10th Grade Assignment – Week #16

Guidelines for the Presentations (Week #17): (This is repeated from Week #14.)

- Your presentation should be between 30 and 40 minutes, and will take place in a Zoom meeting.
- I will host the meeting, and make you co-host so that you can share your screen, and not be muted.
  I will spotlight whoever is talking.
- Everything you do must be done live. Do not share video recordings as part of your presentation.
- Other Math Academy 10th graders will be attending your presentation. Your central task is to teach them – as best you can – about the topic you have prepared. You may also wish to invite other friends and family to attend your presentation.
- The presentation will be recorded (unless you wish me not to do so). I will then send you the recording which you can download and/or share with others.
- Your presentations should have four components: (1) Intro – which includes context and a statement of the question you are answering, (2) Background of what is needed to fully understand your proof, (3) The main presentation, which is the bulk of the time, and (4) Conclusion – re-emphasize what you have done – QED!
- Unless I tell you otherwise, please don't do any research about your topic beyond the resources I am giving you – especially, do not watch a video about your topic. Why not? Because that would put the idea in your head, in some way, about what your presentation should be. This would deprive you of the full creative experience of envisioning your presentation yourselves.
- Further tips for your presentation:
  - Each presenter in the group should speak for roughly an equal amount of time.
  - Keep in mind that your audience is really interested to see you. You should begin and end the presentation so we can see you. It may be best to go back and forth from screen-sharing images and then talking to your audience (with your camera on).
  - Think carefully about how you can present your visuals effectively.
  - Avoid reading from a script – especially, don't read words off the screen. Speak naturally and try using note cards, with just a few words on each card to remind you of what to talk about.
  - Remember that your audience isn't familiar with your topic – so don't go too fast!
  - Involve your audience by finding opportunities to ask questions that require them to answer.
  - Above all, remember that this is a learning experience. Nobody is expecting perfection.
    I will be there during the presentation in case you need help.

Group Assignment

- I have decided that the *Proofs* test will be given during the Friday tutorial session. It will be a group test; you will work together on the test with the people in your normal work group. More details were sent about this in a separate email.
- *Presentations!* I expect that most groups will do their "practice run" this week. Try to prepare for this practice run as if it were the real thing.
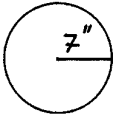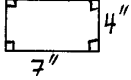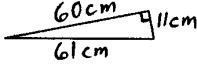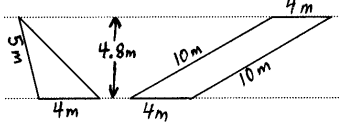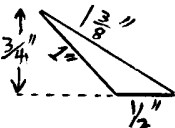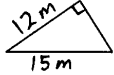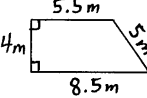
Individual Work

- Note: For this *Mensuration* unit, the "Section A" problems are generally easier, and intended for skills practice. The "Section B" problems are generally more difficult, and intended to give you a bit of a challenge.
- This week, you will practice problems from the upcoming unit, *Mensuration*.
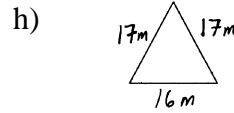 Do what you can with the problems from *Mensuration*, **Problem Set #1**.
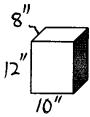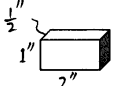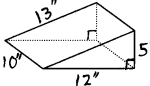
Mensuration

Problem Set #1
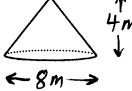
Section A

1) Calculate the area of each.

a)

7"

b)

4"
7"

c)

60cm
11cm
61cm

d)

5m 4.8m 10m
4m 4m 10m

e)

3¾" 1½ 1 3/8 "
½ "

f)

12 m
15 m

g)

5.5 m
4m 5m
8.5 m

h)

17m 17m
16 m

2) Calculate the volume.

a)

8"
12"
10"

b)

½"
1"
2"

c)

13"
10" 5"
12"

d)

3cm
←6cm→

e)

4m
←8m→

Section B

3) What is the volume of an octahedron with 6cm long edges?
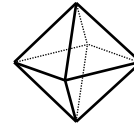
4) What is the formula for the volume of an octahedron given only the length of an edge (E)?