DOI: https://doi.org/10.24297/jam.v17i0.8412

Angle Trisection

(A)Angle Trisection (B) The Method: Reviewing Past Material Based On The Metaphorical Approach And Ideology Of Language, (C) The Sample: A Similar Review Has Not Been Conducted So Far, (D) The Results Of Study: If Something Is Impossible On Paper, It Doesn't Mean That It Doesn't Happen In Nature.

Mehryar Husyan Pourshad

mehryarhusyanpourshad@gmail.com

Abstract

We seek to increase the development of science, but there are several fundamental questions about what is. Without solving the question is a false reflection of the history of science and the beginning of cognition. We know that their investigation and resolution, with the exception of rooting and knowledge of morphophonemic, do not come. Research on certain natural or pure mathematical phenomena is an example of my fundamental research that will lead to the definition of general principles and scientific theories.

Keyword: Plato's Philosophy, Aristotle's Philosophy, Al-Biruni's Philosophy, Archimedes. General Philosophy,

Section1: what is angle trisection?

1.data

Universal and its structure have two opinions.1. universal is defining particulars. 2. total particulars are universal. There are three sources to support each opinion. Ancient texts, Middle ages knowledge and Age of enlightenment books. Ancient texts are starting point thus these are the original source. Archimedes, Plato's letters and Aristotle are chosen for research.

2.Rotting science:

The relationship between metaphorical approach and language ideology is one trick the interpretation of term and terminology that checked in the writings of Plato and Aristotle.

Metaphorical approach: approach means is to A way of dealing with a situation or problem (oxford advanced learner's dictionary). The metaphor is an expression, often found in literature, that a way describes a person or object by referring to something that is considered to have similar characteristics to that person or object (oxford advanced learner's dictionary).

Based on definitions metaphorical approach means is: utilize similar characteristics for overcoming to a situation or problem.

language ideology: work on language ideology show how linguistic choices and language change are affected by how people conceive of language and its use and explores the circulation of and struggles over dominant conceptualizations of language and its functions. (discourse analysis, p 66)

Language ideology gives a special relationship between words. The metaphorical approach makes special means of words. Therefore, the metaphorical approach is one side of reading and language ideology is another side of reading.

2-1. Plato's latter and his academy rotting science:

we are reading in Timaeus letter at:

- the State–how constituted and of what citizens composed it.
- separating the husbandmen and the artisans from the class of defenders of the State.
- single employment and particular art
- guardians and their education
- women and their problems
- procreation of children
- and the relation between an up case in the State (page 1851)

Plato counts people, jobs and activities, these are the metaphor of possibilities that the state is a realization by them. The state is a realization if relationships between possibilities to be feasible. Plato talks about feasible, possible and place. Possibilities and describe them are Plato's metaphorical approach and relationships between possibilities are Plato's language ideology.

1. Feasible is able to be made (Cambridge online dictionary)
2. Possible is that might or might not happen or exist. (Cambridge online dictionary)
3. The place is a floor that possible is feasible there.

The Republic book arranged in the 10 part. Each part of the book talking at possibilities that possibilities make a Feasible called republic. This republic is in the place. the country is the name of the place. Plato's other letters are the same. The metaphorical approach gives possible, feasible and place. Language ideology gives a ratio between the possible, feasible and place. thus Plato method is: total particulars is universal.

2-2. Aristotle is Plato's student, he said in the physic book:

> Now what is to us plain and clear at first is rather confused masses, the elements, and principles of which become known to us later by analysis. Thus we must advance from universals to particulars; for it is a whole that is more knowable to sense-perception, and universal is a kind of whole, comprehending many things within it, like parts. Much the same thing happens in the relation of the name to the formula. A name, e.g. 'circle', means vaguely a sort of whole: its definition analyses this into particulars. Similarly, a child begins by calling all men father, and all women mother, but later on distinguishes each of them. (Aristotle, 1991.page 2, 3)

But anything Aristotle was writing is not according to the Plato method. Aristotle talks about

"we must advance from universals to particulars". this sentence gives to us analysis means.

"universal is a kind of whole, comprehending many things within it, like parts" this sentence gives thing are in a certain location also Helps us to adapt between occurrence and location.

kind of whole is the metaphor of location and many things within is the metaphor of occurrence.

"Much the same thing happens in the relation of the name to the formula." This sentence says Events are evident in the relationship between things and location.

The analysis gives to hand details. The detail is a thing and a location that thing is here and event are related between things and locations.

1. Event: the final outcome or determination of legal action. (Merriam-Webster online dictionary)

2. Occurrence: the action or fact of happening or occurring. (Merriam-Webster online dictionary)

3. Location: a position or site occupied or available for occupancy or marked by some distinguishing feature. (Merriam-Webster online dictionary)

The metaphorical approach gives event, occurrence, and location. Language ideology gives a ratio between the event, occurrence, and location. Therefore, Aristotle method is: universal is defining particulars

3.data analysis:

We read in Parmenides letter:

Straight line:

The reason is, that whatever is to touch another must be in separation from, and next to, that which it is to touch, and no third thing can be between them.

True.

Two things, then, at the least are necessary to make contact possible?

They are.

And if to the two a third be added in due order, the number of terms will be three, and the contacts two?

Yes.

And every additional term makes one additional contact, whence it follows that the contacts are one less in number than the terms; the first two terms exceeded the number of contacts by one, and the whole number of terms exceeds the whole number of contacts by one in like manner; and for everyone which is afterward added to the number of terms, one contact is added to the contacts.

True. (Plato, p. 972)

Circle:

Parmenides: Why, because the round is that of which all the extreme points are equidistant from the center?

Aristotle: Yes. (Plato, p. 959)

Point:

Based on a straight line and circle definitions, the point is part of the line. Two points make the smallest line. Each line is limited between two points. The line is not on the point and the point is not on the circle. The point is part of the line only.

Now, I am going to draw a circle. I have a few points. For example, I have 360 points for the perimeter. How many points takes place in the radius?

The essential ideas of this method are very simple and caribe described briefly as follows: Given a region whose area is to be determined, we inscribe in it a polygonal region which approximates the given region and whose area we can easily compute. Then we choose another polygonal region which gives a better approximation, and we continue the process, taking polygons with more and more sides in an attempt to exhaust the given region. The method is illustrated for a semicircular region in Figure 1.2. It was used successfully by Archimedes (287-212 **BS.)** to find exact formulas for the area of a circle and a few other special figures. (Apostol, p. 2)

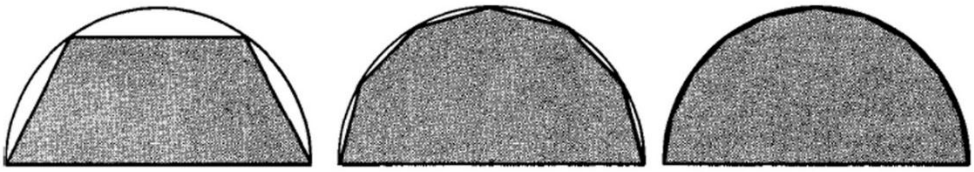

FIGURE 1.2 The method of exhaustion applied to a semicircular region.

"Archimedes" circumference formula is equal whit $p = 2 * r * \pi$. "r" is a line by a few points. Pi number is originally defined as the ratio of a circle's circumference to its diameter, thus I have:

$$p=2*r*3.14$$

$$360=2*r*3.14$$

$$r=57.32$$

There is not a radius with 57.32 points because the point is an undefined concept and divide it is impossible. Draw a circle through the radius. I chose 58 points for the radius. How many points are on the circle perimeter?

$$A=2*3.14*r$$

$$A=2*3.14*58$$

$$A=360.42$$

The circumference is open, like figure 1. The pi makes a mistake. When Archimedes divided the circumference into the infinite parts, did not define the size of each section. Each part of the circle's environment is another length standard. Since each side of the polygon is not a point, but the circle is the line and the line is formed from the point. Plato's method could not draw a circle since relationships between possibilities are not feasible thus there is not a place called a circle.

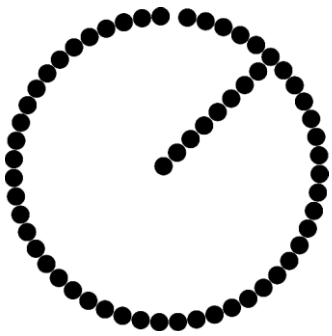

Figure 1

3-1. how to draw a circle?

Abu Rayhan Al-Biruni:

Al-Biruni used different methods to tackle the various fields he studied. Many consider Al-Biruni one of the greatest scientists in history, and especially of Islam because of his discoveries and methodology. For example, his geometrical definitions are difficult.

The first definition is geometry, the second definition is the body, the third definition is a dimension, the fourth definition is the direction, the fifth definition is the plane, the sixth definition is the line and the seventh definition is the point, Unlike Arabic translate Euclid element geometry that first definition is point definition. (Al-Tafhim, page1)

Al-Biruni has looked like Aristotle. (Al-Biruni, p.1,2,3 and 4)

1. There is a plane like P. (figure 2)

Figure 2

2. I chose a line whit 58 points like the "AB" line. (figure 3)

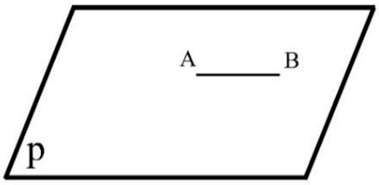

Figure 3

3. "B" point stay in the plane and "A" point high up the plane.

4. The shade of the "AB" line is NB and to create an angle between AB and NB.

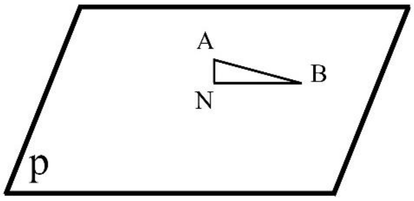

Figure 4

5. The shade of the AB line equals 57.32 points.

6. I am going to move the AB line around the NA line. (figure 5)

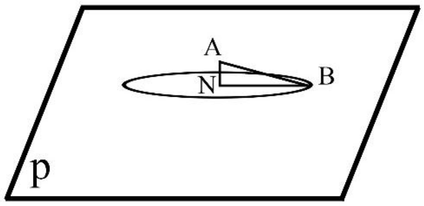

Figure 5

Cone is a body that the height of the cone is dimension like NA. Chord of the cone is direction like 58 points, the peak of the cone is a point. The cone's section is plane like circular. cone's section is constituting of 360 points.

Circumference is

$$57.32*3.14*2=359.96$$

359.96 is equal to 360 because the precision of numbers is two decimal places. I increase the precision of the numbers:

$$57.3248*3.14*2=359.999$$

Therefore, I have a circle with a closed perimeter, like figure 6. The standard length is defined by the chord of the cone.

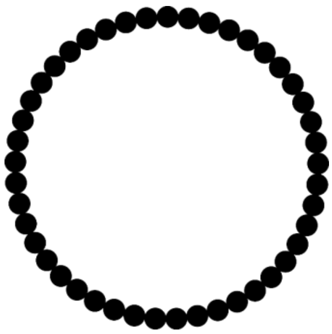

Figure 6

This circle is my circle and I would use it in all article and the circle radius is not an integer.

There is an event that to occur in location. The event is motion a line around another line. The occurrence is adapting head points on each line in the plane and the location will emerge.

But Archimedes search real number system and earn this result: numbers are infinity.

The property described in Theorem 1.30 is called the Archimedean property of the real number system. Geometrically it means that any line segment, no matter how long, maybe covered by a finite number of line segments of a given positive length, no matter how small. In other words, a small ruler used often enough can measure arbitrarily large distances. Archimedes realized that this was a fundamental property of the straight line. (Apostol, p. 26)

Also, Archimedes divides each side of the polygon in the circle into two parts to turn the polygon into a circle thus polygon turns into a circle after dividing each side into infinity, that dividing each side into infinity is not possible. Based on a few pages there is not a place from draw and circle is not possible in the place thus the circle is not feasible. On the other, there is a cone that it is an event in the location thus the cone is an occurrence and circle is an event.

3-2. The problem is bigger than the circle's drawing.

The plane is limited by two straight lines like the "C" line and "D" line. I draw the "C" line based on Plato's method. (figure 7)

Figure 7

The "C" line Composed of points and I am drawing a few lines by straight-line rules. Like c1, c2, c3, and others. (figure 8)

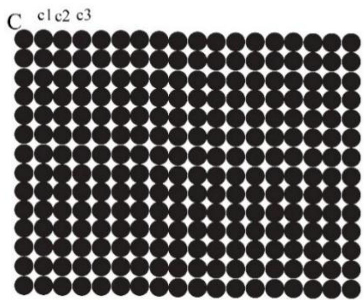

Figure 8

I can show D line is another side of the drawing. (blue points in figure 9)

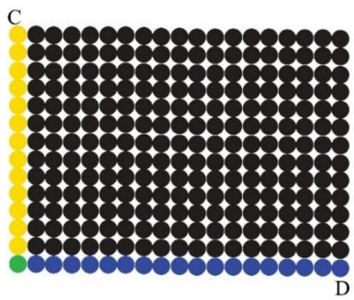

Figure 9

There are two straight lines that plane is a limited insert of an angle, also they are making a right angle that all other angles match into the right angle. Chose a point like a red point in figure 10. The red point is two lines connecting, one line is parallel to the "C" line and another line is parallel to the "D" line.

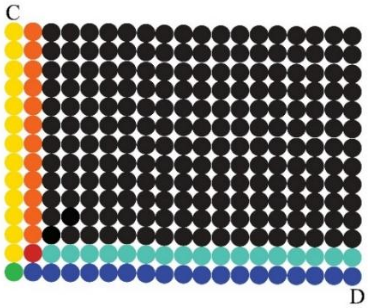

Figure 10

Are there other angels on the plane?

The first postulate of Euclid says: To draw a straight line from any point to any point. (Euclid, book Ⅰ)

I am choosing two points on the plane for drawing another angle (Like purple points in figure 11). But there is not a line between two points in the plane. Because the plane is a few arranged points that there are many angles thus there isn't a diagonal line. (figure 11)

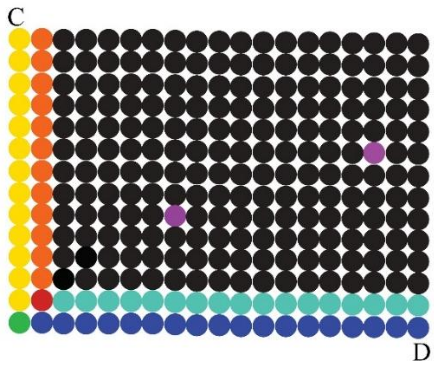

Figure 11

All angels are matching together, therefore, they are equal. Now we have the fourth Euclid's postulate. The fourth postulate says: That all right angles are equal to one another (Euclid, book Ⅰ).

parallel lines and right angles are two basic concepts from all geometry. Trigonometry is an application of two basic concepts. Pythagorean theorem talk based on right angle by two real lines and shows the imaginary tired line because there isn't the diagonal line in the Euclidean page also the circle does not match Euclidean page because the circle radius cannot be an integer and all distances are an integer in the Euclidean page based on the first postulate. The first postulate says: Let it have been postulated to draw a straight-line from any point to any point (Euclid, book Ⅰ).

Example of trigonometry:

Consider a right triangle $\triangle ABC$, with the *right angle* at C and with lengths a, b, and c, as in the figure on the right. For the acute angle A, call the leg BC its opposite side, and call the leg AC its adjacent side. Recall that the hypotenuse of the triangle is the side AB. The ratios of sides of a right triangle occur often enough in practical applications to warrant their own names, so we define the six trigonometric functions of A as follows:

Name of function	**Abbreviation**	**Definition**
sine A	$\sin A$	= opposite side/hypotenuse
cosine A	$\cos A$	= adjacent side/hypotenuse

tangent *A*	tan *A*	=opposite side/adjacent side
cosecant *A*	csc *A*	= hypotenuse/opposite side
secant *A*	sec *A*	=hypotenuse/adjacent side
cotangent *A*	cot *A*	= adjacent side/opposite side
(TRIGONOMETRY, MICHAEL CORRAL July 2009 Livonia, Michigan p 7)		

The admittedly right angle is intellectual support that gives to us other information.

Postulates and points next to each other make one dogmatic notion because all concepts come to hand by them and there is no other way.

Euclidean page is a categorical page that circle is impossible in it because the radius of the circle is not true numbers thus we must recognize another page for circle. Rather pi constant is so effective. Squaring the circle is a suitable example. Square's standard gained of categorical page and circle's standard gained on another page. Squaring the circle says to us standard fit of circle and square not discovered.

4.discuss

We have a point, line, circle, and relationships between them. also, we know feasible, possible, place and event, occurrence, location. Based these we can draw all angles.

Draw a right angle:

1. Draw one circle to the center o.

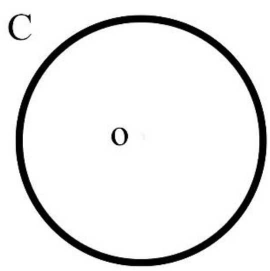

Figure 12

2. chose a point on the circle's environment like p. draw another circle to the center p

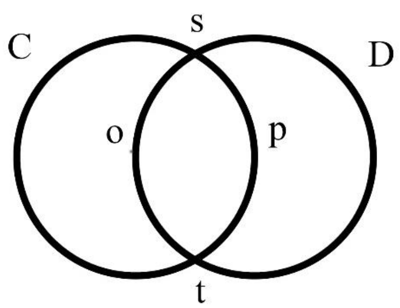

Figure 13

3. connect to center together by line like K. connect to the connection point, t, and s, by lines like G. G line and "K" line meet together in the point like m. Draw a circle to the center m

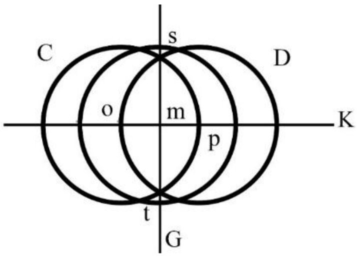

Figure 14

4. There are two lines four angels and one circle, easer others.

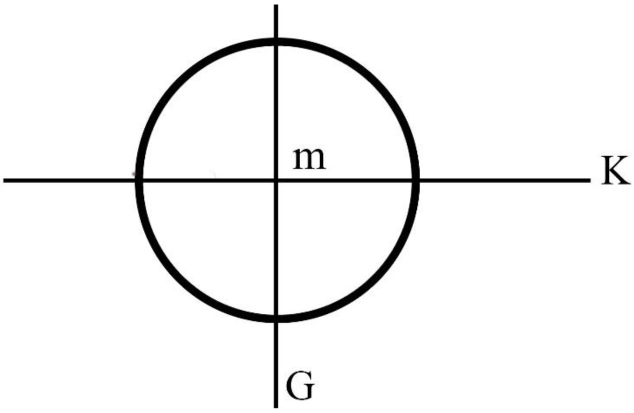

Figure 16

There are four right angles Because the constructive elements of the four angles are equal.

Now Divide once right angle to two equal parts:

5. circle and “G” line meet in the “a” point. Draw to the “a” center a circle

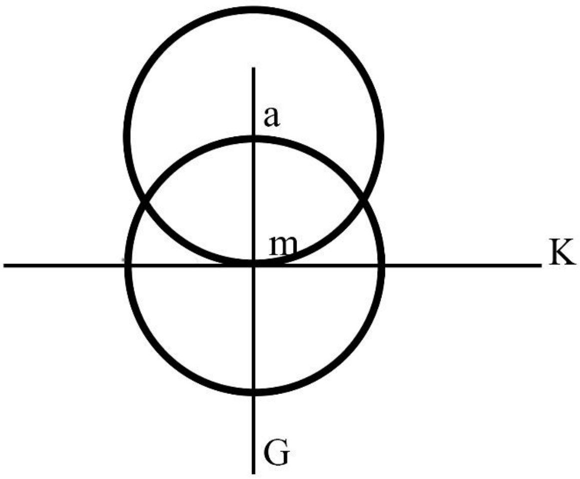

Figure 17

6. circle and “K” line meet in the “b” point and draw to the “b” center a circle

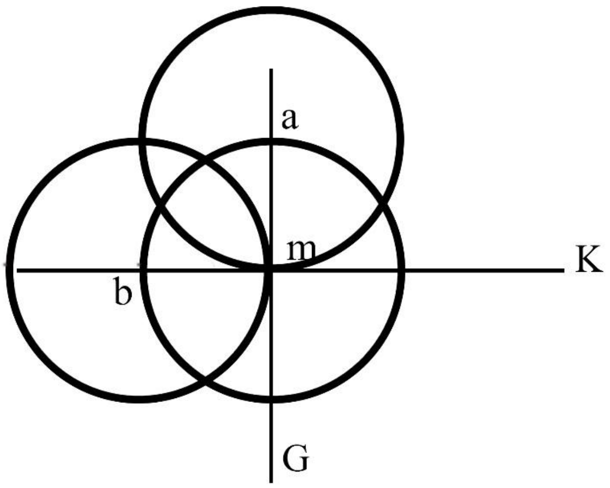

Figure 18

7. Two circles meet in the point like c. Draw a line across of m and c like L.

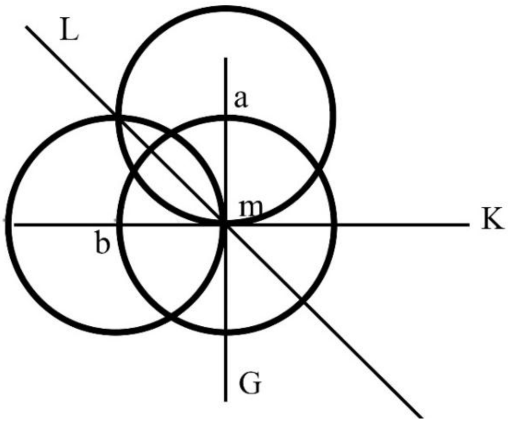

Figure 19

8. L is angle bisector Because the constructive elements of the two angles are equal

9. Circle to the center "m" and to the center a meet in the point like f. Circle to the center “m” and to the center b meet in the point like “e”.

