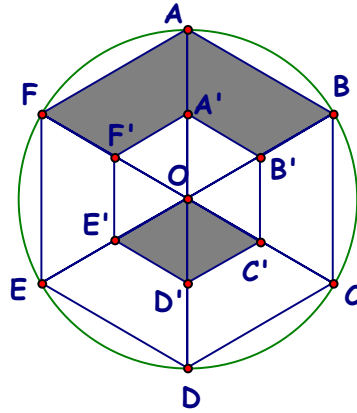
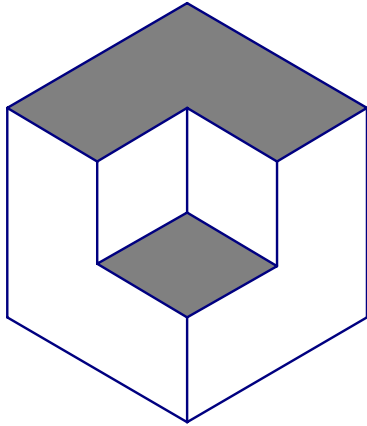


CONSTRUCTING AN OPTICAL ILLUSION



The optical illusion above can be viewed in three ways.

- A cube with a corner cut out
- A cube with another cube on its corner
- A room with a cube in the corner

Use a straightedge and a compass to construct this optical illusion.

Solution: In the following steps, use light pencil lines that can be erased.

1. Use a compass to draw a circle.
2. Without changing the compass setting (the radius of the circle), mark six successive arcs around the circle. Label the points as A, B, C, D, E, and F.
3. Use a straight edge to draw the segments \overline{AD} , \overline{BE} , and \overline{CF} . These three segments intersect at the center of the circle. Label the center as O.
4. Find the midpoint of \overline{OA} . Label this point A'. Do the same for segments \overline{OB} , \overline{OC} , \overline{OD} , \overline{OE} , and \overline{OF} .
5. Use a straightedge to draw the large hexagon ABCDEF. Then draw the small hexagon A'B'C'D'E'F'.
6. Shade the quadrilateral OC'D'E' and the hexagon ABB'A'F'F. Erase the lines you don't need and darken the lines you want to keep.

Project: Due Tuesday January 13th. Using a compass and a straightedge or The Geometer's Sketchpad, construct your own optical illusion.

1. You may get ideas from websites, but it must be something that you use compass constructions or Sketchpad.
2. Keep in mind that you will get more points for a more original and difficult optical illusion.
3. Be creative.
4. You must turn in a rough draft with all construction markings as well as a cleaned up copy of the illusion with no extra markings.
5. Color your final optical illusion.
6. Write the procedure of the construction and number each step.
7. Write a description of the illusion.
8. The grading criteria is below.

1.	Construction Directions	1	2	3	4
2.	Rough Draft of Construction	1	2	3	4
3.	Optical Illusion picture	1	2	3	4
4.	Description of Illusion	1	2	3	4
5.	Neat and organized	1	2	3	4
6.	Originality/Creativity/Difficulty	1	2	3	4