3.5 Geometry Construction Design Project

For this project you will explore the use of a compass and a straight edge to create accurate designs. Please follow the directions below in creating your project:

* ****Choose **two** of the designs from the sheets attached to this one. Figure out what must be done to duplicate a design that is similar to the design on the paper.
* Use **only** a pencil, a compass and a straight edge, create your designs on **plain white paper**.
* **Create one original design** with at least as much complexity as the designs you plan to duplicate.
* When finished, color the designs you have constructed with pens, pencils, crayons, or markers. Help the viewer see past your extra marks to the designs you’re attempting to copy. Make them look pretty.
* For each design**, write clear, detailed instructions** describing how it can be created.
* Mount all three designs, each with well written instructions, on construction paper, or poster board and submit all together. The designs may be on separate papers or on a single poster board. Please don’t mount white paper on white poster board—it doesn’t look nice.

Please let Mr. Busch know if you are having trouble in the completion of the project.

We will not be working in class on this project.

**Assessment of the Project:**

Your completed project will be evaluated on the following criteria. It will be worth roughly 3 and ½ homework assignments.

|  |  |  |
| --- | --- | --- |
|  | Points Possible | Points Earned |
| All lines drawn with compass and straightedge.  | 9 |  |
| Neatness | 3 |  |
| Coloring | 3 |  |
| Effort/Creativity | 9 |  |
| Each design is visible and matted (not on white paper—white on white is not a good look) | 3 |  |
| Detailed instructions: | 9 |  |
|  | **\_\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_\_\_\_** |
| Late Penalties - 10% per day |  |  |
| Total | 36 |  |

**Technical Tips:**

1. Use a sharp pencil and a high quality, accurate compass.
2. Use a pencil or pen that doesn’t smear. A straight edge with an elevated edge helps prevent smearing. Drafting or masking take on the bottom of the straight edge can be used to lift the edge off the paper.
3. Make sure the paper is not on or in a binder when you’re doing your constructions. The compass does not work as well if the writing surface is not totally flat.
4. Larger constructions usually prove to be easier and more accurate.
5. When making ink drawings, you may wish to complete the drawing in pencil before using ink.
6. Each of these constructions starts with a regular hexagon or triangle. From there, it’s all about using diagonals to find different points of intersection from which to center arcs.