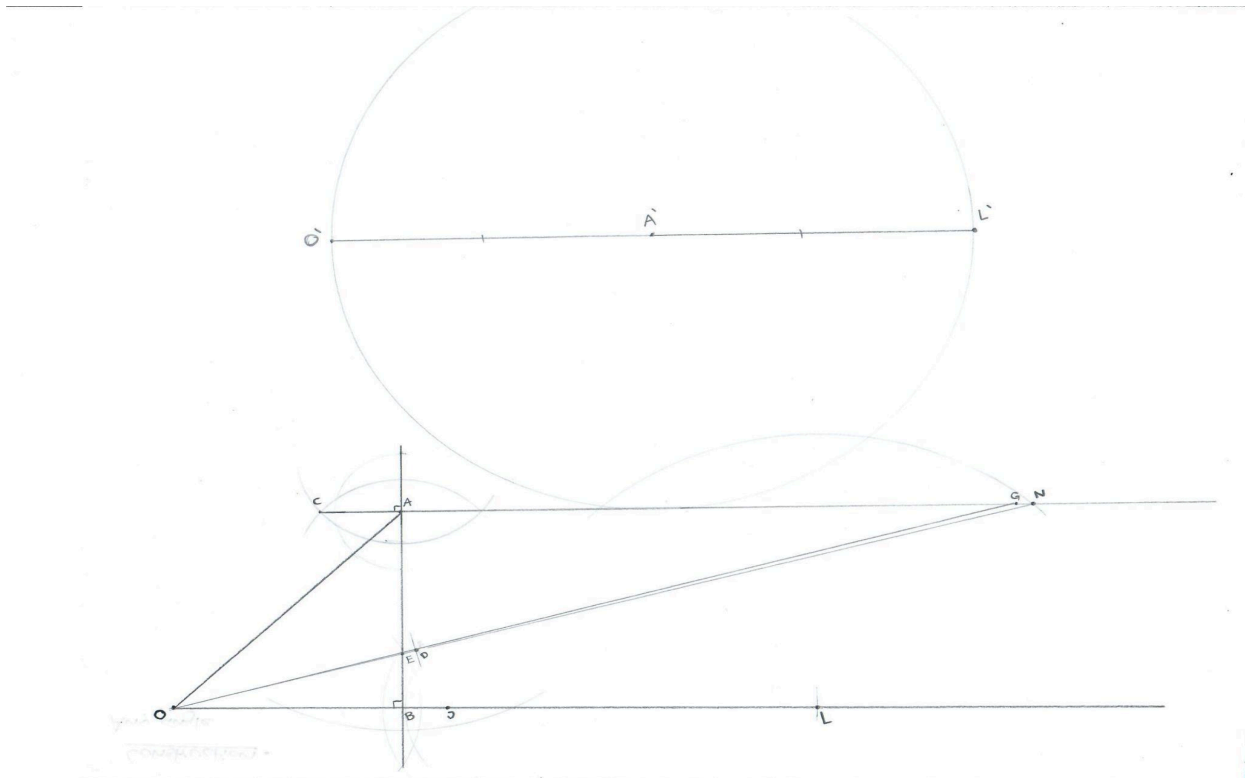


**Construction:**

1. Any angle  $\angle AOJ$
2. Extend line OJ rather far
3. Find point B by dropping perpendicular from point A
4. Bring forth a secondary perpendicular to line AB intersecting A producing line CW
5. Focus line OA and transport it to create separate line O'A'
6. Circle O'A' center A'
7. Extend O'A' to find L'
8. Transport O'L' to needle O to find point L
9. Circle center L length OA to find point N
10. Line NO finding point E
11. Circle Center N length O'L' to find point D
12. Length DE center N to find G
13. Line GO



**Proof.**

Given:  $\angle AOB$ , F as midpoint of line AG, H as midpoint of KG, line FH perpendicular to AG, all constructed to be so. Point I as midpoint to OH, and perpendicular to OH intersecting A. Meaning  $\triangle OAH$  is isosceles

1.  $\angle GOB \cong \angle AGO$  (parallel line system)
2.  $\triangle AFH \cong \triangle FGH$  by Side  $FH \cong FH$   
 Angle  $\angle AFH \cong \angle HFG$  (right angle)  
 Side  $AF \cong FG$  (bisection)
3.  $\angle GOB \cong \angle FAH$  (via transversal)
4.  $\angle AHO = \angle FAH \times 2$   
 $\triangle AGH = 180^\circ$   
 $\angle AHG = 180^\circ - \angle FAH \times 2$  ( $\angle FAH + \angle FGH$ )  
 $\angle KHG = 180^\circ$   
 $\angle AHO = \angle KHG - \angle AHG$   
 $\angle AHO = 180^\circ - (180^\circ - \angle FAH \times 2)$   
 Therefore  $\angle AHO = \angle FAH \times 2$
5.  $\angle AHO \cong \angle AOH$
6.  $\angle AOH = \angle FAH \times 2$  (transitive property)  
 $\angle AOH = \angle GOB \times 2$  (transitive property)
7.  $\angle GOB + \angle GOB = \angle AOH$   
 $\angle AOH + \angle GOB = \angle AOB$

Therefore:  $\angle AOH = \frac{2}{3} \angle AOB$   
 $\angle GOB = \frac{1}{3} \angle AOB$

Q.E.D.

