate boxes to determine your score. **Student Reflection:** *(Why did you earn this score?)*

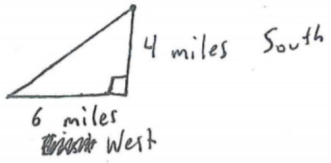
Mr. Ehlke's defense: Realism missing :(

	Level	(from subject guide)		
iterion D: Applying mathematics in real-life contexts	0	• has not reached a standard described by any of the descriptors given below		Work is missing (list missing elements) ie "Explain why scenario is realistic/accurate." • Or, the work has not reached a standard described by any of the descriptors.
	1 2	• i. identify some of the elements of the authentic real-life situation • ii. apply mathematical strategies to find a solution to the authentic real-life situation, with limited success.		Many Errors • Math strategies and the key (*solution*) is provided with **many errors.** • There is ***an attempt*** to explain their work.
	3 4	• identify the relevant elements of the authentic real-life situation • ii. select, with some success, adequate mathematical strategies to model the authentic real-life situation • iii. apply mathematical strategies to reach a solution to the authentic real-life situation • iv. discuss whether the solution makes sense in the context of the authentic real-life situation.		Some Errors • Math strategies include: -Create a scenario -Plot 2-4 locations -Write questions to be answered using the scenario -Calculate distances and a midpoint. • **A key (*solution*) on a separate piece of paper is provided with some error.** • There is ***an attempt*** to explain why we can use the Pythagorean Theorem. • Explain whether your scenario is realistic

Triangle/Pyth. Theorem defense is missing an important point.

5	• i. identify the relevant elements of the authentic real-life situation • ii. select adequate mathematical strategies to model the authentic real-life situation	**Minor Errors** • Math strategies include: -Create a scenario -Plot 2-4 locations -Write questions to be answered using the scenario -Calculate distances and a midpoint.
(6)	• iii. apply the selected mathematical strategies to reach a valid solution to the authentic real-life situation • iv. explain the degree of accuracy of the solution • v. explain whether the solution makes sense in the context of the authentic real-life situation.	• **A key (*solution*) on a separate piece of paper is provided with little error.** • b There is a defense of why we can use the Pythagorean Theorem.

d) Because North, South, East, and West are set at right angles to each other, the triangles formed are right. For example: 4 miles south and 6 miles West:



Mr. Ehlke should have mentioned that the Pythagorean Theorem *can only be used* with right triangles.

Mr. Ehlke's defense: Reflection!

7 8	• i. identify the relevant elements of the authentic real-life situation • ii. select appropriate mathematical strategies to model the authentic real-life situation • iii. Apply the selected mathematical strategies to reach a correct solution to the authentic real-life situation • iv. justify the degree of accuracy of the solution • v. justify whether the solution makes sense in the context of the authentic real-life situation. Scenario did occur, but distances were changed.		**Without Errors** • Math strategies include: -Create a scenario -Plot 3-4 locations -Write questions to be answered using the scenario -Calculate all distances and a midpoint. • A key (*solution*) on a separate piece of paper is provided without error. • There is a thorough defense of why we can use the Pythagorean Theorem. • Justify whether your scenario is realistic and/or accurate. Missing

Level

***Draw check marks in the appropriate boxes to determine your score.

Student Reflection:

(Why did you earn this score?)

My scenario involved 3 unique locations, and I wrote 6 questions which involved distance and midpoint. My key is complete with all distances calculated and one midpoint found. However, I did not justify whether my scenario was realistic/accurate, and I didn't tie my justification for the Pythagorean Theorem back into the Pythagorean theorem. Thus: (6)

Exercises...

Finish and Assess Your Own Problem!

Done:? Pythagorean Theorem Extensions!

W101

Afterschool Ms. Berg

W25