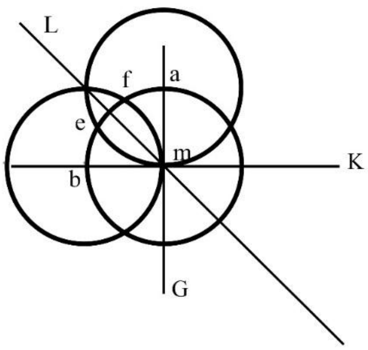

Figure 20

10. Draw a line across of m and f like I. Draw a line across of m and e like J

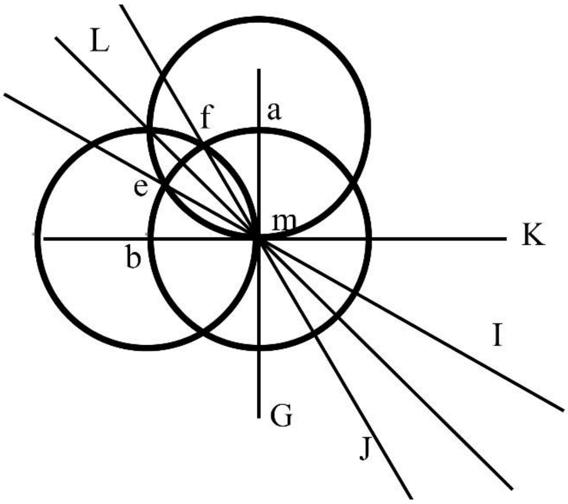

Figure 21

11. I line and J line divide the right angle into three equal parts.

Do lines I and J divide the angle into three equal parts?

We divide the angle of line I and K into two equal parts.

The result is the “P” line.

Also

We divide the angle of line J and G into two equal parts

The result is the “Q” line.

If “P” is the same “J” line, the angle of "K" and "J" is equal to the angle of "J" and "I".

Also

If “Q” is the same “I” line, the angle of "Q" and "I" is equal to the angle of "J" and "I".

Thus

The angle of “K” and “J” is equal to the angle of “Q” and “I”.

11-1. chose the angle of “G” and “I”. draw a circle into “m” center. The circle meets the “G” line in “e” point also circle meets “I” line in “f” point. (figure 10-1)

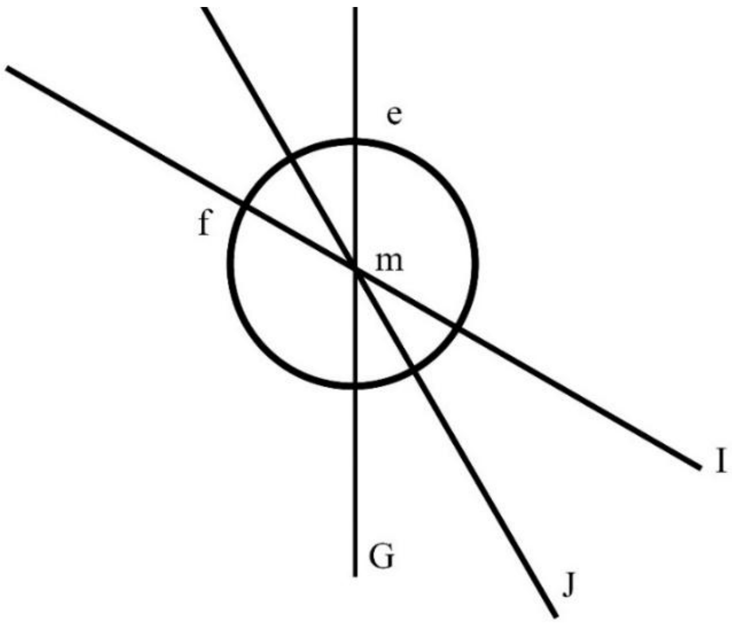

Figure 11-1

11-2. draw a circle into the “e” point also draw another circle into “f” point. Two circles have a point like “c”.

There is a line that across of “c” point and “m” point like J.

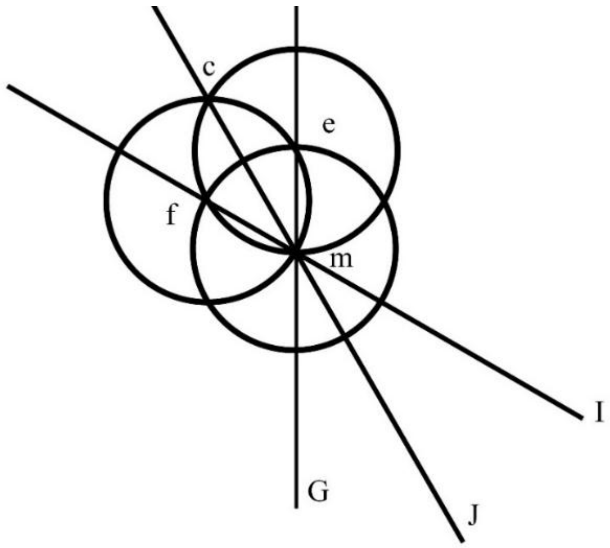

Figure 11-2

Thus “J” line is bisector angle of “G” and “I”.

11-3. chose the angle of “K” and “J”. draw a circle into “m” center. The circle meets the “K” line in “l” point also circle meets the “J” line in “k” point. (figure 10-3)

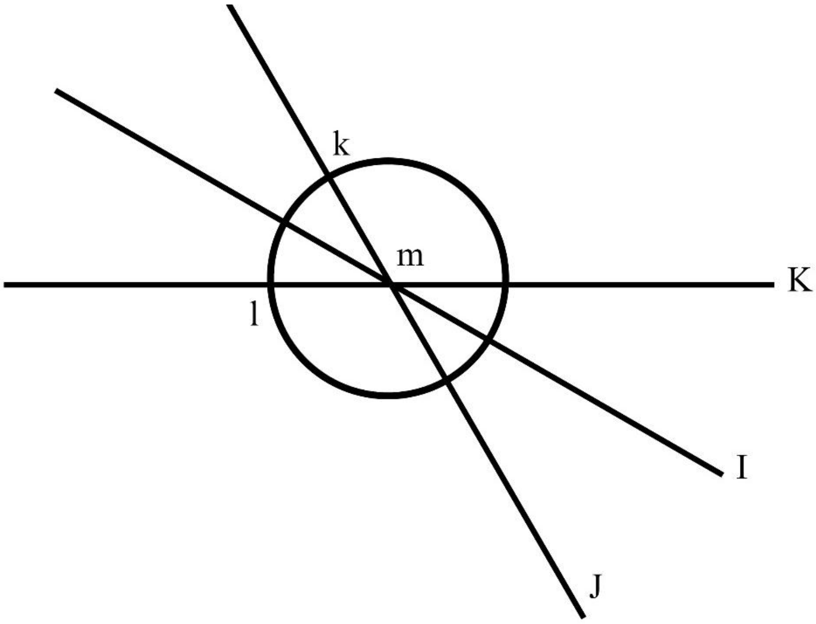

Figure 11-3

11-4. draw a circle into the “l” point also draw another circle into “k” point. Two circles have a point like “d”.

There is a line that across of “d” point and “m” point like I.

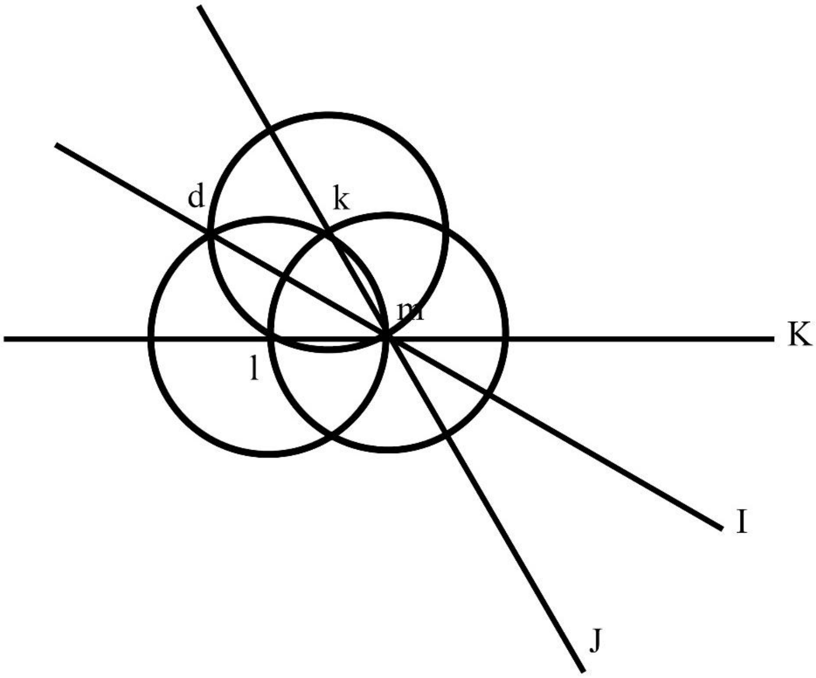

Figure 11-4

Thus “I” line is bisector angle of “K” and “J”.

The angle of “G” and “I” has two equal part. Also, the angle of “K” and “J” has two equal part. And the angle of “I” and “J” is subscribed between them. Thus the angle of “K” and “G” has three equal part. The 10-1, 10-2, 10-3 and 10-4 steps are used to ensure that the angle is divided into three equal parts.

Define angles: Each point on the L line is an apex.

12. Chose a point like "n" on the L (angle bisector). Draw a line that across of "n" and "a" like Y. Draw a line that across of "n" and "b" like W.

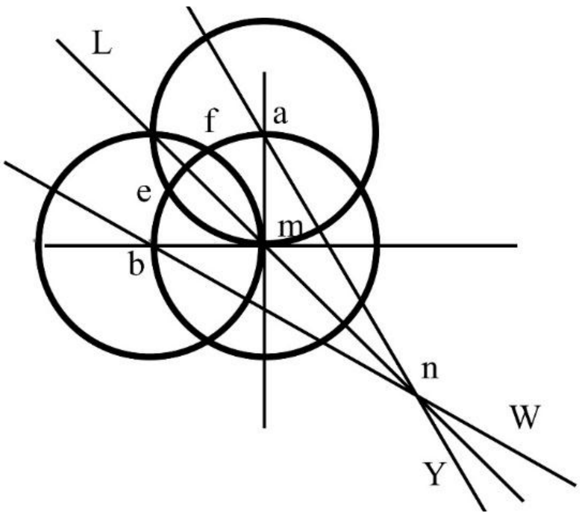

Figure 22

13. Draw a line that across of n and f like P. Draw a line that across of n and e like Q.

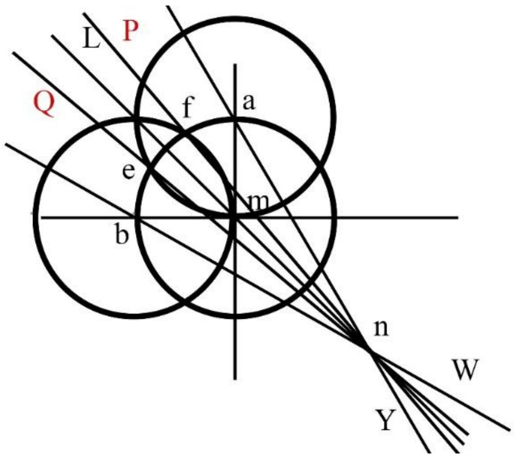

Figure 23

14. Angel's apex is n, Y and W angel make. P and Q lines divide angle to three equal parts. Easer W line and circles. Use the 10-1, 10-2, 10-3 and 10-4 steps to ensure that the angle is divided into three equal parts.

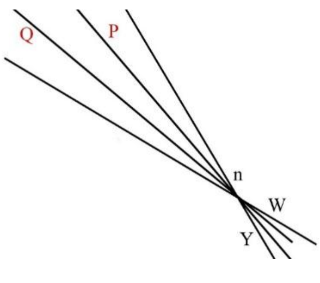

Figure 24

15. Chose Q and W lines and "n" point. These make an angle. Divide angle to two equal parts.

15-1. draw a circle to "n" point. the circle meets P line in "a" and circle meet W line in "b" point.

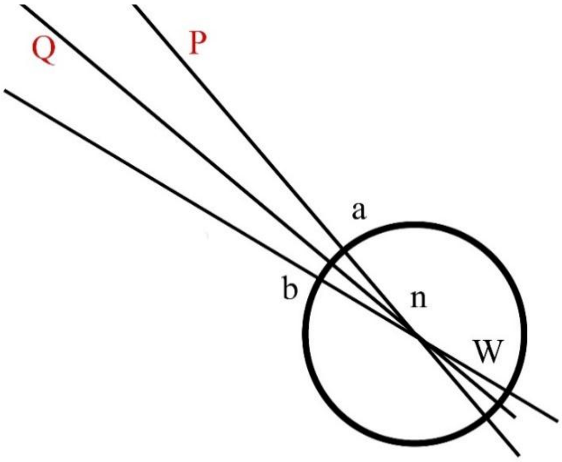

Figure 25

15-2. draw a circle in to center "a" and draw "a" circle into center "b". circle into center "a" and circle into center "b" meet together in a point like "c".

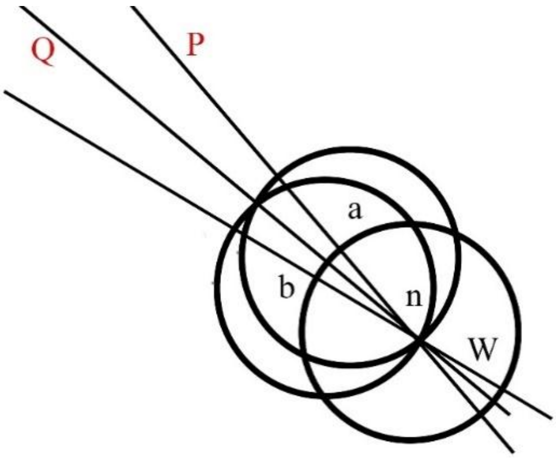

Figure 26

(Q line across of c. Q and W make an angle called v and P and Q make another angle called u. v = u.)

16. Chose Q and W lines and "n" point. These make an angle. Divide angle to two equal parts.

16-1. draw a circle to "n" point. the circle meets P line in "a" and circle meet Y line in "b" point.

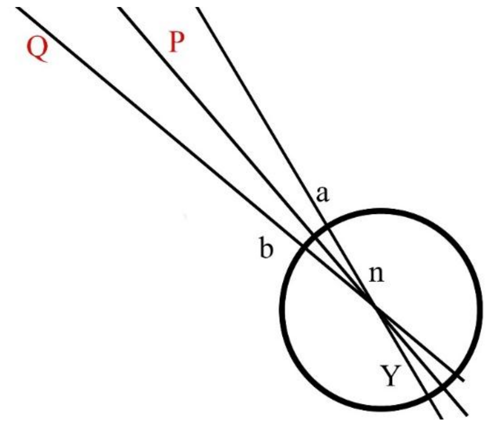

Figure 27

16-1. draw a circle in to center “a” and draw “a” circle into center “b”. circle into center “a” and circle into center “b” meet together in a point like “c”.

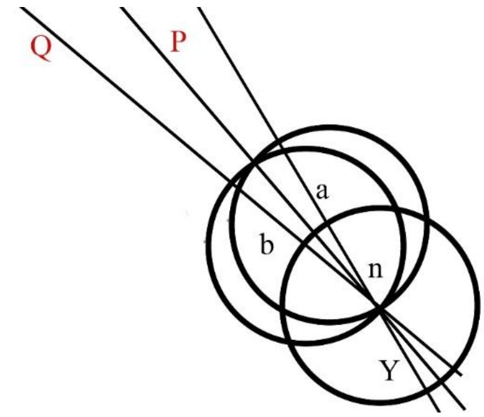

Figure 28

(P line across of d. P and Y make an angle called z and P and Q make another angle called u. z = u.)

P line across of c. P and Y make an angle called z. P and Q make another angle called u. u = z. There are three angles by four line W, P, Q, and Y. W and Q angles called “v”, Q and P angles called u, P and Y angles called z.

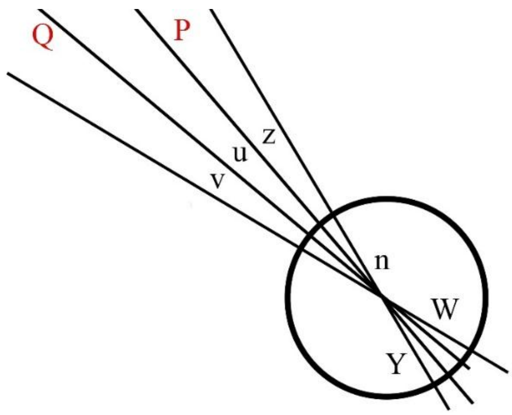

Figure 29

(u=z and u=v thus z=v. P and Q divide the angle into three equal parts.)

First result:

I do not intend to write a proof. I'm just trying to get some new arguments.

The argument is a coherent series of reasons, statements, or facts intended to support or establish a point of view. (Merriam-Webster online dictionary)

Argument of nature the angles trisection: From angle trisection, each angle occur in figure A. Figure A is the location, each angle is an occurrence, and an angle trisection is an event. “oa” and “ob” make a right angle by “o” apex, other angle’s apex is a point on the right angle bisector and one side of angle across of “a” point and another side of angle across of “b” point. There is a line that across of apex and “e” point and there is a line that across of apex and “f” point and exactly done angle trisection.

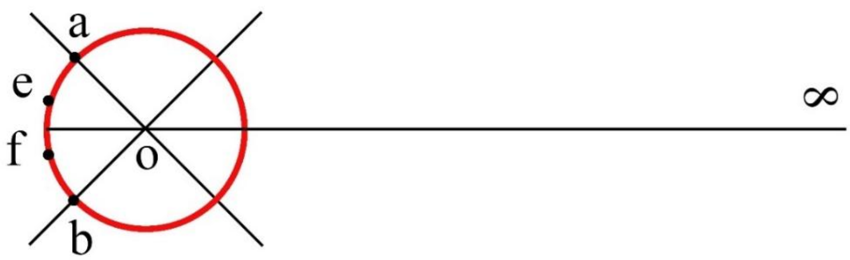

Figure A

Angle trisection boundary conditions:

0-degree is in infinity. Right angle bisector line meets “ab” line in “m” point. “m” point make 180-degree. All angle is between “m” point and infinity. Infinite distance to point “o” and line "om" are not equal but degree numbers between 0 and 90 degrees are the same degree numbers between 90 and 180 degrees. This is the angle’s physic issue, not included in this article.

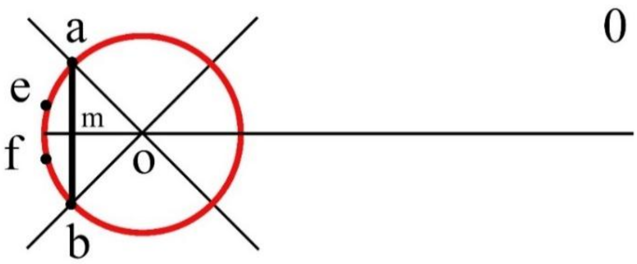

Figure 30

Section 2: how to do angle trisection?

1.data

Unity and its structure have two opinions. 1. Unity is defining plurality. 2. Total plurality is unity. there are three sources to support each opinion. Ancient texts, Middle ages knowledge and Age of enlightenment books. Ancient texts are starting point thus these are the original source. Plato’s letters and his academy are chosen for research.

2.rotting science:

The relationship between principle, axiom, and postulate is one trick the interpretation of concept and conceptualism that checked in the conventional writings of Plato and Aristotle.

Two famous Principles:

1. The principle of sufficient reason:

Several studies have been done of this principle, All of them agreed on a point. The point is: Everything has rational means.

2. The principle of identity:

Several studies have been done of this principle, all of them agreed on a point. The point is an attribute in two shows two things are equal.

A famous Axiom:

There are 3 things like “a”, “b” and “c”.

“a” and “c” is equal in a rational means.

“a” and “b” is equal in the same rational means.

“b” and “c” is equal.

”rational means” come to hand based on “the principle of sufficient reason” and “to be equal” earn based on “the principle of identity”.

A famous Postulate:

The zero law of thermodynamics is unproven and not obtained through argument, but its correctness has always been approved. Thus called to it postulate.

the postulate of thermodynamics: If two systems are each in thermal equilibrium with a third system, they are in thermal equilibrium with each other.

There are three systems like: “a”, “b” and “c”.

rational means is “heat”.

“a” and “c” is in the heat.

“a” and “b” is in Same heat.

“b” and “c” is the thermal equilibrium.

