

11th Grade Assignment – Week #1

Important Notes:

- What is a “main lesson book page”? In short, it is something that you create which is either a summary of something covered in the lecture or group meeting, or perhaps the “individual work” suggests something to write about.
- You have the freedom to decide what to write about or include in your main lesson book. Think about what you can do to produce a main lesson book that is truly your own creation.
- The ideal is for you to reflect upon the lectures, group discussions, and suggested essays and create your “main lesson book page” nearly every day. How many essays (or main lesson book pages) you write, and overall, how much work you do, is completely up to you.
- *An Excellent Main Lesson Book* (“A” quality work)...
 - Is something that you are proud of. It reflects your original work and thoughts.
 - Is a balanced representation of what we covered in class.
 - Shows that you have a solid understanding of the material.
 - Is a resource for you, to be used as a reference in the future.
 - Is well presented and clear. Math concepts are clearly explained for the reader.
 - Could be given to another person, who was not present in the lessons, and, by reading your main lesson book, that person could have a good sense of what was done in the class.
- Here is a tip for writing a strong essay: Think carefully about your introduction. The first few sentences set the tone for the paper and draw in your reader. How can you capture the reader's interest? Similarly, how can you end your essay in a powerful way?
- You should not use the Internet to help you write any essay or do any main lesson book page.
- Before turning in your essays to me, I recommend that you have a parent (or other adult) read through your essays, correct grammar and spelling, and make suggestions for improvement.
- There is no separate course report for this main lesson.

Individual Work

- Before Wednesday’s lecture, read through **Sections A and B** (pages 2-5) in *Descartes’s Geometry Appendix*. I don’t expect you to understand it all, but it will be helpful for you to have seen it before the lecture.
- Work on your essays (main lesson book pages).

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Group Assignment:

For Tuesday

- Discuss the following questions in your group. It would be great to see where your opinions differ!
 1. How do you know what you know?
 2. How do you know anything for certain?
 3. A **worldview** is the way in which an individual or society sees and experiences the world around them. It is usually part of a philosophy based on certain values and ethics, and can include a certain understanding about how the world “works”.

Question: How do you think the worldview in Descartes’s time in Central Europe was different than the worldview in your country today?
- In the lecture, I spoke about the “Square/Rectangle Problem”, and I showed two variations, one where the second square had an area of 16, and the other where the second square had an area of 15. When Descartes did this problem, he did not use specific measurements, like 16 or 15, but instead used letters to represent these constant values. See if you can use the quadratic formula to solve the following puzzle:

Find the height of the rectangle that has a length of f and an area equal to the sum of the areas of two squares – one square having the same height as the rectangle, and the other having an area of g^2 .

Hints: The quadratic formula is $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

For Thursday

- Together, do your best to work through **Worksheet #1** (from the document *Descartes Worksheets*). This is Descartes’s “Section B”.
- Discuss what your **precepts** and **maxims** might be.