

research essay: similarity, mathematical models, and the real world:

IB MYP Criteria C and D (Communicating, Applying mathematics in real-life contexts)

Geometry shares Greek word roots with *geography*—in fact, both ideas developed first in Egypt as they cultivated the mathematical tools needed to make their civilization the greatest among the ancients. Central to their rise and endurance was their control over their environment, one dominated by the Nile River. Knowledge of geometric concepts helped the Egyptians properly manage their resources and land, propelling them to social and cultural advancement.

Mathematics plays a similar role today—skills in mathematics typically translates to high level success in rewarding and socially valued fields including technology, medicine, engineering, and other sciences. Understanding the role math plays in the modern world allows today's students to shape a better future.

Your assignment is to research and write a 3-paragraph essay (about one-page, double spaced, 12 font) examining how a specific geometric concept is used in real-life applications. At the course homepage at mgeo.weebly.com you'll find some resources regarding the example discussed in class, mapmaking. Other possible topics include GPS navigation, app programming and polygons, graphic and interior design, weather prediction models, financial product pricing equations, architecture, medical models of the human body, and countless others. The topic is up to you, but should be appropriately challenging for your grade level.

On **Monday**, 3/10, you should have a topic selected to confirm with the teacher. Grading criteria refer to MYP criterion C and criterion D available here: mgeo.weebly.com/ib-math .

Your essay should be thoughtful, well-organized, free of spelling and grammatical errors, and on-topic. Avoid using the first-person ("I" pronoun). Your first paragraph should briefly describe the geometry application you have chosen, focusing on the subject matter as we have covered it in class; your second goes into more detail about a specific use or aspect of it in the real world (business, workplace, science, research, etc.) and your final paragraph should discuss where the math concept might be used in the future. As always, support your statements with details and your points with evidence.