If the principles are combined, caused “Axiom” trend trunk. If the terms are subject to general terms postulate trend trunk. Unity is a qualified attribute and research qualified attribute near all show plurality

There are four principles that called rational principles (Paul Foulquié, part I), several studies have so far come from principles to action. The common aspect of all reviews is as follows.

- The principle of sufficient: Everything has rational means.
- The principle of identity: An attribute in two shows two things are equal.
- The principle of causality: Everything has a cause and every cause has an effect.
- The Principle of refuse contradiction: If there is something, it must be. If there is not something, it must not be.

I claim that the principles of the ancient texts are merged.

a) Merging the principle of sufficient and the principle of causality:

SOCRATES: And in a word, when he considers anything for the sake of another thing, he thinks of the end and not of the means?

NICIAS: Certainly.

SOCRATES: And when you call in an adviser, you should see whether he too is skillful in the accomplishment of the end which you have in view?

NICIAS: Most true.

SOCRATES: And at present, we have in view some knowledge, of which the end is the soul of youth?

NICIAS: Yes.

SOCRATES: And we are enquiring, which of us is skillful or successful in the treatment of the soul, and which of us has had good teachers? (Plato, p. 445)

The first sentence is an axiom:

And in a word,

when he considers anything for the sake of another thing, he thinks of the end and not of the means?

there are rational means and cause. Rational means is the subject itself and how to influence the subject is the cause.

The second sentence is a postulate:

And when you call in an adviser,

you should see whether he too is skillful in the accomplishment of the end which you have in view?

Because there are rational means and cause also vocabulary. rational means is accomplishment and cause is the person's skill to get to the goal.

b) Merging the principle of sufficient and the principle of identity:

SOCRATES: And by wisdom the wise are wise?

THEAETETUS: Yes.

SOCRATES: And is that different in any way from knowledge?

THEAETETUS: What?

SOCRATES: Wisdom; are not men wise in that which they know?

THEAETETUS: Certainly they are.

SOCRATES: Then wisdom and knowledge are the same?

THEAETETUS: Yes. (Plato, p. 1734)

There are three rational means. 1. Wisdom, 2. Knowledge, 3. Wise.

Wise and wisdom are equal

also wise and knowledge are equal,

thus wisdom and knowledge are equal, called postulate to it.

We delete terms and remain axiom:

There are 3 things like “a”, “b” and “c”.

“a” and “c” is equal in a rational means.

“a” and “b” is equal in the same rational means.

“b” and “c” is equal.

There are two principles.

1. the principle of sufficient
2. the principle of identity

c) Merging the principle of sufficient and the principle of refuse contradiction:

First I said to her in nearly the same words which he used to me, that Love was a mighty god, and likewise fair; and she proved to me as I proved to him that, by my own showing, Love was neither fair nor good. ‘What do you mean, Diotima,’ I said, ‘is love then evil and foul?’ ‘Hush,’ she cried; ‘must that be foul which is not fair?’ ‘Certainly,’ I said. (Plato, p. 1663).

There is a thing that is neither fair nor good, neither fair nor good is rational means. Rational means from a thing is a reason that there is a thing. Thus if there is a thing it must be, because we know the rational means, although these rational means is not defined intellectually.

So many propositions are adapted of merging principles and called axiom also. Principles and axiom have general terms but postulates have the vocabulary. Axiom is a postulate whit vocabulary.

3.data analysis

3-1. Socrates:

merging the principle of sufficient and the principle of causality is Socrates’s work. Because Plato and Aristotle's disagreement has nothing to do with the merger. Socrates’s perception of unity and plurality:

- Plurality: the cause is a plurality because there are the cause and cause-effect in the all.
- Unity: rational means is unity from cognition. Without rational means, we have not cognition.

3-2. Plato:

Merging the principle of sufficient and the principle of identity is Plato's work because Aristotle opposes it. Aristotle says in the Metaphysic book Ⅰ, part 8:

> **Those, then, who say the universe is one and posit one kind of thing as matter, and as a corporeal matter which has spatial magnitude, evidently go astray in many ways. For they posit the elements of bodies only, not of incorporeal things, though there are also incorporeal things. And in trying to state the causes of generation and destruction, and in giving a physical account of all things, they do away with the cause of movement. (**Aristotle, book Ⅰ, part 8)

That means is: the number of ideas and shadows are not equal. Therefore, Plato's perception of unity and plurality:

- Plurality: Equality is a plurality because there are equality and inequality in all.
- Unity: rational means is unity from cognition. Without rational means, we have not cognition.

3-3. Aristotle:

Merging the principle of sufficient and the principle of refuse contradiction is Socrates's work and Aristotle paid attention to it, but Plato did not pay attention to it. Aristotle says in the metaphysic book Ⅰ, part 10:

> **For even Empedocles says bone exists by virtue of the ratio in it. Now, this is the essence and the substance of the thing. But it is similarly necessary that flesh and each of the other tissues should be the ratio of its elements, or that not one of them should; for it is on account of this that both flesh and bone and everything else will exist, and not on account of the matter, which he names, -fire and earth and water and air. But while he would necessarily have agreed if another had said this, he has not said it clearly. (**Aristotle, book Ⅰ, part 10)

The ratio between elements, based on what is available, justifies the cause and the ratio between the elements either exists or not. Therefore, Aristotle's perception of unity and plurality:

- Plurality: to be or not to be is a qualified attribute that shows plurality.
- Unity: rational means unity from cognition. Without rational means, we have not cognition.

Unity is a qualified attribute and researching qualified attribute show plurality. Therefore, there are three qualified attributes, Refuse Contradiction, identity, causality. Each qualified attribute show unity and an adequate check of any qualified attribute indicates the plurality.

4.discuss

I'm going to choose a part of the data to divide the angle into three equal parts. From the existing data, the nature and position of the angle are sufficient for the purpose.

a. What is the angle's cause? Based on the Socrates method we know the principle of sufficient and the principle of causality is merged. The meaning of the preceding sentence is this: each angel must show causes of angular construction because an angle has sufficient.

What are the angle's causes?

The angle is a rational means also we know the cause is a plurality, so the cause of the angle is plurality at the angle.

1. There is a square piece of paper.

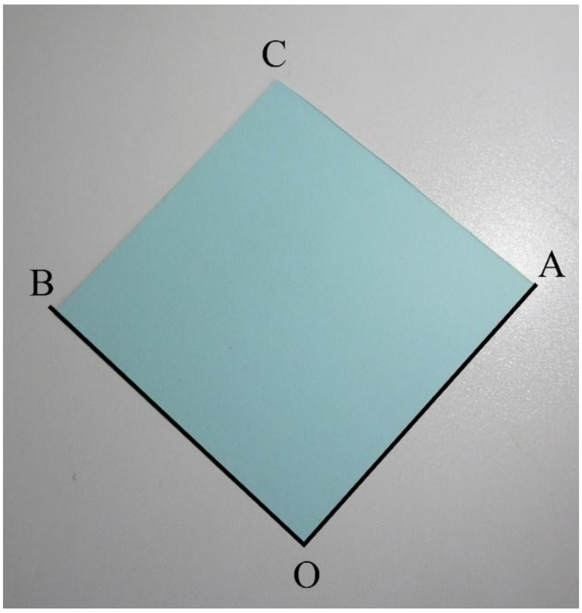

Photo 1

2. Divide a square piece of paper from its diameter into two equal parts. The shape of a paper will be in the form of a right triangle. Place a triangle rule on the table. The 0-degree angle is formed on the table.

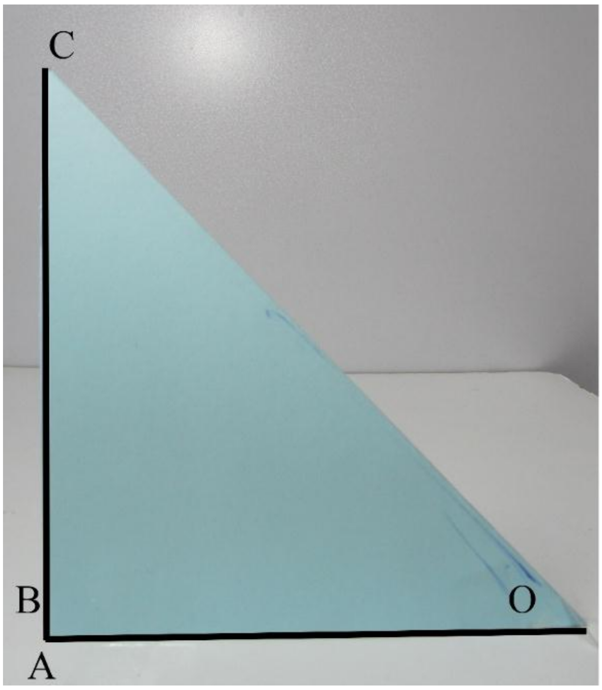

Photo 2

3. Open the paper from the folding area so all paper is placed on the table.

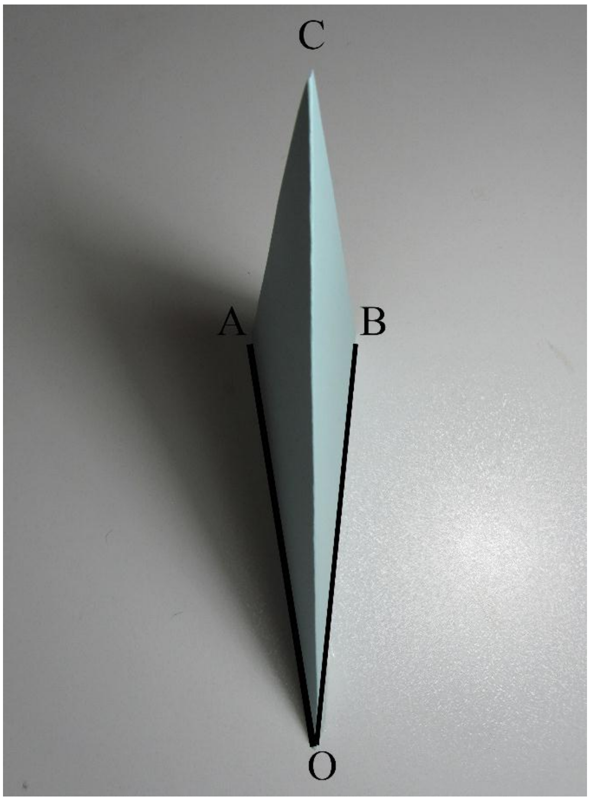

Photo 3

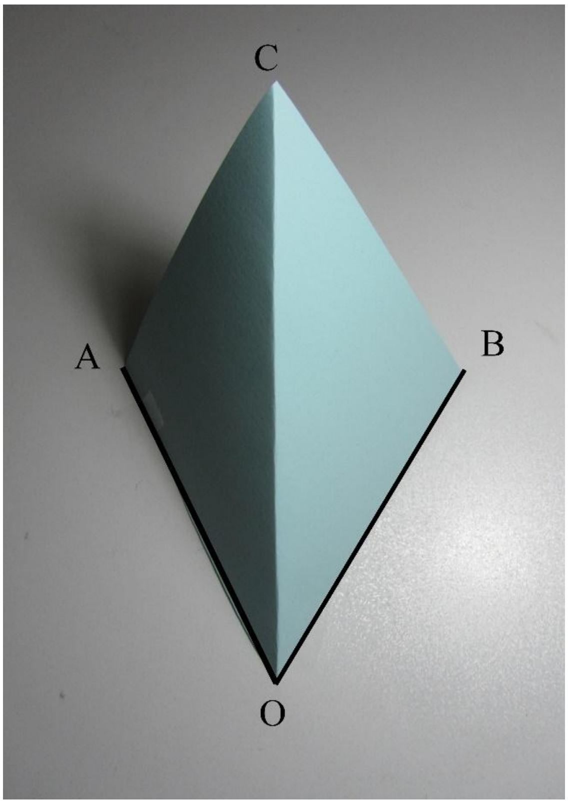

Photo 4

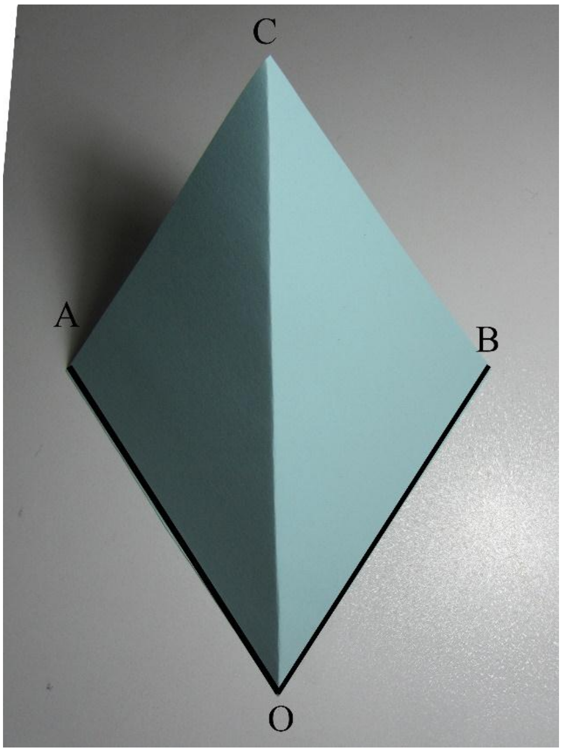

Photo 5

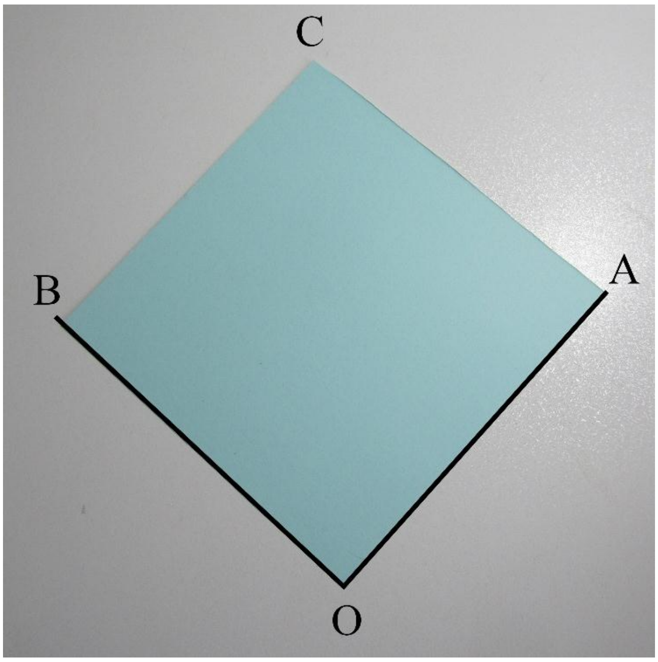

Photo 6

0-degree until 90-degree angles are formed on the desk. Point “C”, “A” and “B” traverse a quarter of a circle. each angle on the desk, points “C”, “A” and “B” form an isosceles triangle thus an isosceles triangle is a cause for an angle. The angle’s cause is an isosceles triangle.

b. How do common features of all angles come about? Based on Plato method we know the principle of sufficient and the principle of identity is merged. The meaning of the preceding sentence is this: each angle must show common specifications.

Where is an angle? According to the circular can be defined as angles position. *(In addition to drawing application, please try with compasses and rulers.)*

1. The collision of two lines like "K" and "N" makes an angle. The position of the collision is called the apex.

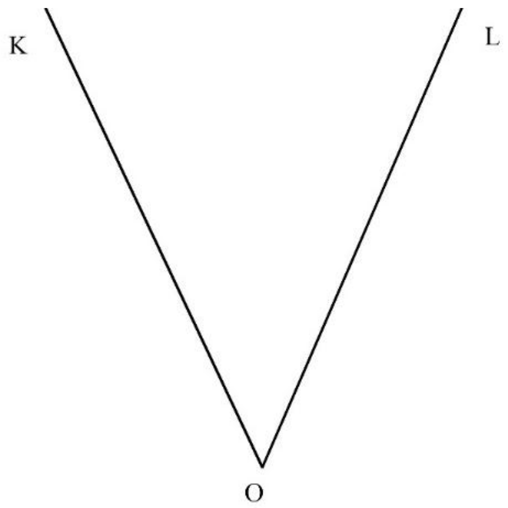

Figure b-1

2. Angle's apex is a center to drawing circle, like O circle.

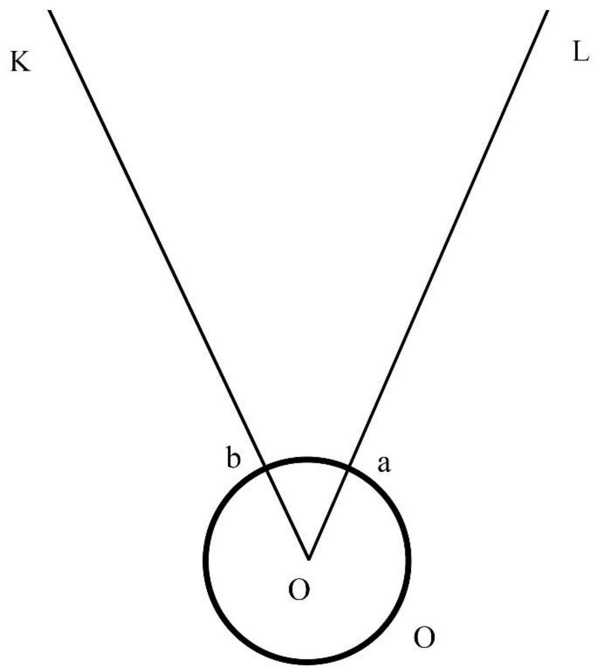

Figure b-2

3. Angle's sides meet "O" circle in the "a" and "b" points. "a" and "b" are two centers to drawing two circles like "P" and "Q".

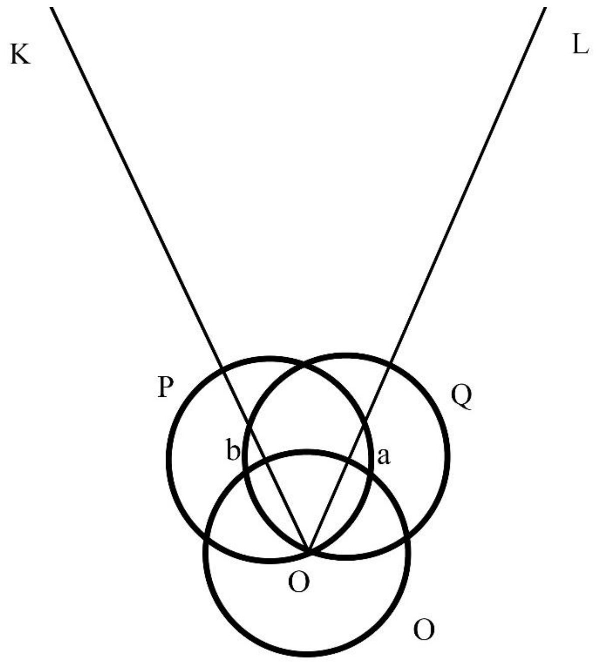

Figure b-3

4. The circles “P” and “Q” meet at the “c” point

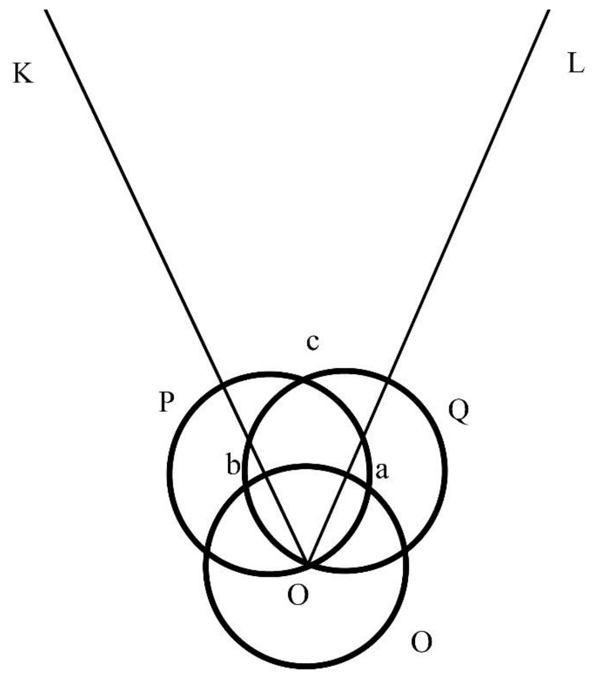

Figure b-4

5. “c” point is a center to drawing circle like “R”.

