

The goal of this project is two-fold. On the one hand, it should provide you (students) with model problems that follow the format of the professional examination. On the other hand, it will give us (program faculty) information that can inform desirable curricular changes.

This selection of questions is related to geometry although not all questions are mapped to the Geometry objectives (as listed by the examination administrator). Some of them may tap to different areas, such as recognizing patterns, functions etc. Still, they require some kind of geometry knowledge, which is why they are included. Several problems relate to the volume and surface area that we will be discussing in the upcoming days.

The actual exam typically contains 80 (although on the practice exam, there were 64 questions) and includes other areas (Data, Probability, Calculus, etc.).

If you have already taken the actual (real) test, please let me know. Your input will be especially valuable.

This project requires submission of a reflection on each problem in the problem set (<https://www.geogebra.org/m/pkgpmkmz>) . There is no minimum or maximum word limit, but please use these guidelines when writing your reflection for each of the problems:

1. If you were taking the exam today, would you be able to solve this problem correctly? If not, please elaborate: Do you lack knowledge to solve the problem or perhaps you have the knowledge but you made an error in solving it?
2. If you have the prerequisite knowledge, can you locate its source? Did you learn it in CMU courses (which ones?), workshops, high school, by learning on your own, etc. ?
3. Although you do not have to submit your complete solution, you may want to comment on the process of solving these problems. What were the stumble blocks? What questions you would like to ask about this problem?
4. A general question related to the project as a whole: Do you have any comments on how to make this a meaningful project for future MTH 362 students?

Keep in mind that the number of correct answers you get has no effect on how this project will be graded. Honest answers are the most valuable.

It is likely that we will not have time to discuss (all) solutions in our class. Some of the questions will be answered in your later courses . Nevertheless, I will be very happy to discuss any (and all) of these questions during office hours or at other times outside our class.

Answer key and mapping is on the next page.

Professional Examination Project (Pilot)

Question	Correct answer	Knowledge sources
1	b	?
2	b	?
3	d	?
4	b	?
5	d	?
6	d	?
7	c	MTH 362 (Geometry and Measurement)
8	c	MTH 362 (Geometry and Measurement)
9	d	?
10	b	?
11	a	?
12	a	MTH 362 (Geometry and Measurement)
13	d	MTH 341, MTH 361
14	c	MTH 341, MTH 362. Which answer is indeed a correct one is discussed more in 341.
15	d	MTH 223?, MTH 461
16	b	Partially MTH 362 (Rhombus properties)
17	a	MTH 223? (Vector algebra)
18	d	MTH 341, MTH 362
19	b	MTH 341, MTH 362
20	a	?
21	b	MTH 341, MTH 361