Real World Geometry: An Art Project

DUE: November 23/24

Geometry (and mathematics generally) is all around you, all the time. This project will explore this phenomenon in more detail. Your task is to create a poster, book, website, digital presentation, or other product (with prior teacher approval) with ***original*** images of 15 geometric terms from the choices below. You may choose other terms only with prior teacher approval.

acute angle	parallel planes
adjacent angles	parallelograms
alternate interior angles	perpendicular lines (segments)
angle bisector	plane
chord	radius
circumcenter	ray
complementary angles	rectangles
congruent angles	reflection
congruent segments	rhombuses
congruent triangles	rotation
coplanar points	scalene triangles
corresponding angles	segment bisector
diameter	similar triangles/figures
dilation	skew lines (segments)
equilateral triangles	slope
incenter	squares
isosceles triangles	supplementary angles
median (of atriangle)	translation
midsegment	transversal
obtuse angle	trapezoids
parallel lines (segments)	vertical angles

Most students will succeed by making photographs for the terms, whether in your home or around the school or other places. Drawings are acceptable only if they represent real-world objects or formations (so no sketches of abstract shapes).

You are encouraged to use your art form as an inspiration:
Instrumental/Vocal: music notes on staffs, photos of instrument or concert halls
Dance: making shapes and forms through physical movement of arms/legs/body
Communication: concrete poems, desktop publishing software
Visual art: drawings or sketches from photos, art supplies, paintings
Theatre/MT: set design, stage blocking, theatre layouts, tech equipment, choreography

Comments:

- You must use original images or sketches. Do not use images from the internet, although image searches for "[term] real world" may help you get some inspiration.
- Images must be of actual objects/forms, not mathematical drawings or figures.
- Architecture, bridges, machines (cars, bicycles, computer parts, electronics, etc.) are good places to look
- If you are a writing major, you may make three of your terms "concrete poems" which should form to make the geometric terms you are describing.
- Electronic submissions are fine: please attach a single file (Powerpoint, for example) as an email to mohyuddin_n@hcde.org
- Do not procrastinate! It will be nearly impossible to complete this project to satisfaction in just a day or two.
- Late work will not be accepted. You have 3 weeks to complete this.
- Outline each object in the photograph/sketch. Include a caption with the term itself and a short definition.

How will this be graded?

Each term/photo will be graded separately on two criteria: geometric accuracy (60%) and creativity (30%). The remaining 10% is for presentation. Accuracy and creativity will be graded on the same 4-point scale as assessments, with superb examples earning a 5. The final grade will be entered into Powerschool as an assessment task counted 3 times (so that it has as much weight as a typical weekly assessment). Attach this form to your submission or turn it in to Mr. M on the due date if you are submitting electronically. Failure to do so will result in a 0.

Geometric Term	Accuracy	Creativity
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____
11. _____	_____	_____
12. _____	_____	_____
13. _____	_____	_____
14. _____	_____	_____
15. _____	_____	_____

Total: _____ + 0.5 x _____

Presentation score: _____ (of 10)

Final Grade