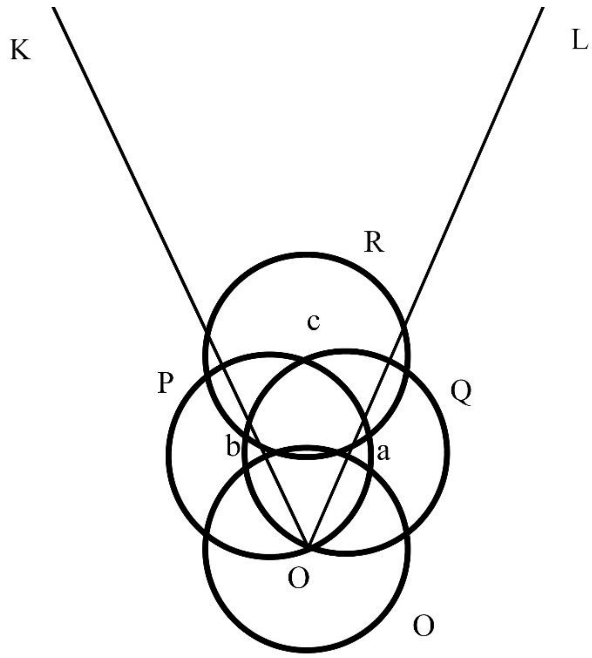

Figure b-5

6. The circle "P" and "R" meet at the "e" and "f" points, "L" line passes from points "e" and "f".

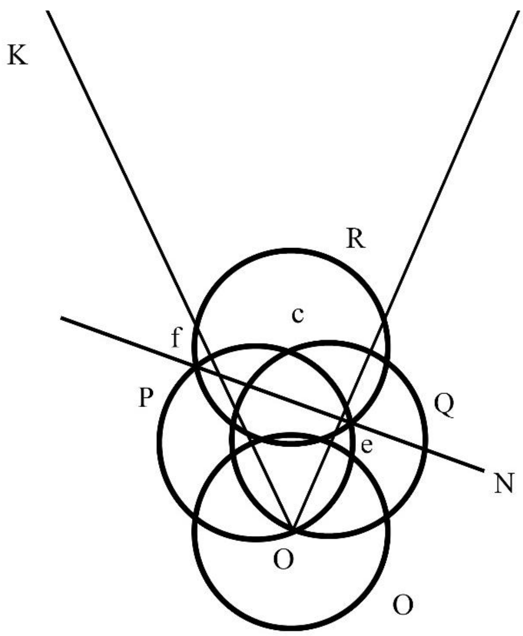

Figure b-6

7. The circle "Q" and "R" meet at the "j" and "h" points. "I" line passes from points "j" and "h".

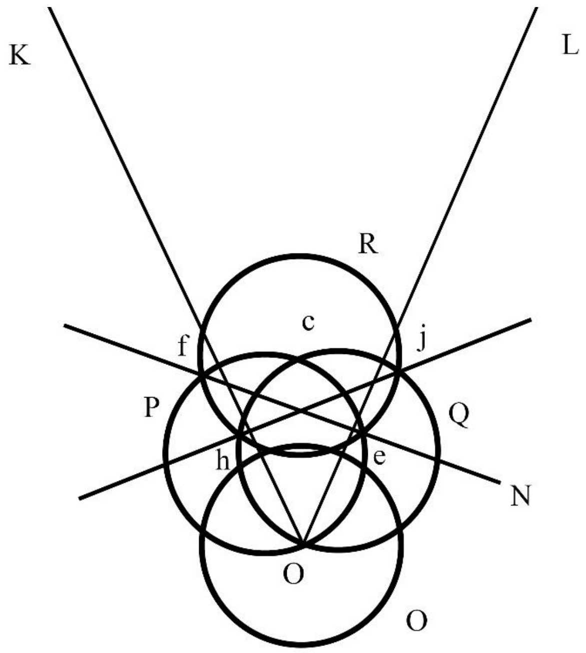

Figure b-7

8. “L” and “I” lines meet at the “m” point. “m” point is a center to drawing circle, like M.

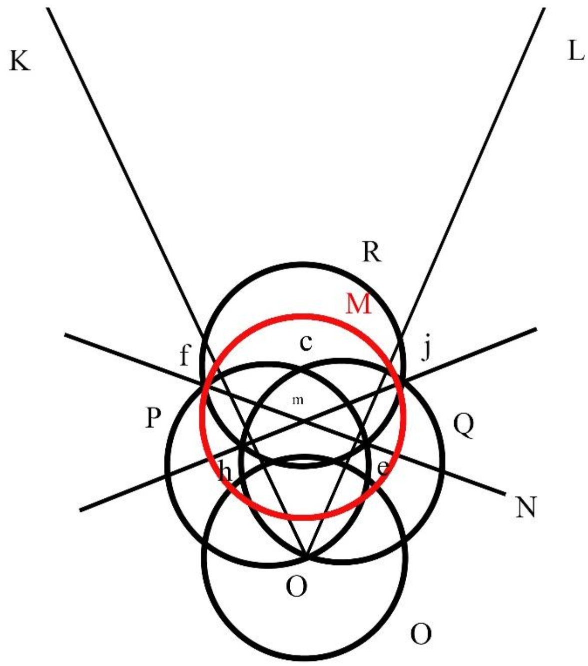

Figure b-8

10. The ratio of circles “O”,” R”,” P”,” Q” and “M” represents each angle.

c. How is the unique profile of an angle obtained? Based on Aristotle method we know the principle of sufficient and the principle of refuse contradiction are merged. The meaning of the preceding sentence is this: each angle must show causes of being.

How can monopolize every angle?

Based on “a” part we know angles and based on “b” we know there are five circles to defined each angle.

1. Draw the right angle by “O” apex and “X” and “Y” sides.

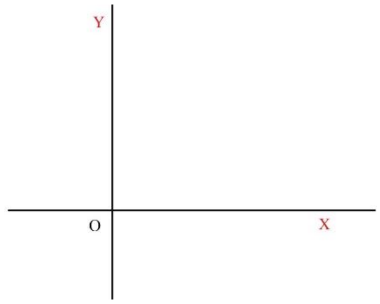

Figure c-1

2. draw a circle in to “O” center. Circle to “O” center meet “X” side in “a” point and meet “Y” side in “b”.

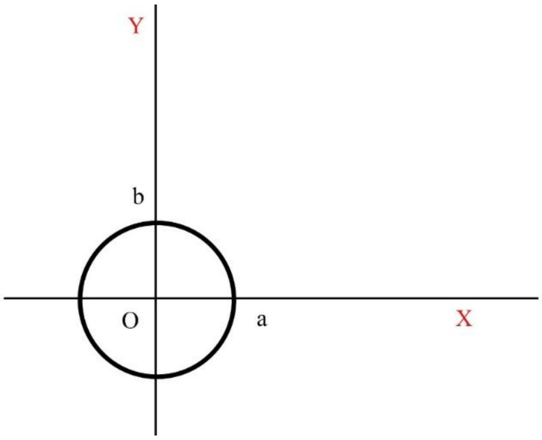

Figure c-2

3. draw a circle in to “a” center and draw a circle into “b” center.

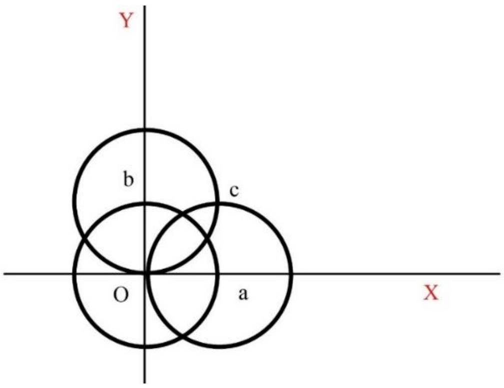

Figure c-3

4. circle to “a” center meet circle to “O” center and circle to “b” center meet circle to “O” center.

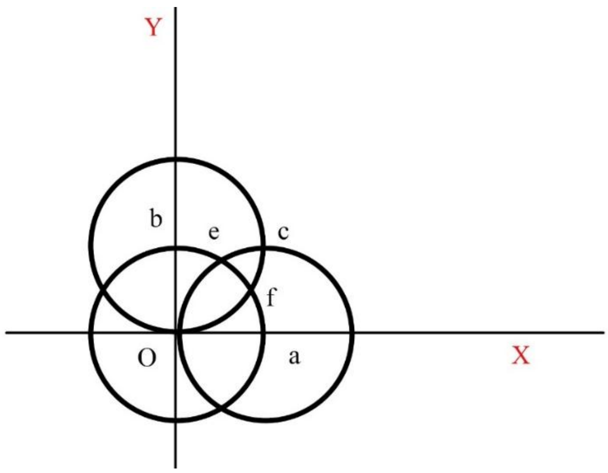

Figure c-4

5. “e” point give one-third and “f” point give next one-third.

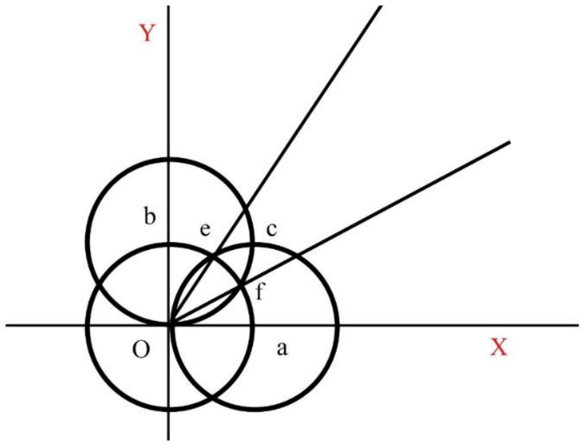

Figure B.

The method of dividing the right angle into three equal parts has been customary since ancient time. ()

- Draw a right angle and do 10 steps.
- The collision of two lines like “K” and “N” makes an angle. The position of the collision is called the apex.

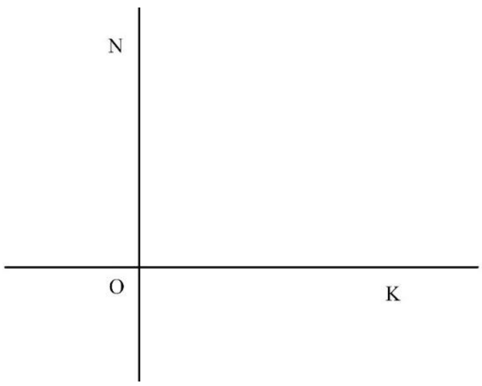

Figure c-5

- Angle’s apex is a center to drawing circle, like O circle.

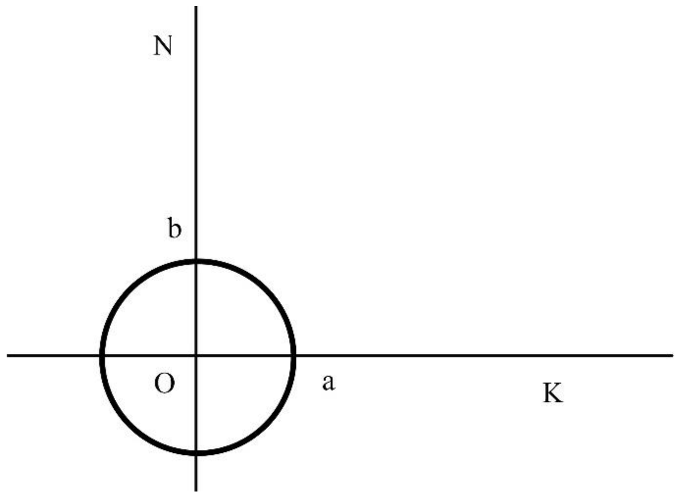

Figure c-6

- Angle's sides meet “O” circle in the “a” and “b” points. “a” and “b” are two centers to drawing two circles like “P” and “Q”.

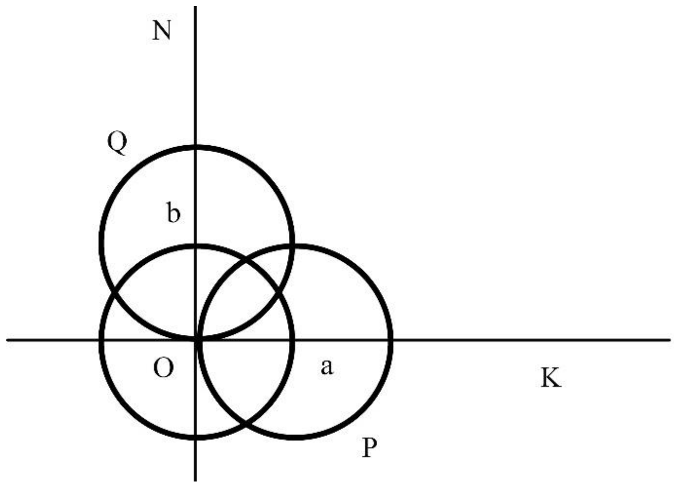

Figure c-7

- “P” circle meet “Q” circle at the “c” point.

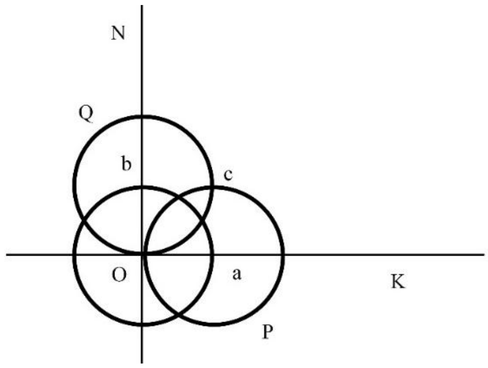

Figure c-8

- "c" point is a center to drawing circle like "R".

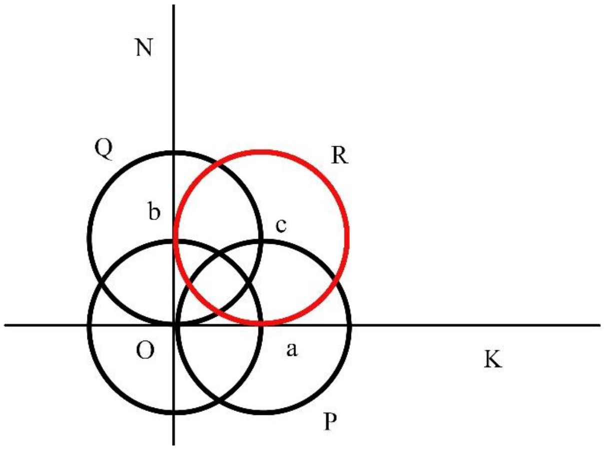

Figure c-9

- The circle "P" and "R" meet at the "e" and "f" points, "L" line passes from points "e" and "f".

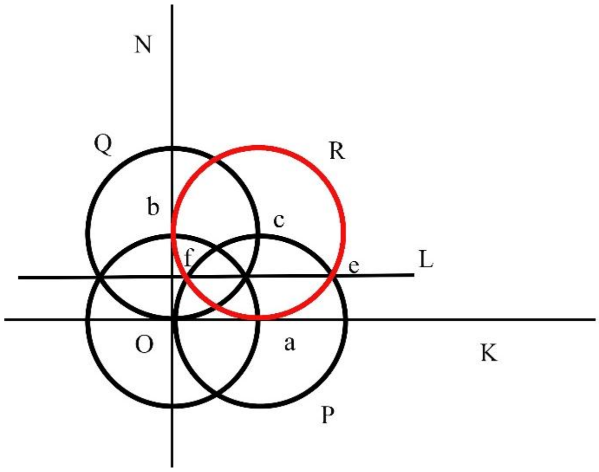

Figure c-10

- The circle "Q" and "R" meet at the "j" and "h" points. "I" line passes from points "j" and "h".

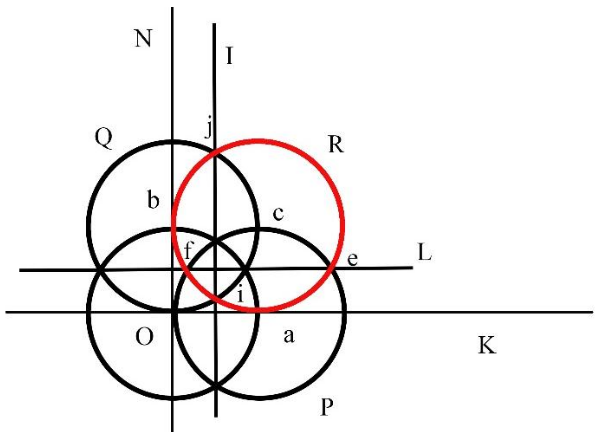

Figure c-11

- "L" and "I" lines meet at the "m" point.

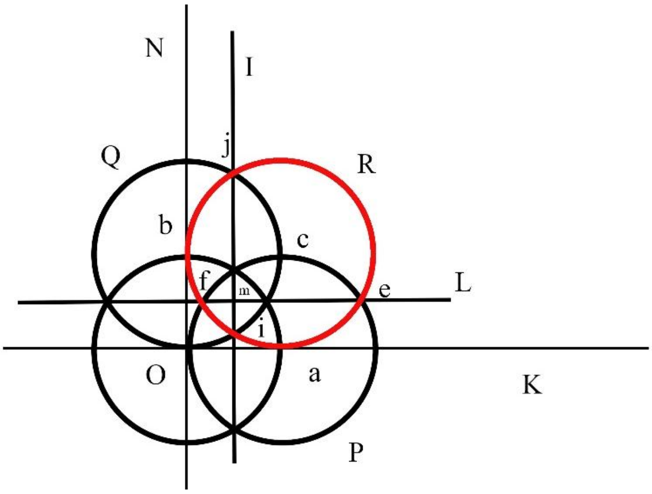

Figure c-12

- "m" point is a center to drawing circle, like M.

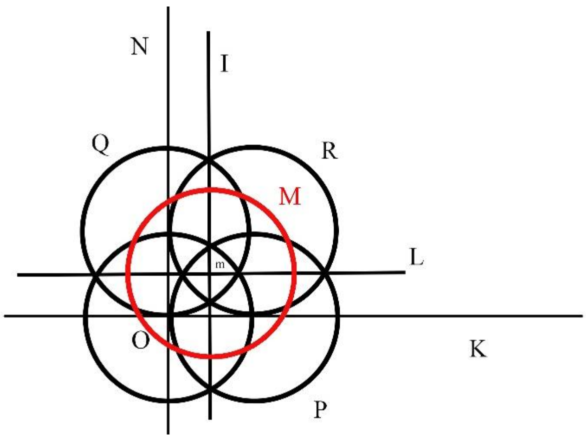

Figure c-13

Follow the steps below to find monopolies of any angle

6. "L" line meet "N" line in "x" point and "I" line meet "K" line in "y"

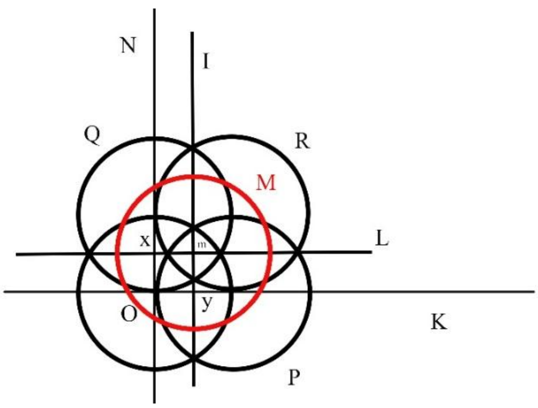

Figure c-14

7. Draw a circle into "x" center like "A" circle and Draw a circle into "y" center like "B" circle.

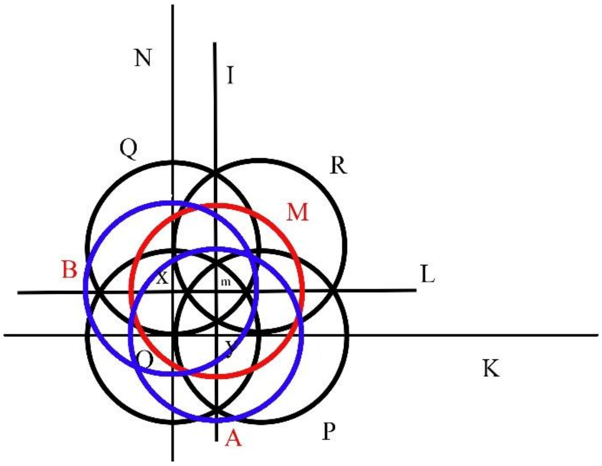

Figure c-15

8. "A" circle meet "K" line in "g" point and "B" circle meet "N" line in "h" point.

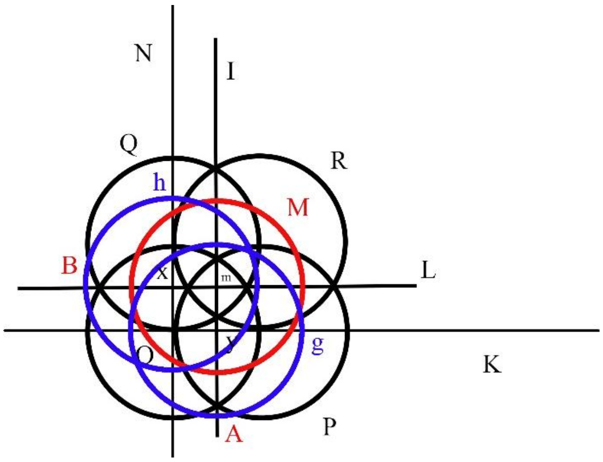

Figure c-16

9. Draw a circle into "g" center like "D" and Draw a circle into "h" center like "E".

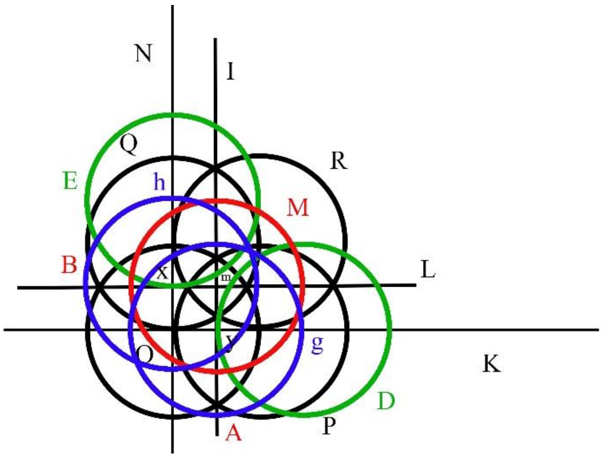

Figure c-17

10. “E” circle meet “M” circle in “r” point. “D” circle meet “M” circle in “s” point.

