Some thoughts and advice:

- You should expect to spend several hours writing these papers.

- Your paper should be 3-4 pages (single space) in length, excluding references.

- Each paper is worth at most: * = 1 point; ** = 2 points; *** = 3 points.

- To receive full credit your paper must:

    - **be original work**;
    - **cite > 1 distinct sources (unless otherwise specified)**;
    - **be well-referenced**;
    - **be mathematically correct**;
    - **exhibit skillful and appropriate vocabulary**;
    - **be grammatically correct**;
    - **be well-organised**.

- Use of diagrams, visuals, graphs, portraits etc. is encouraged.

- Ability to explain an argument in down-to-earth terms (e.g. using diagrams to express your argument) carries more weight than a technical mathematical argument.

- You are allowed to discuss your paper with each other but you must write up your paper on your own.

- If you are having trouble locating a source then let me know.

- If you are concerned about the appropriateness of a source then you are welcome to ask me.

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1. *** Write a response to the following statement:

    "Mathematics is a Creative Art"

    Some resources that you may find useful are

    - https://hackernoon.com/mathematics-is-art-all-the-mathematicians-say-so-d0d569f89976
    - A Mathematician's Apology, G. H. Hardy
    - Mathematics is a Creative Art, P. Halmos (easily found online)
    - Why Writers Should Learn Math, A. Nazaryan (New Yorker article available in PDF from me)
    - Two Views: How Much Math do Scientists Need? http://www.ams.org/notices/201307/rnoti-p837.pdf

2. ** Write an extended resume/biography for one of the following mathematicians:

    (a) Riemann

(b) Euler

(c) Newton

(d) Leibniz

Your resume/biography should include:

- personal background e.g. education

- a discussion of at least two mathematical contributions

- at least two interesting facts/stories

- individual creativity

- consist of at least three different sources.

Information about these mathematicians might be found in *God Created the Integers*, Hawking (available electronically through Davis Library), *Men of Mathematics*, E.T. Bell, *Mathematics and Its History*, Stillwell, and the World Wide Web.

3. *** Write about Euler's introduction of e, following p.24-26 of *Euler Master of Us All*, Dunham. This book is available in the library or I can provide you with a copy of the required section.