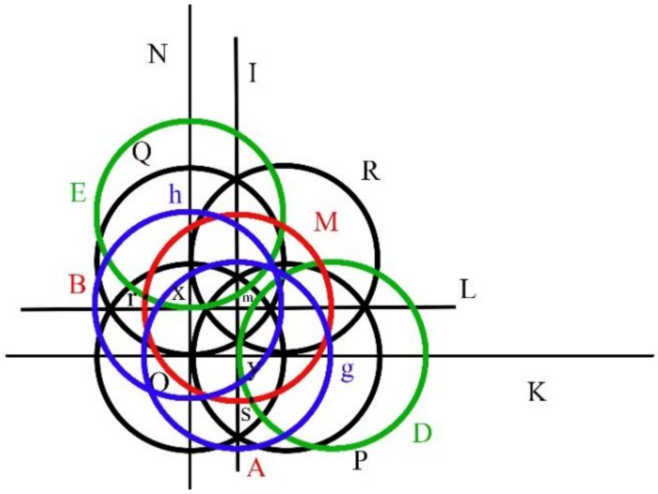

Figure c-18

11. Clear others.

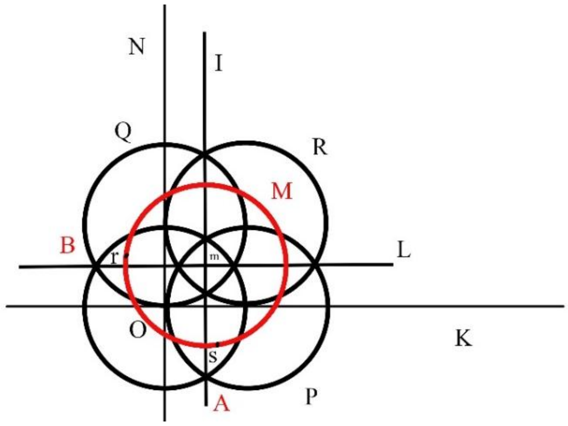

Figure c-19

12. Draw circle into “r” center like “V” and draw the circle into “s” center like “U”.

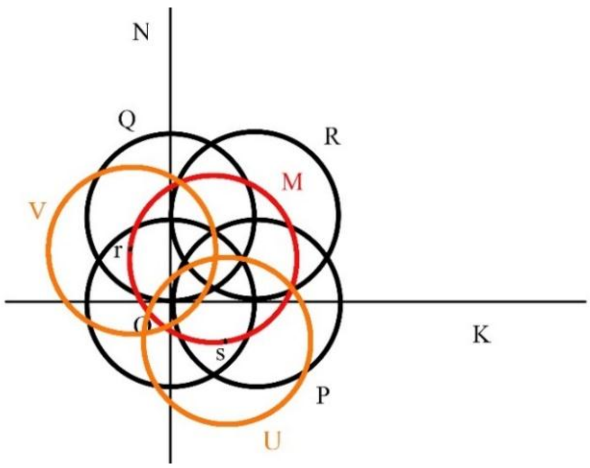

Figure c-20

13. "V" circle meet "P" circle in "w" point and "U" circle meet "Q" circle in "z" point. "z" and "O" are connected by a line like "Z" and "w" and "O" are connected by a line like "W".

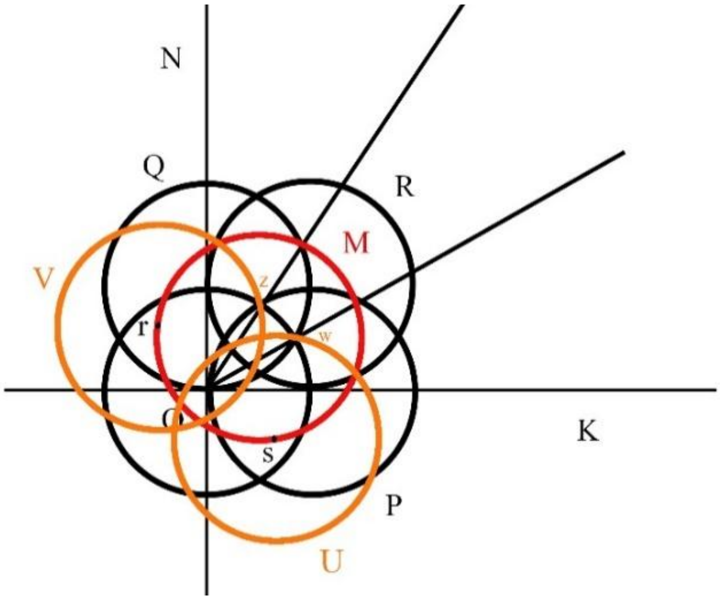

Figure C.

Compare Figures 1 and 2. Have we seen the lines "W" and "Z" so far?

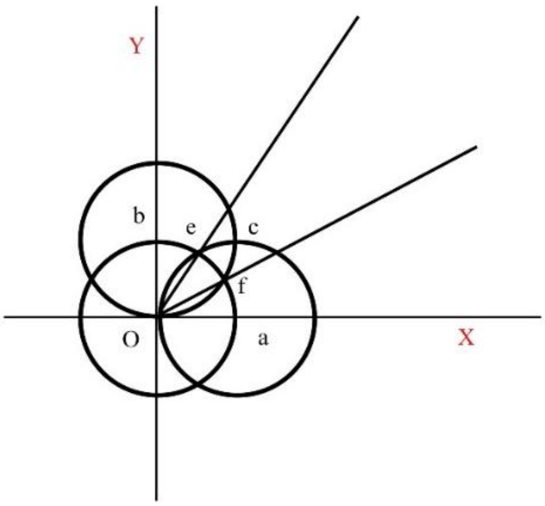

Figure B

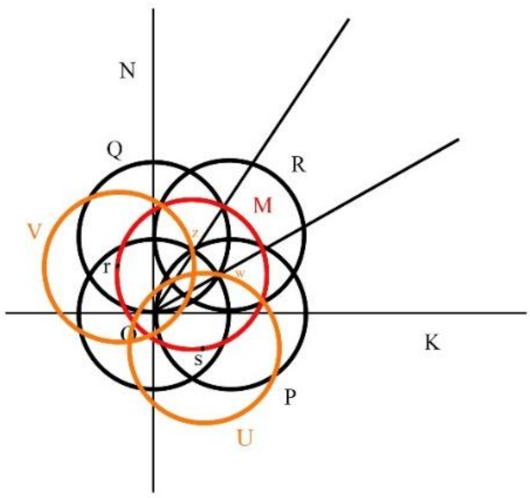

Figure C

"z" point and "e" point is equal also "w" point and "f" point is equal. Thus line "W" passes out of a third of the arc of 90-degrees and line "Z" passes out of a third of the arc of 90-degrees.

According to the ratio of circles, the amount of condensation and the amount of constraint are obtained and the angle of position is defined. Each angle has a ratio of circles thus each angle has a trisection point based on the ratio of circles. But trisection point of each angle is at the monopoly of that angle.

Proof:

Circle "O", circle "Q", point "w" on circle "Q" and transient line of "O" and "w" are important and clear the rest.

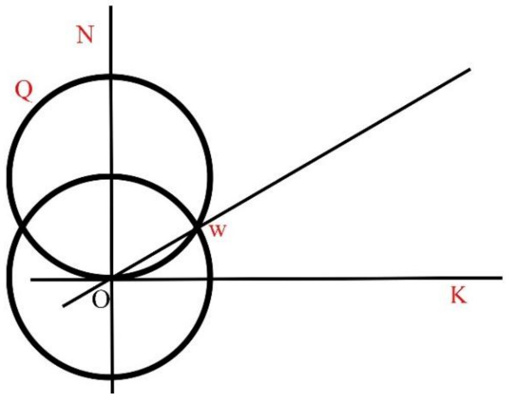

Figure c-21

Draw a circle into “w” center that meets "O" circle in two points like “a” and “d”.

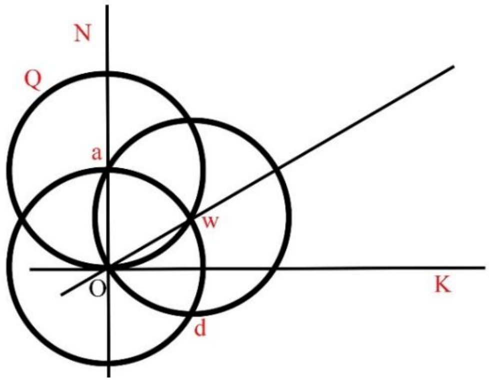

Figure c-22

The "a" and "d" are connected with a line.

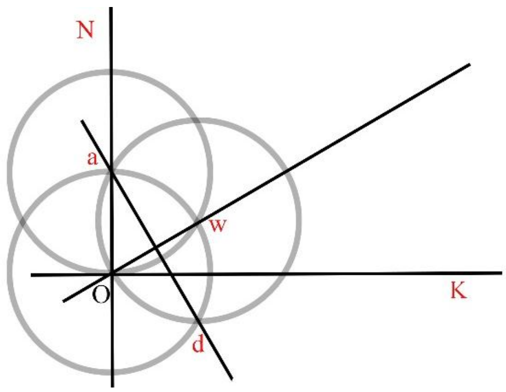

Figure c-23

Triangle “aOw” and triangle “dOw” are equal because there are three equal sides in each triangle.

“Oa” = “aw” = “Od” =” dw” = “Ow” = radius. Also “Ow” is share side. Therefor “wOa” angle and “wOd” angle is equal.

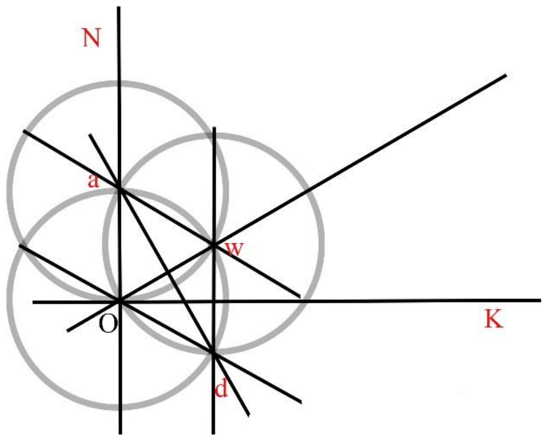

Figure c-24

The two constructor lines of the angle "wOd" meet the circle "O" in the "w" and "d". Draw "wOd" bisector based on "w" and "d" point.

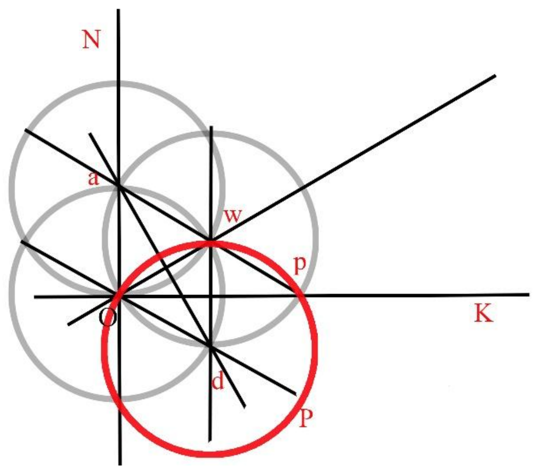

Figure c-25

"K" line is "wOd" angle's bisector thus "pOw" angle is half "wOa" angle.

$$\theta = "\widehat{pOw}" + 2"\widehat{pOw}"$$

$$\theta = 3"\widehat{pOw}"$$

$$\theta/3 = "\widehat{pOw}"$$

Another example:

The collision of two lines like "K" and "N" makes an angle. The position of the collision is called the apex. Angle's apex is a center to drawing circle, like O circle

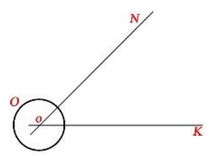

Figure. d-1

- Angle's sides meet "O" circle in the "a" and "b" points. "a" and "b" are two centers to drawing two circles like "P" and "Q". "P" circle meet "Q" circle at the "c" point. "c" point is a center to drawing circle like "R".

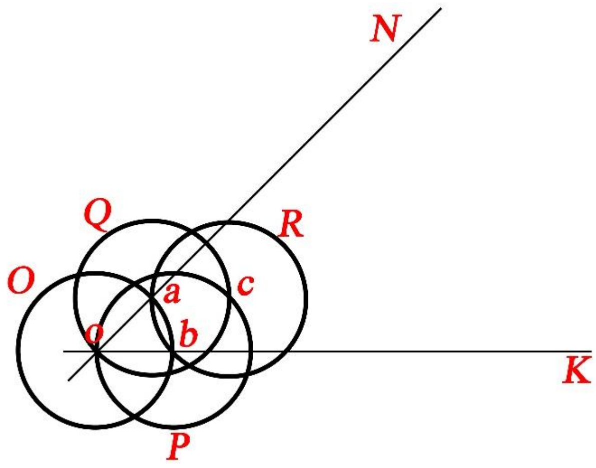

Figure. d-2

- The circle "P" and "R" meet at the "e" and "f" points, "L" line passes from points "e" and "f". The circle "Q" and "R" meet at the "j" and "h" points. "I" line passes from points "j" and "h". "L" and "I" lines meet at the "m" point. "m" point is a center to drawing circle, like M.

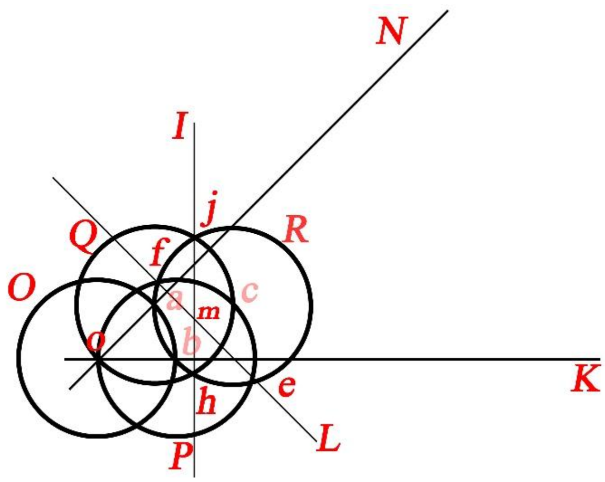

Figure. d-3

Draw a circle into "m" center.

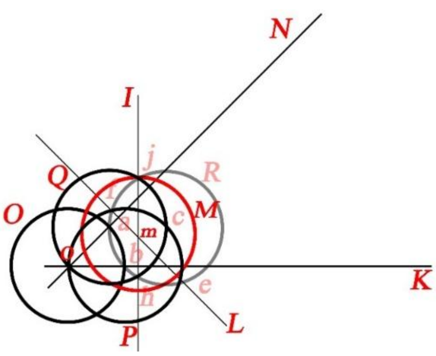

Figure. d-4

- "L" line meet "N" line in "x" point and "I" line meet "K" line in "y". Draw a circle into "x" center like "A" circle and Draw a circle into "y" center like "B" circle.

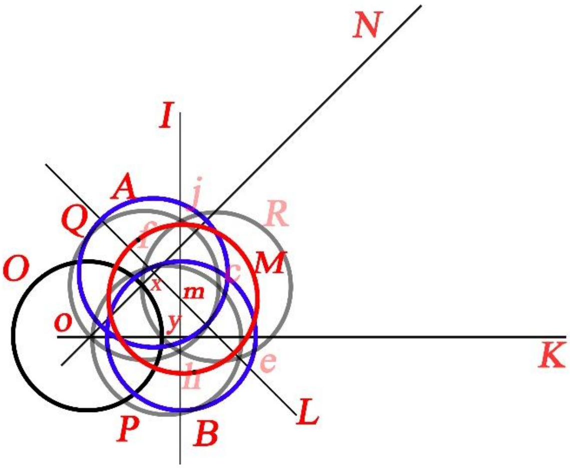

Figure. d-5

- Also "A" circle meet "N" line in "g" point and "B" circle meet "K" line in "k" point. Draw a circle into "g" center like "D" and Draw a circle into "k" center like "E". "E" circle meet "M" circle in "r" point. "D" circle meet "M" circle in "s" point.

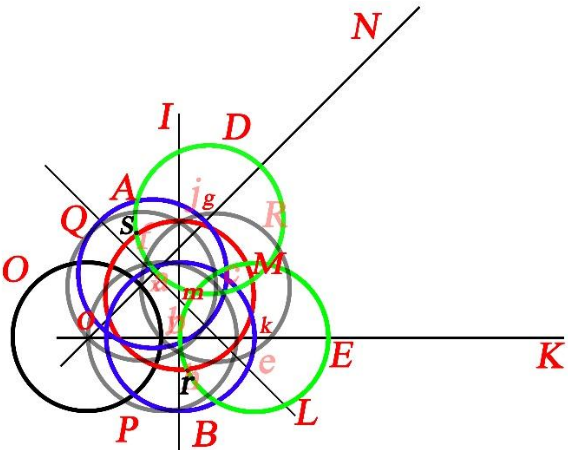

Figure. d-6

- Clear others.

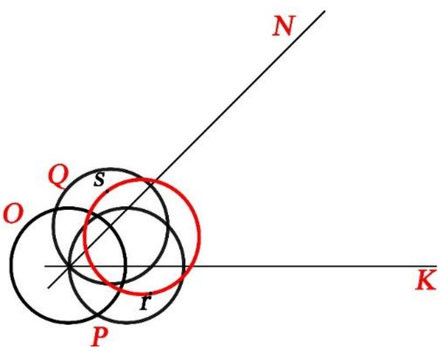

Figure. d-7

- Draw circle into "r" center like "V" and draw the circle into "s" center like "U".

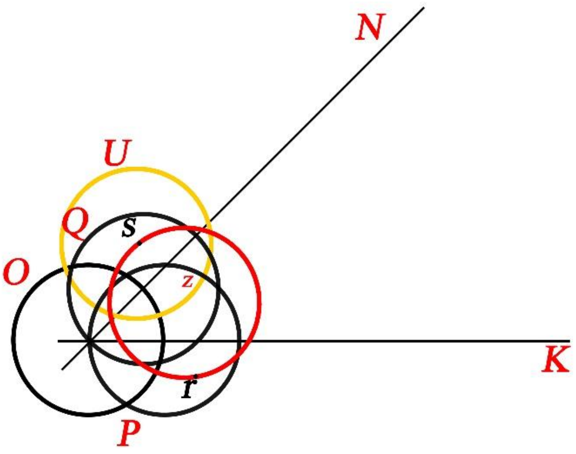

Figure. d-8

- draw the circle into the "r" center like "V" and "V" circle meet "Q" circle in "w" point

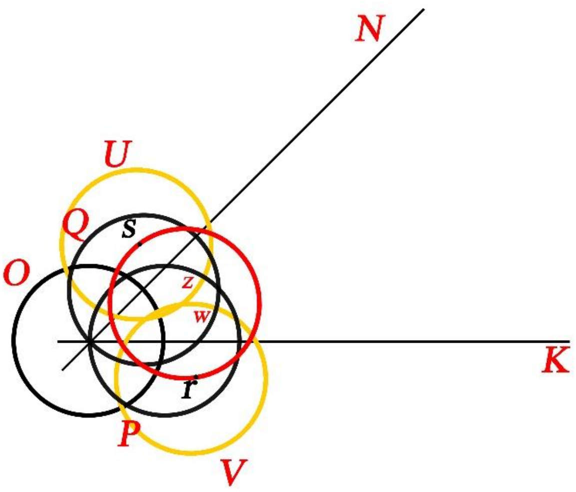

Figure. d-9

- "z" and "O" are connected by a line like "Z" and "w" and "O" are connected by a line like "W".

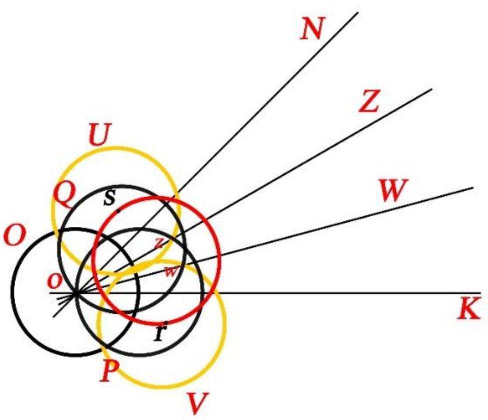

Figure. d-10

Check the proofs:

Clear others:

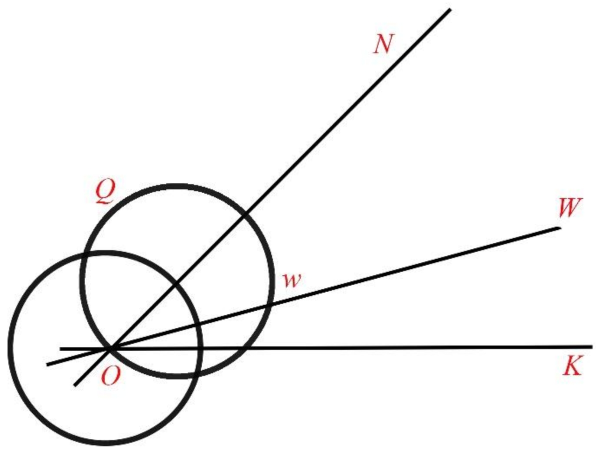

Figure d-11

Draw a circle into “w” center that meets "O" circle in two points like “a” and “d”.

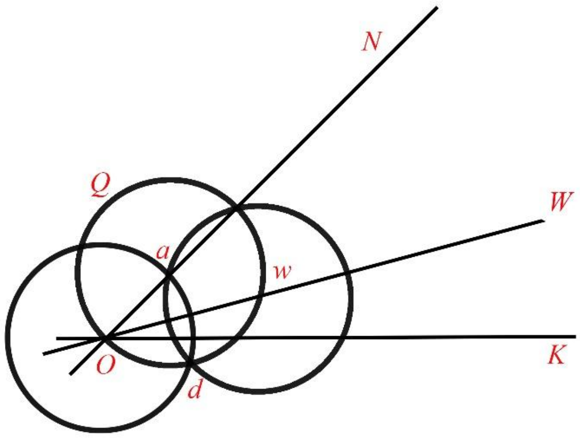

Figure d-12

Based on the proposition of line segment bisector we know “ad” and “Ow” lines are vertical together also two lines. divided into two equal part.

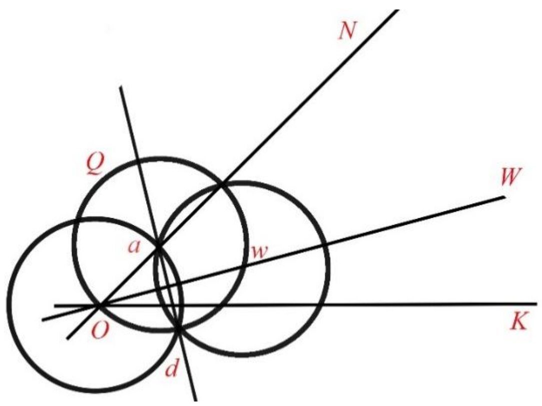

Figure d-13

Triangle “aOw” and triangle “dOw” are equal because there are three equal sides in each triangle.

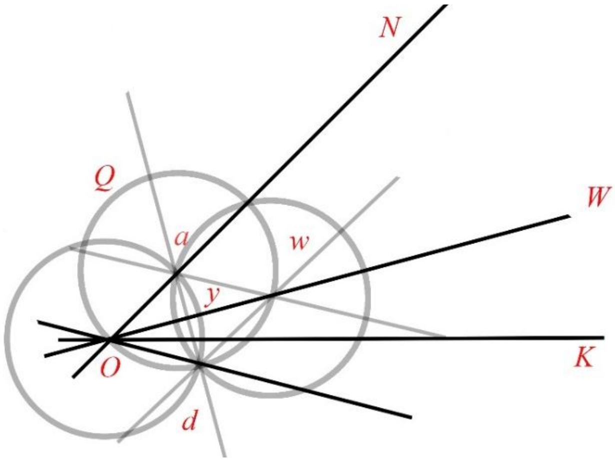

Figure d-14

“Oa” = “aw” = “Od” =” dw” = radius. Also “Ow” is share side. Therefor “wOa” angle and “wOd” angle are equal.

The two constructor lines of the angle “wOd” meet the circle “O” in the “y” and “d”. Draw “wOd” bisector based on “y” and “d” point.

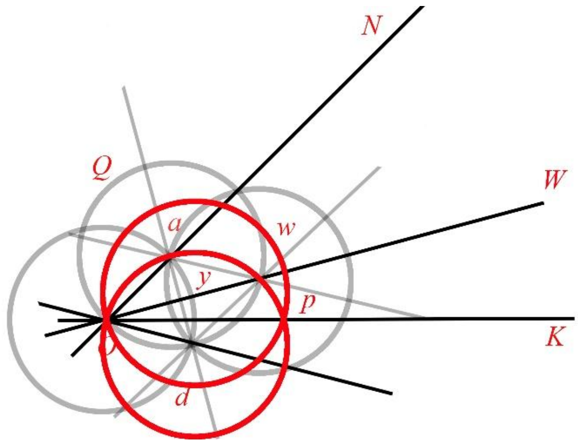

Figure d-15

“K” line is “wOd” angle’s bisector thus “pOw” angle is half “wOa” angle.

$$\theta=(\text{"pOw"})\hat{}+2(\text{"pOw"})\hat{}$$

$$\theta=3\text{"}(\widehat{\text{pOw}})\text{"}$$

$$\theta/3=\text{"}(\widehat{\text{pOw}})\text{"}$$

more inspection:

Notice the shape, please. This shape is a part of figure d-15.

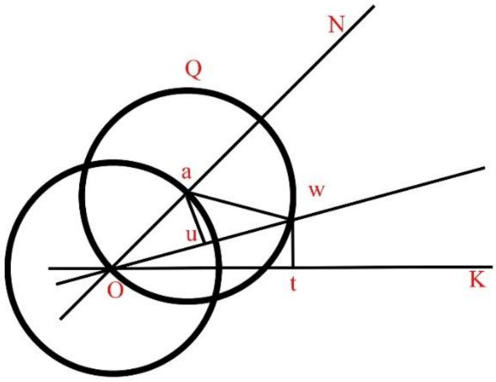

Figure d-16

A result of figure d-16:

- “aw” = “Ow” thus “aOw” is an equilateral triangle.

A partition on the figure d-16:

- The "au" line is drawn a perpendicular to the "Ow" line.
- The "wt" line is drawn a perpendicular to the "Ok" line.

We know that the angle is divided into one third and two thirds like figure d-17.

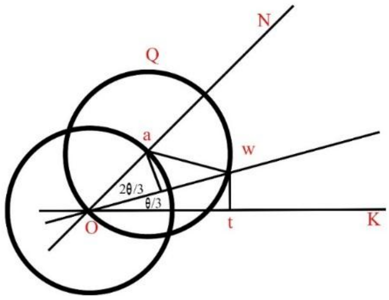

Figure d-17

So we can write:

$$\text{Ou} = r\cos\left(\frac{2\theta}{3}\right) \quad \text{and} \quad \text{Ow} = 2rcos\left(\frac{2\theta}{3}\right)$$

$$Ot = 2rcos\left(\frac{2\theta}{3}\right)\cos\left(\frac{\theta}{3}\right) \quad \text{and} \quad wt = 2rcos\left(\frac{2\theta}{3}\right)\sin(\frac{\theta}{3})9$$

Based on the information provided in the shape:

$$\tan\left(\frac{\theta}{3}\right) = \frac{2\cos\left(\frac{2\theta}{3}\right)\sin\left(\frac{\theta}{3}\right)}{2\cos\left(\frac{2\theta}{3}\right)\cos\left(\frac{\theta}{3}\right)} = \frac{\sin\left(\frac{\theta}{3}\right)}{\cos\left(\frac{\theta}{3}\right)} \quad \text{(Equation A)}$$

Second result:

The argument of how the trisection of the angle: All angles have one cause only thus angle concept is unity but constructive elements of the angle are a plurality. Each angle has circles from to define the angle but those circles must be found. Angle's cause is Socrates's method. A ratio of circles for define all angle is Plato's method and unique points for each angle is Aristotle's method.

Section 3: why do angle trisection?

1.data

movement and its structure have two opinions. 1. There is no moving and all is fixed. 2. Everything is movement mood and it is not fixed. there are three sources to support each opinion. Ancient texts, Middle ages knowledge and Age of enlightenment books. Ancient texts are starting point thus these are the original source. Plato's letters and his academy are chosen for research.

2.rotting science

We know that one cause has acted on a thing and effect is the result. In fact, "a thing" must be until the cause is motive, a thing is required and exactly effect is a requirement. Newton's third law is always honest an example. My discussion is not causality. My discussion is motive, required and requirement, they give rise to movement and its structure. For example, Socrates research Ion's skill and his cause in Ion letter.

Socrates: shall take an opportunity of hearing your embellishments of him at some other time. But just now I should like to ask you a question: Does your art extend to Hesiod and Archilochus, or to Homer only?

ION: To Homer only; he is in himself quite enough.

SOCRATES: Are there any things about which Homer and Hesiod agree?

ION: Yes; in my opinion, there are a good many. (Plato, p. 426)

- He says Ion has not all skill and Ion could talk at all skills. Ion liked Socrates's opinion because Ion knows that don't know all the skills.

SOCRATES: And can you interpret better what Homer says, or what Hesiod says, about these matters in which they agree?

ION: I can interpret them equally well, Socrates, where they agree.

SOCRATES: But what about matters in which they do not agree? –for example, about divination, of which both Homer and Hesiod have something to say, –

ION: Very true:

SOCRATES: Would you or a good prophet be a better interpreter of what these two poets say about divination, not only when they agree, but when they disagree?

ION: A prophet.

SOCRATES: And if you were a prophet, would you not be able to interpret them when they disagree as well as when they agree?

ION: Clearly. (Plat, p. 427)

- In fact, Ion doesn't study all skills but talk about it's so well thus there is another motive for Ion's skill. Ion is required; he talks at things that he doesn't know what are those and skills is a requirement. Therefore, Socrates should find Ion's skill motive.

I perceive, Ion; and I will proceed to explain to you what I imagine to be the reason for this. The gift which you possess of speaking excellently about Homer is not an art, but, as I was just saying, an inspiration; there is a divinity moving you, like that contained in the stone which Euripides calls a magnet, but which is commonly known as the stone of Heraclea. This stone not only attracts iron rings but also imparts to them a similar power of attracting other rings, and sometimes you may see a number of pieces of iron and rings suspended from one another so as to form quite a long chain: and all of them derive their power of suspension from the original stone. In like manner the Muse, first of all, inspires men herself; and from these inspired persons, a chain of other persons is suspended, who take the inspiration. (Plato. p. 429)

- Socrates says Ion's skill has effects that other skills have not these.

For in this way the God would seem to indicate to us and not allow us to doubt that these beautiful poems are not human, or the work of man, but divine and the work of God; and that the poets are only the interpreters of the Gods by whom they are severally possessed. Was not this the lesson which the God intended to teach when by the mouth of the worst of poets he sang the best of songs? Am I not right, Ion? (Plato, p. 429)

Also, Ion's skill is not the same as Homer's skill. Ion's effect is not Homer's effect, rather Ion's skill has different cause from the poem's cause. Ion doesn't talk at other poems as well as Homer's poem thus Ion's skill and Homer's skill match. In fact, Ion's skill and Homer's skill have one cause. God is motive, Homer is a required and poem is a requirement, also God is motive, Ion is a required and speaking about the poem is a requirement.

Another example:

Socrates says God is motive for Homer and Ion. And God is not a motive for Homer and Ion only. Because there are others. Thus we have to find another motive for other poets and narrators. In fact, we say there is not only one God.

But Aristotle research about motive and required and shows based on the requirement, there is one God only. The examination of the unity and plurality of God is not our subject. Our subject is the movement's structure.

Now since we are seeking the first principles and the highest causes, clearly there must be something to which these belong in virtue of its own nature. If then those who sought the elements of existing things were seeking these same principles, it is necessary that the elements must be elements of being not by accident but just because it is being. Therefore, it is of being as being that we also must grasp the first causes. (book Ⅰ, part 2)

- Elements are readable based on existing elements. Existing elements are related to cause.

There are many senses in which a thing may be said to 'be', but all that 'is' is related to one central point, one definite kind of thing, and is not said to 'be' by a mere ambiguity. Everything which is healthy is related to health, one thing in the sense that it preserves health, another in the sense that it produces it, another in the sense that it is a symptom of health, another because it is capable of it. And that which is medical is relative to the medical art, one thing being called medical because it possesses it, another because it is naturally adapted to it, another because it is a function of the medical art. And we shall find other words used similarly to these. So, too, there are many senses in which a thing is said to be, but all refer to one starting-point; some things are said to be because they are substances, others because they are affections of substance, others because they are a process towards substance, or destructions or privations or qualities of substance, or productive or generative of substance, or of things which are relative to substance, or negations of one of this thing of substance itself. (book Ⅳ, part 2)

- Aristotle shows each element has a cause and a special effect If we imagine, the element is affected requirement from motive Aristotle said each motive from a required has one requirement.

3.data analysis

Socrates and Aristotle:

Socrates says motive and requirement are proportionate and relevant and Aristotle say every motive on the special required to show unique requirement.

Change on the move is performed and every move makes specific changes. The order of movement and change of the motion is not defined that that should not be so. This is exactly the human knowledge system. The movement can show a requirement for required. Each movement makes a transformation and the same transformation make a new movement. Total movements and transformations are fixed but all are changing. All is fixed without increasing and decreasing.

4.discuss

Based on Socrates and Aristotle method, movement's structure is motive, required and requirement. The existing is required. Motive makes required and requirement Existence. thus motive and requirement are related by required

We know circle has existing (Angle trisection 1) and each angle is defined by five circles (Angle trisection 2) also we know circles ratio divide the angle to equal parts (Angle trisection2).

Circle's concept is motive, circles that define the angle are required and circles that define part of the angle are a requirement.

I want to draw double the size of an angle based on motive, required and requirement circles. This is an application of circles. (*In addition to drawing application, please try with compasses and rulers.*)

A line and B line make O angle. Draw an angle and required circles.

Draw a circle into O point.

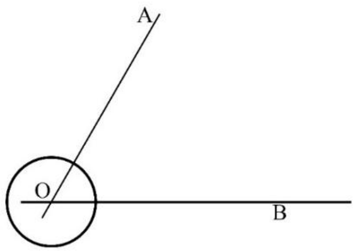

Figure 4-1

The circle into O center meet A line in a point also The circle into O center meet B line in b point. Draw a circle into a center and draw a circle into b point.

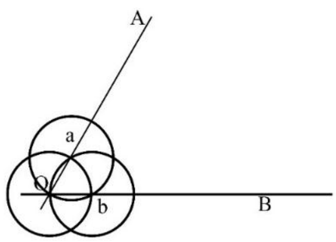

Figure 4-2

Circle into a center and circle into b center meet together in c point. Draw a line that across of O and c, this line is bisector angle.

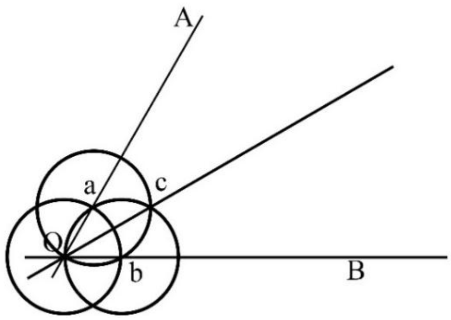

Figure 4-3

Imagine there is B line and bisector line.

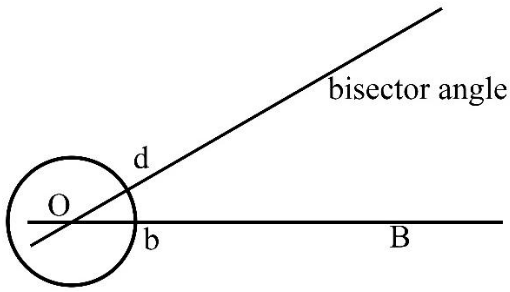

Figure 4-4

how to do draw "A" line Based on the required circle?

Draw the required circle based on B line and O point. Circle into O center meet B line in b point. Circle into b center meet bisector angle in c point.

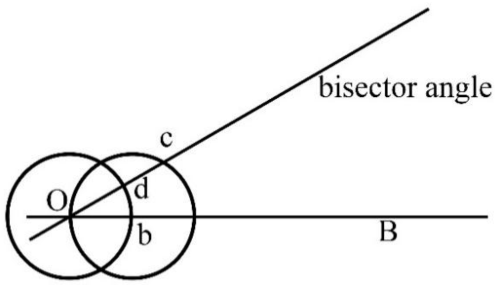

Figure 4-5

Point c with circle into O center should be as large as radius based on 4-1-3 figures thus draw a circle into c center. Circle into “c” center meet circle into O center in “a” point.

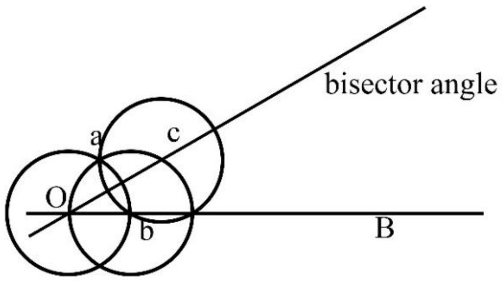

Figure 4-6

Draw a line that across of O and “a” points.

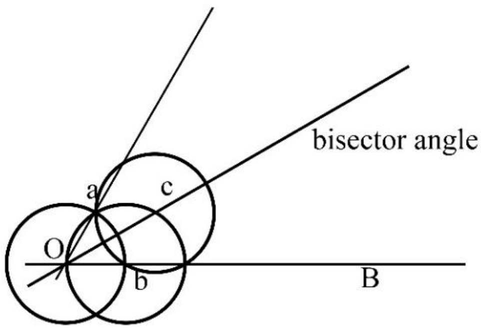

Figure 4-7

Draw a circle into a center.

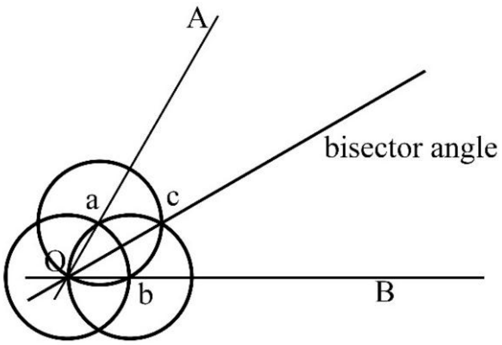

Figure 4-8

Circle into a is the required circle. The angle has been divided into two equal part.

If side “A” is not available from the angle, the side “A” can be drawn based on bisector angle and side “B”. So the size of each angle doubles.

4-1. I want to divide an angle into several equal parts.

1. There is an angle into apex O and two side X and Y. Divide the angle into two equal parts. (No. 1 movie)

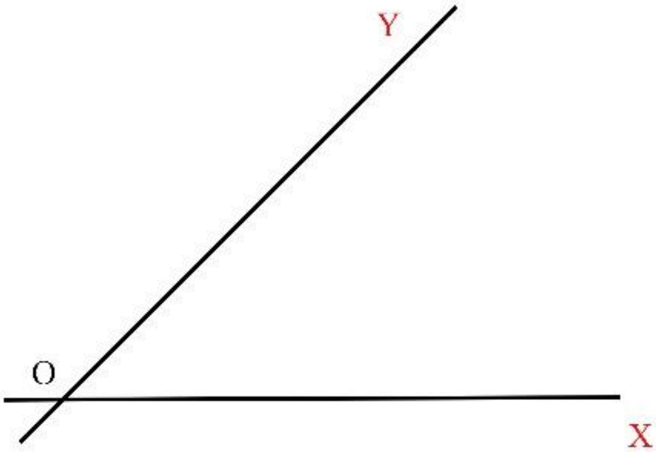

Figure 4-2-1

Draw the required circle for representing the angle.

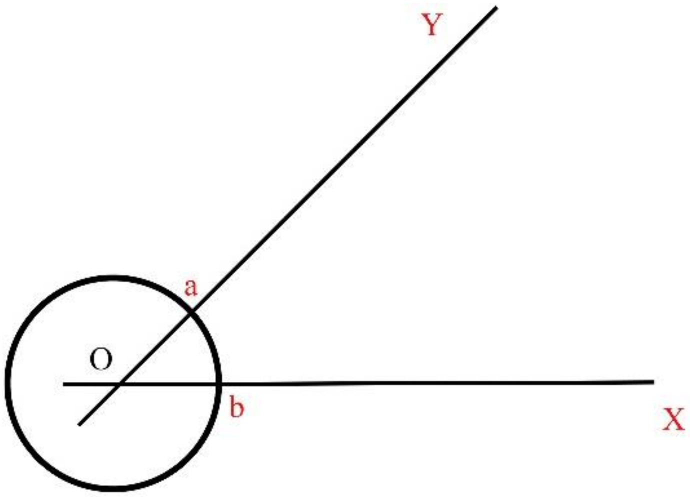

Figure 4-2-2

Draw requirement circles.

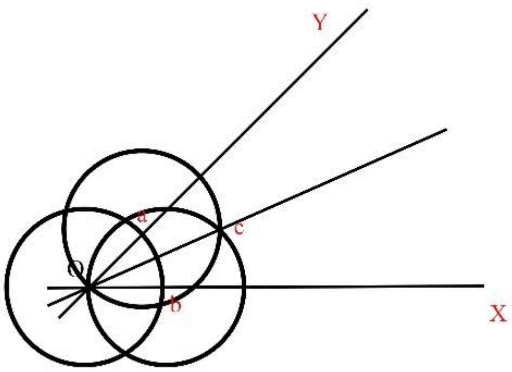

Figure 4-2-3

2. There is an angle into apex O and two side X and Y. Divide the angle into three equal parts.

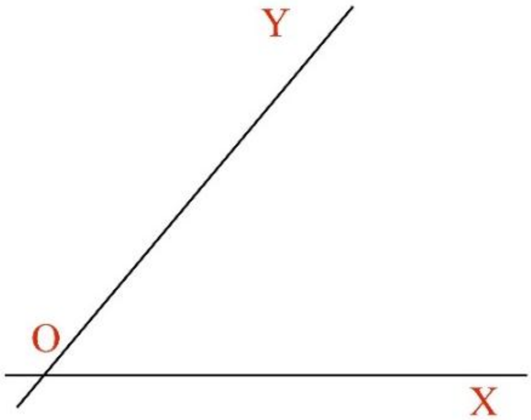

Figure 4-2-1

Draw the required circle for representing the angle.

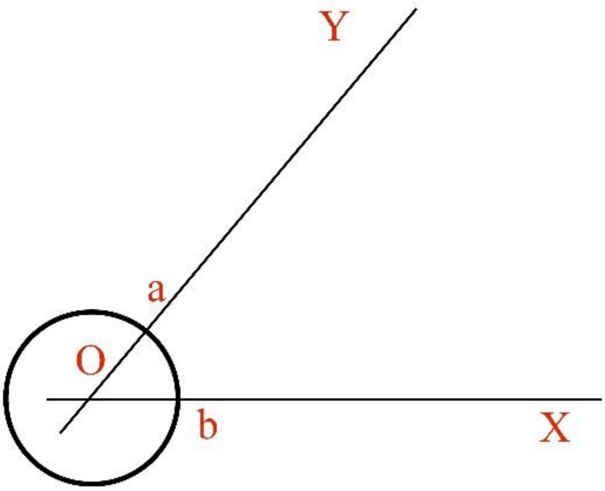

Figure 4-2-2

Circle into O center meet Y line in a point. Draw a circle into a center

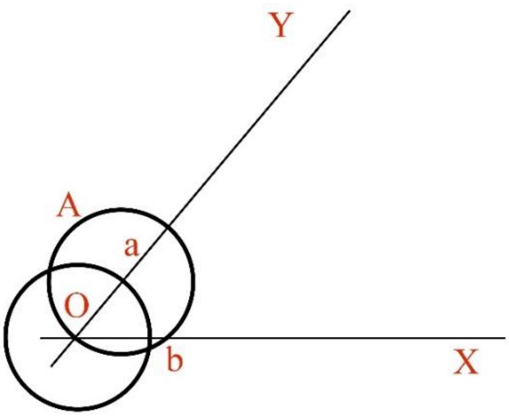

Figure 4-2-3

Circle into O center meet X line in b point. Draw a circle into b center

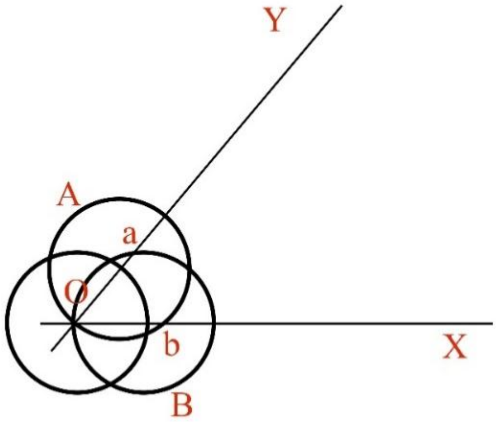

Figure 4-2-4

Circle into a center and circle into b center meet together in c point. Circle into a center called A circle. Circle into b center called B circle. Draw a circle into c center. Circle into c center called C circle.

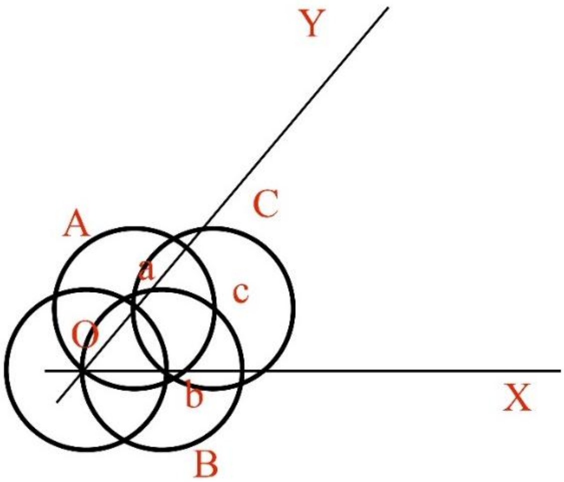

Figure 4-2-5

A circle meets C circle to two point-like e and f and across a line of e and f like L.

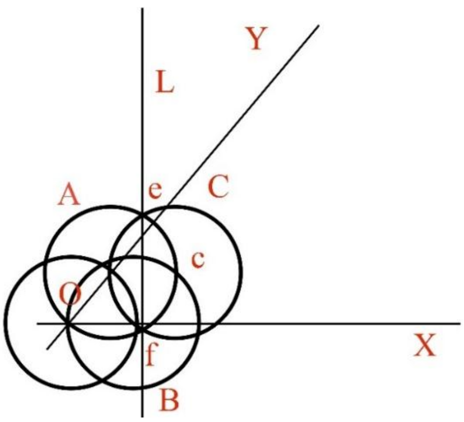

Figure 4-2-6

B circle meet C circle to two point-like “i” and j and across a line of “i” and j like K.

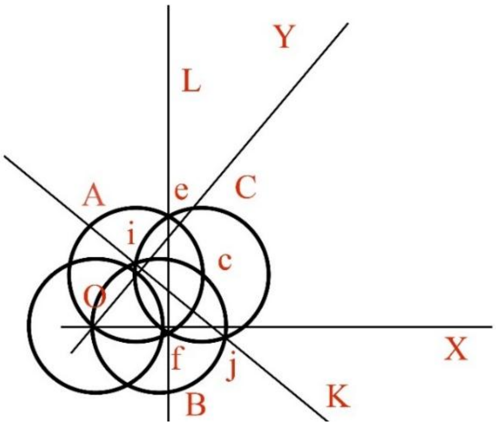

Figure 4-2-6

L line meets the “K” line in m point.

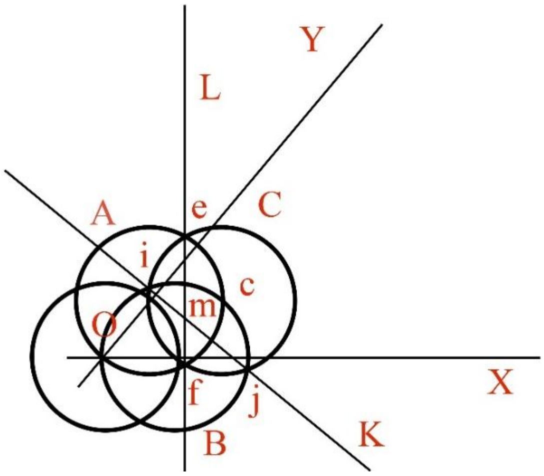

Figure 4-2-7

Black circles are required circles. One circle meets the two sides of the angle like O circle, other circles meet one circle and one side of the angle like A and B circles. The center of other circles is in the collision of previous circles like C circle. "A"," B" and "C" circles are special circles. B circle is The last circle on the X side. "A" circle is the second circle on the Y side. C circle’s center contacts point of "A" and "B" circles.

Draw a circle into m center. Circle into m center called M circle. Draw requirement circles based on M circle.

Clear others.

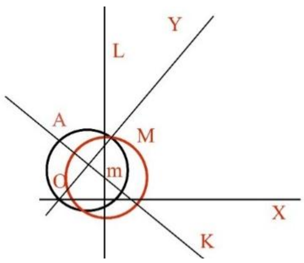

Figure 4-2-8

(Section 2) L line meets X line in a point like "n".

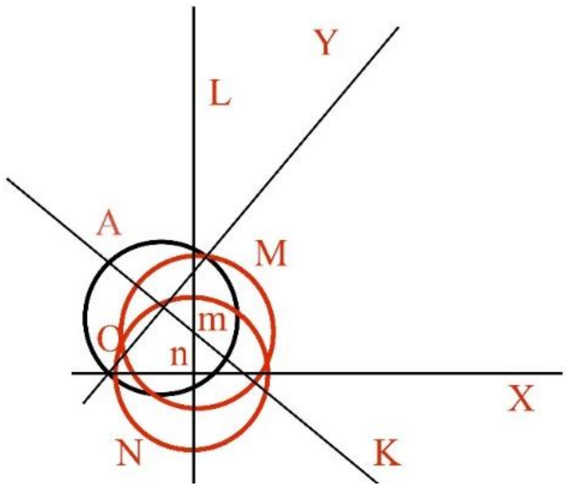

Figure 4-2-9

Draw a circle into n center. Circle into n center meet X line in "g" point. Draw a circle into g center.

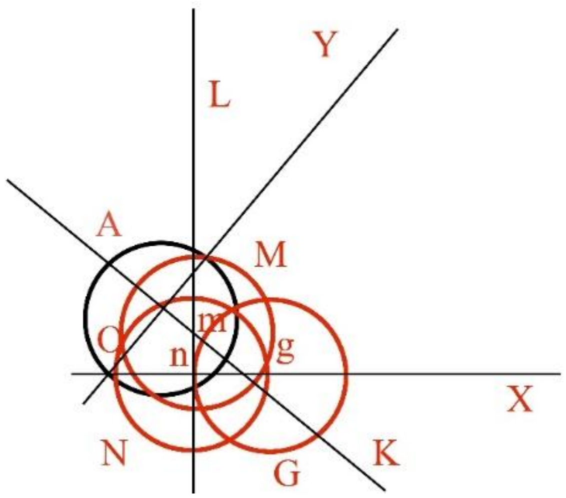

Figure 4-2-10

Circle into g center meet M circle in p point circle into p point called P point.

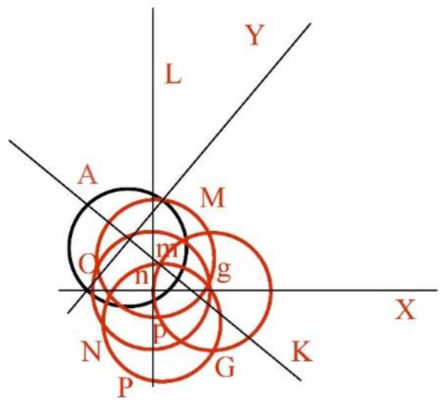

Figure 4-2-11

P circle meets A circle in z point.

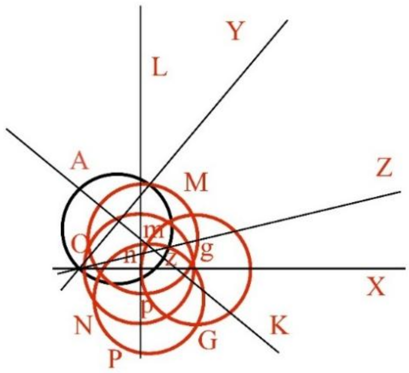

Figure 4-2-12

Red circles are requirement circles.

(section 2-1). Draw a line that across of O and z points like Z line. X line and Z line make an angle equal One-third angle.

Clear others.

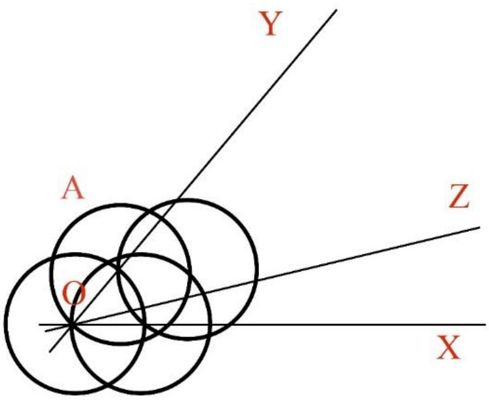

Figure 4-2-13

B circle meet Z line in r point. Draw a circle into r center. Circle into r center meet O circle in "v" point.

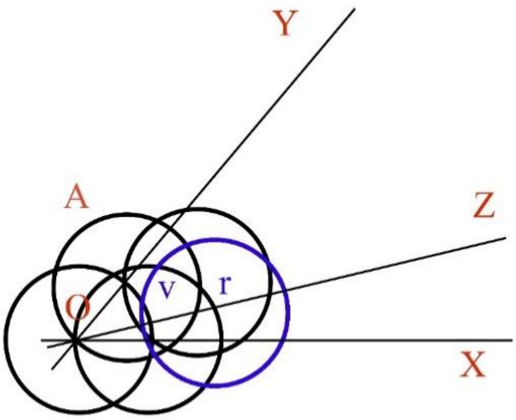

Figure 4-2-14

There is a line that across of v like V line. V line and Z line make an angle equal angle's X line and Z line.

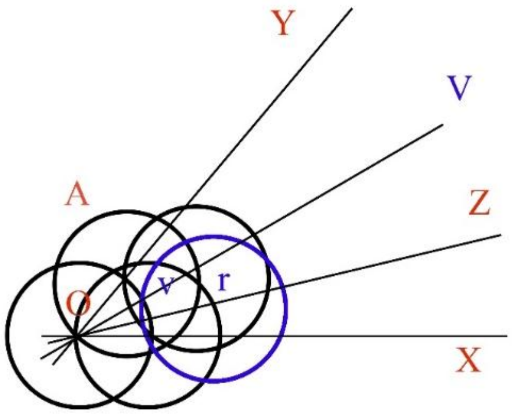

Figure 4-2-15

Z line meets O circle in w point. Draw a circle into w center

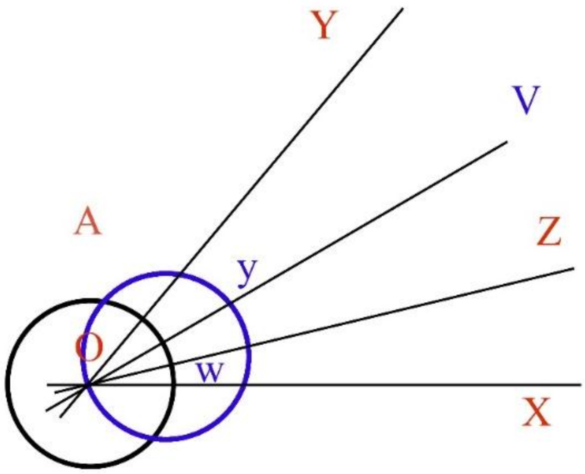

Figure 4-2-16

Circle into w center meet V line in y point. Draw a circle in y center. Circle into y center called Y circle.

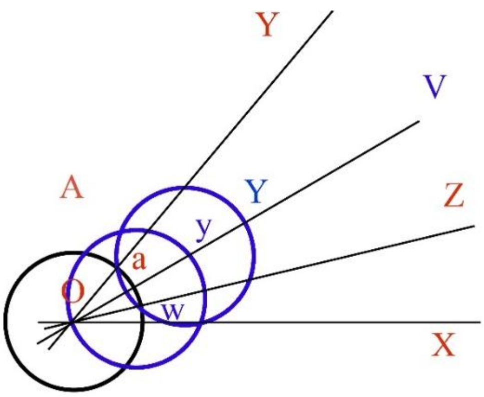

Figure 4-2-17

Y circle meet O center in a point. Y line across a point. The angle of V and Y is an equal angle of V and Z also the angle of V and Z is an equal angle of X and Z.

Blue circles are another kind of required circles.

Two required circles on the one side of the angle make equal three-part in angle. 3 is the second prime number.

3. There is an angle into apex O and two side X and Y. Divide the angle into four equal parts. (No. 3 movie)

   In the first step, we divide the angle into equal parts.
   In the second step, we divide each part into equal parts.

4. There is an angle into apex O and two side X and Y. Divide the angle to five equal parts. (No. 4 movies)

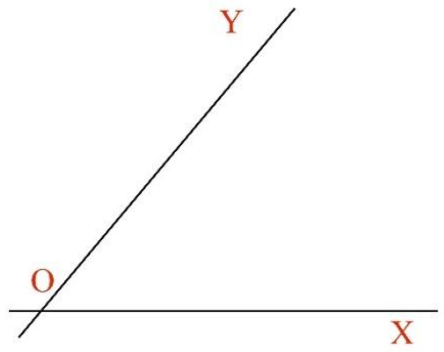

Figure 4-4-1

Draw 3 required circles on each side of the angle and find others based on 3 circles. The second circles on each side of the angle have a common point, the common point is a center to draw one required circle.

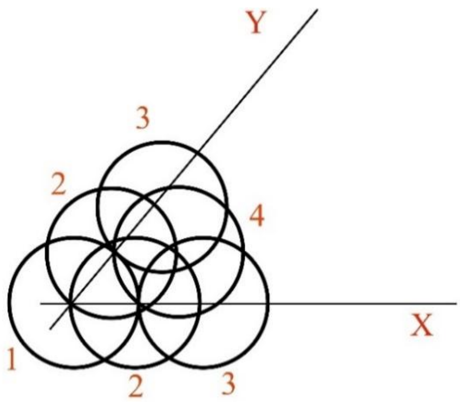

Figure 4-4-2

Draw a line (like "A" line) from the center of the second circle on the Y side, parallel to line X. The last circle in "A" line are the same circles A.

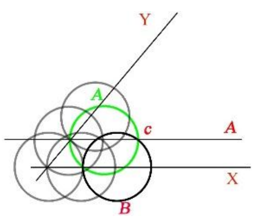

Figure 4-4-3

Determine C circle, the connecting point between A and B circles give “c” point. “c” point is “C” circle’s center.

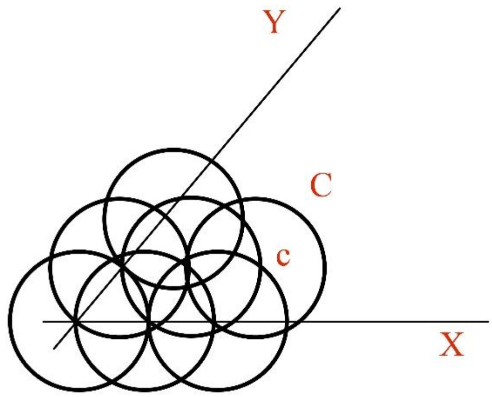

Figure 4-4-4

Circles A and C have two connecting points, draw a line that across of them. also, circles and C have two connecting points, draw a line that across of them. two lines meet together in the “m” point. m point gives requirement circles.

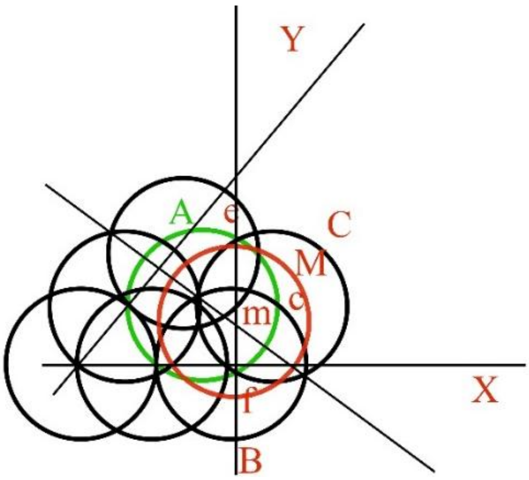

Figure 4-4-5

Draw requirement circles like section 2.

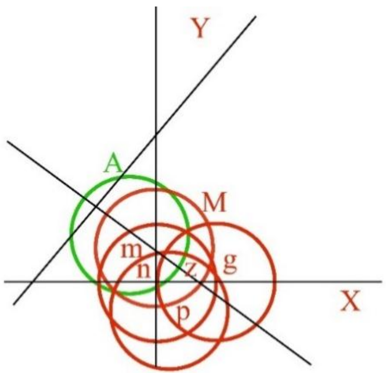

Figure 4-4-6

Draw a line that across of O and z points.

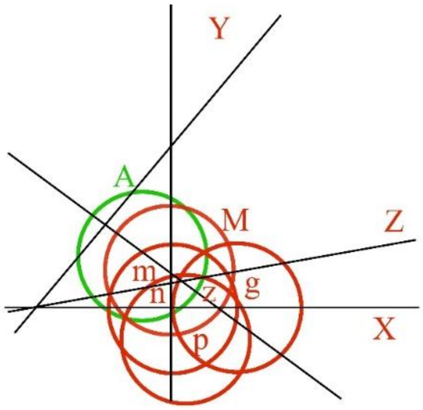

Figure 4-4-7

Clear others.

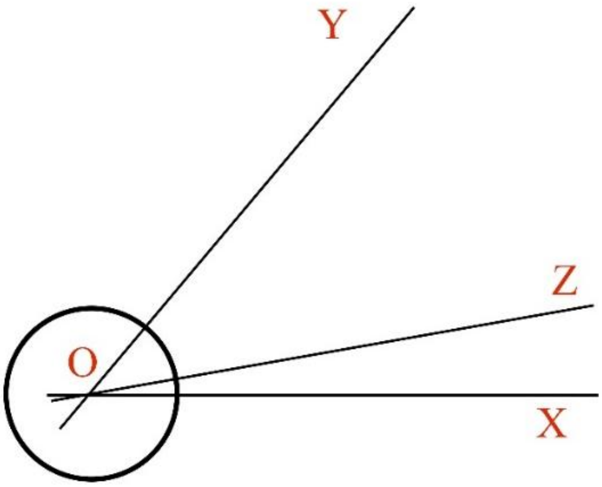

Figure 4-4-8

The two lines Z and X have an angle. By blue circles multiply the angle. Until line Y is obtained (like section 2-1).

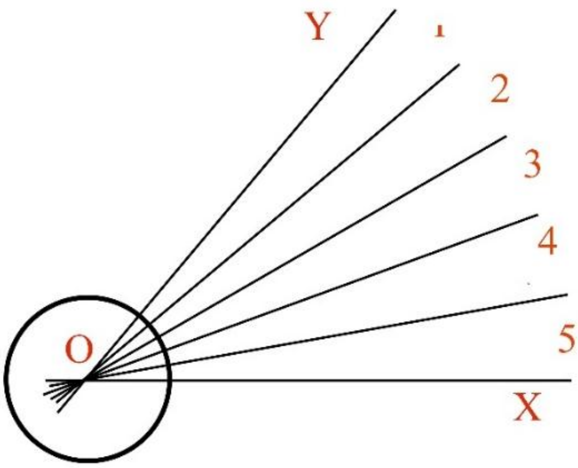

Figure 4-4-9

Three required circles on the one side of the angle make equal five-part in angle. 5 is the third prime number.

5. There is an angle into apex O and two side X and Y. Divide the angle to six equal parts.

   In the first step, we divide the angle into three equal parts.
   In the second step, we divide each part into two equal parts.

6. There is an angle into apex O and two side X and Y. Divide the angle to seven equal parts.

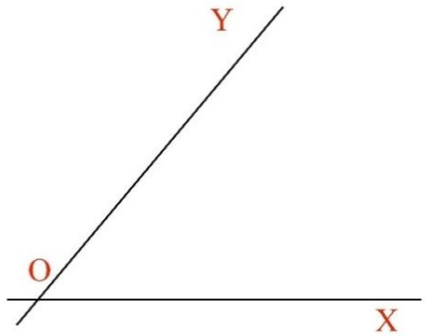

Figure 4-6-1

Draw four requirement circles on each side of the angle. Draw other required circles Based on 4 circles. The second circle on each side of the angle have a common point, the common point is a center to draw one required circle (5th circle), the 5th circle meets third circles in the point like 1 and 2. point 1 and point 2 are two centers to draw 7th and 6th circles. (figures 4-6-2, 4-6-3, 4-6-4 and 4-6-5)

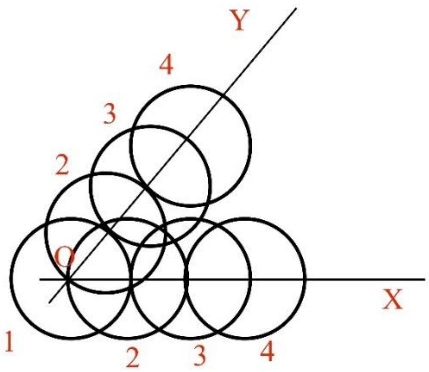

Figure 4-6-2: 4 required circles on each side of the angle.

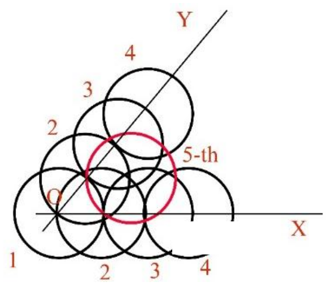

Figure 4-6-3: 5th circle

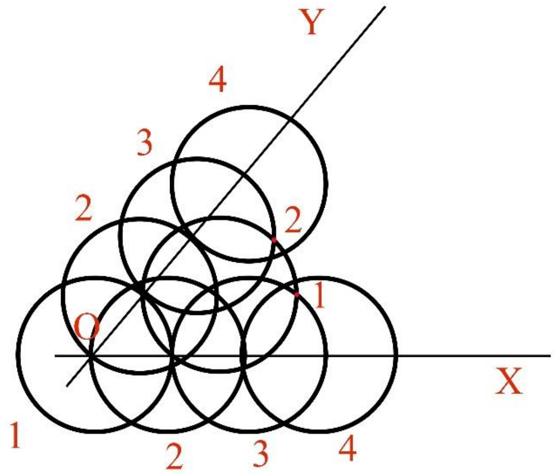

Figure 4-6-4: 5-the circle meets third circles in 1 and 2 points.

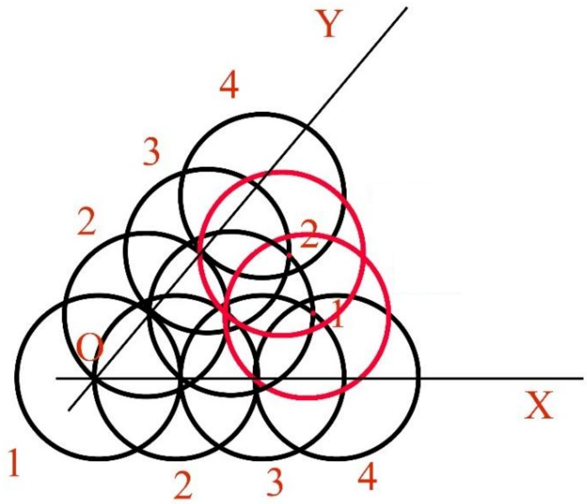

Figure 4-6-5: point 1 and point 2 are two centers to draw 7th and 6th circles.

also draw a line (like “A” line) from the center of the second circle on the Y side, parallel to line X. The last circle in "A" line are the same circles A.

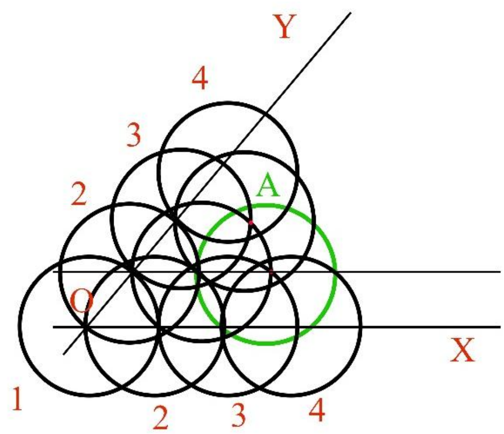

Figure 4-6-6: A circle is the same 7th circle.

Determine "C" circles. The last circle in X line is "B" circle. The connecting point between "A" and "B" circles is a center to draw "C" circle.

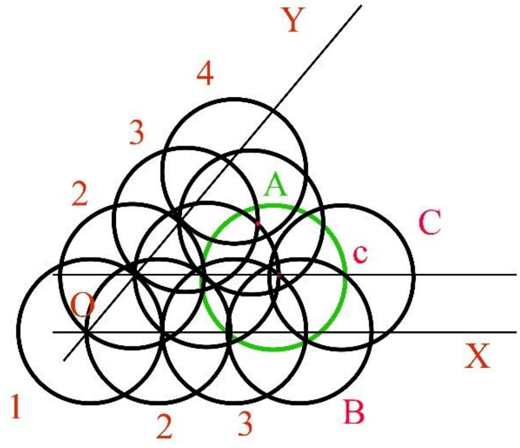

Figure 4-6-7

Circles A and C have two connecting points like "e" and "f", draw a line that passes of them. also, circles B and C have two connecting points, draw a line that passes of them. Two lines meet together in the "m" point. m point gives requirement circles.

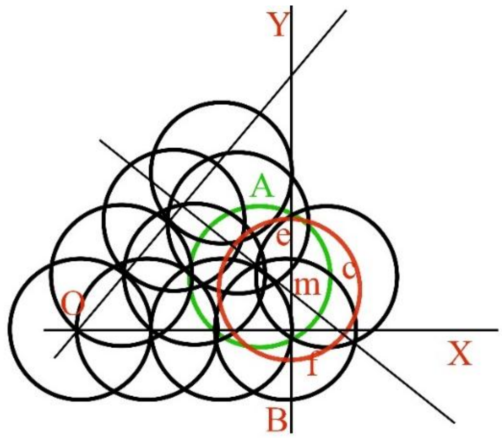

Figure 4-6-8

Draw requirement circles like section 2.

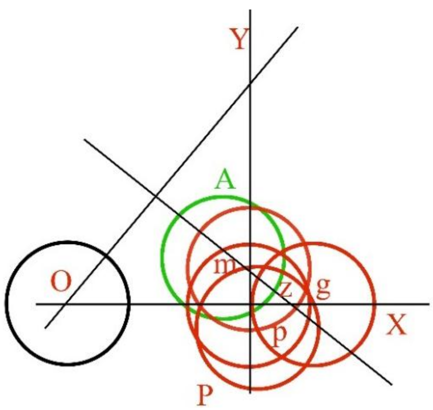

Figure 4-6-9

Draw a line that across of O and z points.

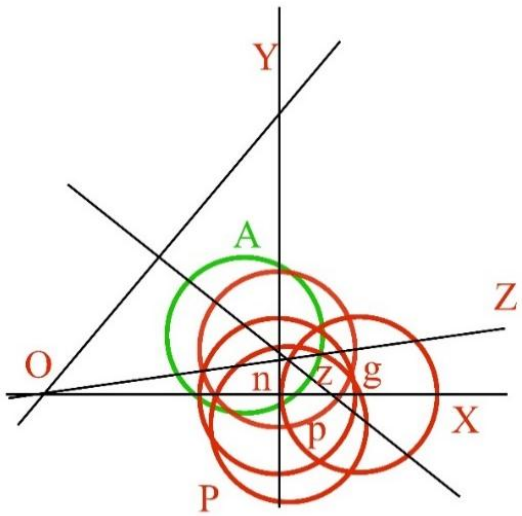

Figure 4-6-10

Clear others.

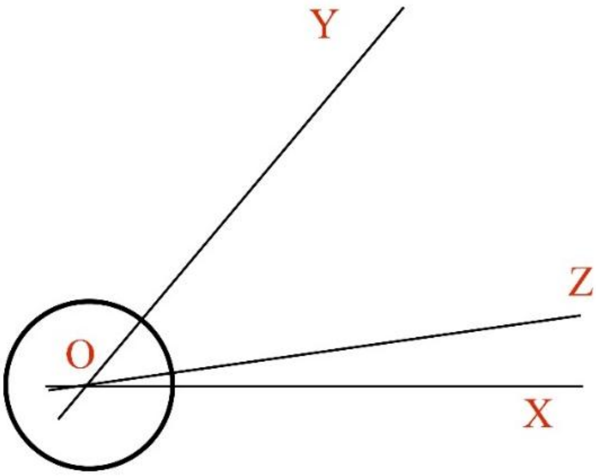

Figure 4-6-11

The two lines Z and X have an angle. By blue circles multiply the angle. Until line Y is obtained (like section 2-1).

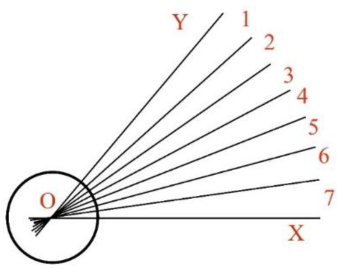

Figure 4-6-12

Four required circles on the one side of the angle make equal seven-part in angle. 7 is the fourth prime number.

7. There is an angle into apex O and two side X and Y. Divide the angle to eight equal parts.

In the first step, we divide the angle into two equal parts.
In the second step, we divide each part into two equal parts.

In the third step, we divide each part into two equal parts.

8. There is an angle into apex O and two side X and Y. Divide the angle to nine equal parts.

In the first step, we divide the angle into three equal parts.
In the second step, we divide each part into three equal parts.

9. There is an angle into apex O and two side X and Y. Divide the angle to ten equal parts.

In the first step, we divide the angle into five equal parts.

In the second step, we divide each part into two equal parts

The division of the angle into the equal part is a numerical system that indicates that the prime numbers are the main numbers and the other numbers come according to the prime numbers. Because the angle is divided into several equal parts, and the number of pieces is a prime number, the number of natural numbers corresponding to the prime number must be drawn on the side of the angle the circle. For example, 7 circles on the one side of the angle give to hand 17 equal parts in the angle and we know 17 is the 7th prime number. But when the angle is divided into several equal parts and the number of parts is the non-prime number, must the angle division to be into prime numbers. Thus there is the function of prime numbers between required and requirement circles The number of circles required on one side of the angle is the rating of the corresponding to the prime number.

If 2 circles are drawn on the side of the angle, then the angle is divided into the second prime number. If "100" circles are drawn on the side of the angle, then the angle is divided into the hundredth prime number, Without the appearance of a non-prime number, because Non-prime numbers are defined by the prime numbers.

The equation can be written as follows based on "equation A".

$$\tan\left(\frac{\theta}{p}\right) = \frac{2\cos\left(\frac{\theta}{3}\right)\sin\left(\frac{\theta}{3}\right)}{\left(2\cos\left(\frac{\theta}{3}\right)\cos\left(\frac{\theta}{3}\right)+(n-2)\right)} \qquad (n\epsilon N)$$

"n" is the number of circles and is equal to the number of radii in the figure. Two radii are used in detecting the side adjacent to the chord. So two radii are subtracted from the total number of radii.

If we continue drawing, we will see equation don't follow figure (Table 1) because figures aren't in categorical page and equation come to hand based on categorical page. In fact, images are based on circles, but there is no circle on the Euclidean page (*angle trisection 1, page 10, bold row*), so the page containing the images is free, not categorical. thus squaring the circle isn't the problem, rather squaring the circle says: the circle represents the one-page type and the square of another page.

n	p	Based on figures
2	3	Figure 4-2-17: 3 equal parts
3	4.949673022	Figure 4-4-9 : 5 equal parts
4	6.926900507	Figure 4-6-12: 7 equal parts
5	8.913544651	Figure “z-5”: 11 equal parts
6	10.9044885	Figure “z-6”: 13 equal parts
7	12.89774827	Figure “z-7”: 17 equal parts
…	…	…

Table 1: Compare the result of the drawings and the result of the equation.

Manage the page based on circles show each circle is a motivation that gives a prime number and each prime number is a transformation that gives a few natural numbers. Angle trisection is a new attempt to adjust the numbers.

Third result:

The argument of the prime number function:

prime numbers are ranked in natural numbers. Each prime number corresponds to a natural number. That is, every natural number represents one prime number. But there is no function that shows the relationship between the set of natural numbers and the prime set of numbers. Based on up pages we know the number of circles on one side of the angle can divide the angle into the number of prime numbers corresponding to the number of circles.

Other figures:

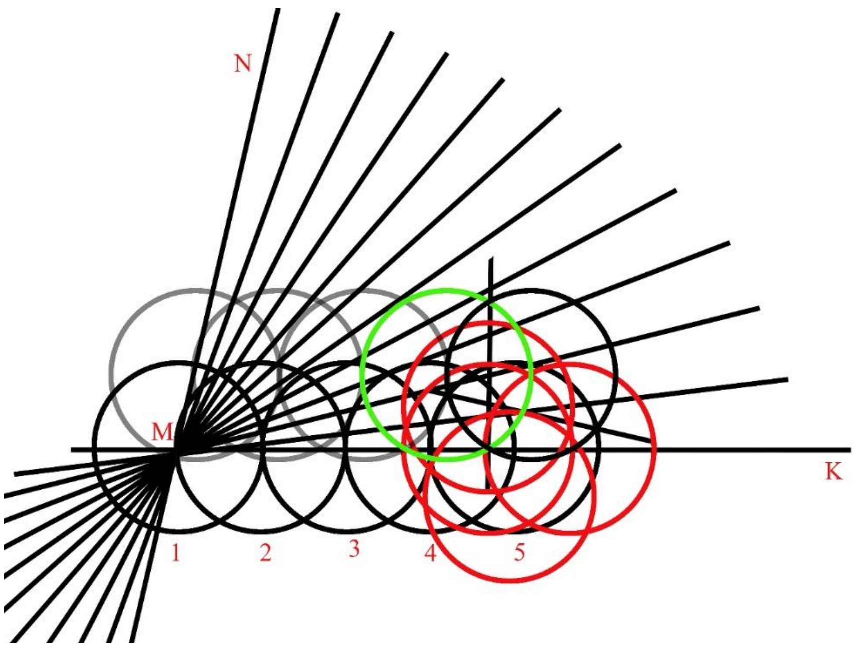

Figure "z-5": 5 required circles make 11 equal part in the angle.

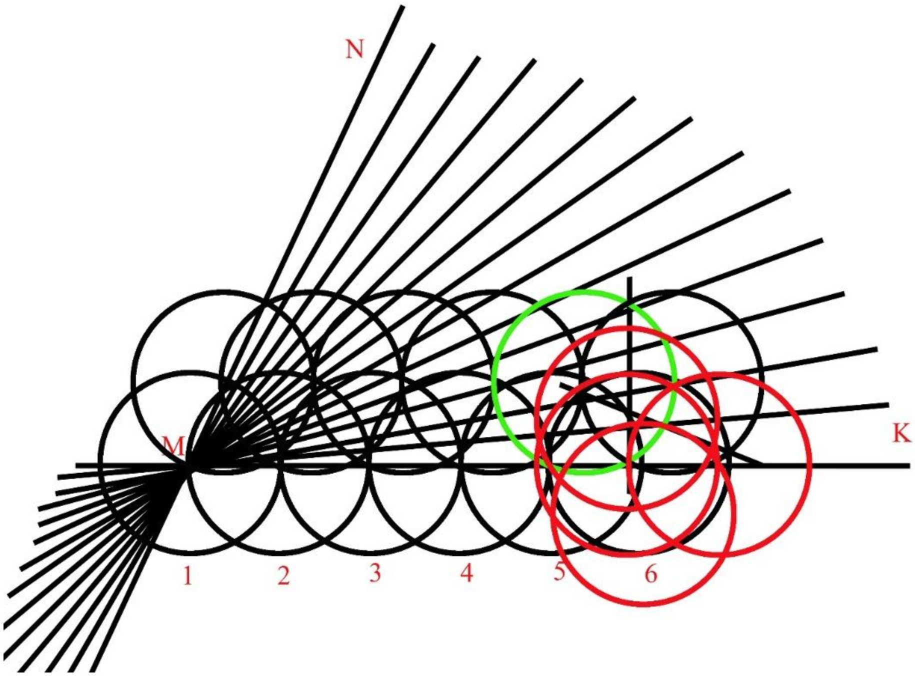

Figure "z-6": 6 required circles make 13 equal part in the angle.

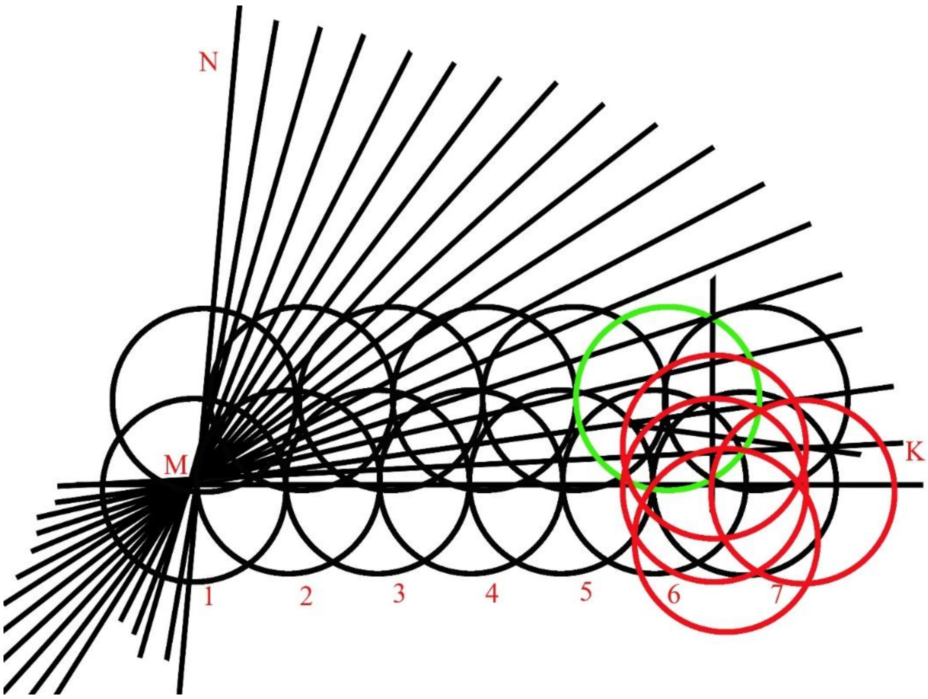

Figure "z-7": 7 required circles make 17 equal part in the angle.

Reference

1. Plato, The Dialogues of Plato (428/27 - 348/47 BCE), Translated by Benjamin Jowett Etexts prepared for this edition by Antonio Gonz´alez Fern´andez, Available from http://www.gutenberg.net/etext98/chmds10.txt.

2. Aristotle, Metaphysic (428/27 - 348/47 BCE), Translated by W. D. Ross, Written 350 B.C.E. Available from http://classics.mit.edu/Aristotle/metaphysics.html

3. Jonathan, B. Princeton, N.J. (1991) Complete Works (Aristotle). Princeton University Press.

4. Johnstone, B. (2008), Discourse analysis, Blackwell Publishing Ltd

5. Bīrūnī, M. al-tafhīm li-awā'īl ṣinā'at al-tanjīm (11/332), Available from https://www.qdl.qa/en/archive/81055/vdc_100023510136.0x00000c

6. Apostol, Tom M. (1976), One-Variable Calculus, with an Introduction to Linear Algebra, vulom1, George Springer, Indiana University.

7. Oxford advanced learner's dictionary (2007), seventh edition, Oxford university press.

8. Merriam-Webster online dictionary, Available from https://www.merriam-webster.com/dictionary/dictionary

9. Euclid, Euclid elements, Available from https://mathcs.clarku.edu/~djoyce/java/elements/toc.html

10. MICHAEL CORRAL, TRIGONOMETRY, (2009) Livonia, Michigan

11. Paul Foulquié, Philosophie generale, tr. as Falsafa-ye ʿomumi yā mā baʿd al-ṭabiʿa, baḵš-e tamhidi, Tehran, 1968.