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As a child I spent a number of summers in the country with my Mother and sister. My father used to come up on week ends. There was a terrific storm one night and we watched the lightning from the porch of the hotel behind the glass windows. My Mother told me of the time she was in the ladies room and a ball of lightning came right into the room through the window, travelled around the wall, which was tilted, and went back out the window.

Because of serious illness when I was young, because of my fathers past desire to become a physician, and because of a book <sup>given to me by my cousin</sup> called "The Microbe Hunters" I had a burning desire to become a physician. However, in those days, it was very difficult to get into medical school. The closest I came was the alternate list for Flower Hospital. I finally settled for Dental School as I had artistic ability, great manual dexterity and the thought that, after I finished dental school, I might go on to medical school. <sup>of these facts</sup> All bolstered my decision.

As a youth, I had a small degree of scoliosis which was diagnosed at my school along with a degree of flat footedness, the latter being observed by my standing on a glass table top. The scoliosis was cured by hanging by my hands from wall bars in the gym with my back to the wall bars. The flat feet I cured myself while being a strap hanger on the subway. Up on your toes and down slowly on the outer edge of your feet. Repeat, repeat, repeat. I never used arch supports as, after a while, you cannot do without them. Also, I avoided shoes with built in arches that were longer than my own arches. Such a situation breaks down your own arch by physical pressure. I used to have postnasal trouble due to a collection of inspissated material until I was taken to

~~repeat, repeat. I never use arch supports as, even a while, you cannot do without them. Also, avoid shoes with <sup>built in arches</sup> ~~arches~~ that are too long for your arch. Such a situation breaks down your arch by physical pressure.~~  
an ENT specialist who recommended a ponoleum spray and nose drops. Incidentally, nose drops can get into the Eustachian tube connecting the middle ear to the pharynx. Therefore, when using nose drops in the right nasal passage tilt your head to the left and vice versa. Also, when blowing your nose, blow one nostril at a time and blow gently.



Chapt. II

This wont hurt a bit.

Due to a passion for candy, I spent a great deal of time at the dentist. One dentist was my life long dentist, Dr. Leon Gecker. Flamo needles and home made novocain <sup>(dissolved from pills in the office)</sup> was a great pacifier although the injection itself still hurt even with the good looking nurse holding my hand.

Lots of zinc oxide and eugenol and lots of drilling with the slow speed drill. In his office, I learned to prevent burns due to spilled phenol by placing cotton in the bottle of phenol. He never had to pull a tooth for me. I lost my first tooth years later, during the depression, when a distant relative removed an upper first molar as an emergency measure. My father had an old scar on

his right lower cheek near the ramus of the mandible from an incision of an abscess prior to extraction of a tooth. Years later, I

noticed people with a scar across the botton of their chin which I found out was a typical ice skating scar due to falling on the

ice, face forward causing the mandible to pierce the skin.

Although, outside the sphere of dentistry, I feel that I should mention my Latin teacher who had some one dive on top of him in the swimming pool and ended up with a broken nose. He came to class with wooden splints inside the nose to hold it in place at the same time, that they keep the nasal passage open. Reminds me of the bloody nose I received using boxing gloves in my friends cellar. Then, I tried to poison myself by roasting a whole box of marshmallows with an individual kitchen match for each one. Fortunately, the phosphorus did not stay in my stomach too long and found its way back up. Also, I had a long wooden splinter removed from under my thumbnail, by my father, who always carried a sharp pen knife and pared the nail back so he could get a grip with a pair of pliers. The splinter was the result of dueling with wooden swords.



twelve

9

When I was ~~12~~ years old, my father brought home a week old poodle. Unfortunately, this baby poodle got into a fight the first day with some one ~~clases~~ baby dog and <sup>7</sup> when I tried to separate them, my dog turned and bit me with his needle like deciduous teeth. I then refused to keep him. [My last year in college, I did some research on comparative anatomy, with particular reference to the mandible, at the museum of natural history. One curious point was the evolution of the ear bones from <sup>the rear</sup> part of the masticating apparatus.]

MOVE  
TO  
BOTTOM  
OF PAGE  
15  
B

When movies first came to the local cinema, there were many comedies, shorts, cartoons etc. My favorite was "Out of the Inkwell" by Max Fleischer. <sup>A good book for children, is the book "Harold & the Purple Crayon"</sup> There was one short on teeth and eating- <sup>movie</sup> masticating, trituration and chewing your food well. <sup>she taught me</sup> If anything, <sup>it was to be careful about</sup> ~~this kept me from~~ swallowing <sup>objects</sup> or bones in my food as I always chewed my food up well after that. As a child, I was ignorant of toothache drops and tried to use <sup>ethyl</sup> alcohol to no avail. There were never any books of, or by, dentists available and <sup>it</sup> was like the dark ages trying to obtain such knowledge. Year later, a patient <sup>me</sup> gave <sup>x</sup> the ~~autobiography~~ biography of James Leon Williams by Clark. ~~This turned out to be an interesting book but not the least inspiring.~~ ~~Dentistry held some appeal because of its close relation to medicine and the thought that I could go an extra three years and become a physician.~~ Some of my friends went out of the country in order to get into medical school. Fortunately, today there are more choices available. CCNY has a medical school, Albany has a medical school. <sup>Nearby islands and Mexico have</sup> ~~medical schools.~~ The U. S. Army also has a medical school. (~~Double check this~~)

In the JADA Vol. 102 March 1981, there was a small article by Dr. Louis I Grossman on "a Personal History of Dental Practice- 1920-1980" showing the progress that dentistry has made.

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I must mention my brother in laws brother Irving Goldfine (he statrted the advertising slogans "the sky's the limit") who ran the art studio for Scientific Photo Engraving. My brother-in-law Joe, obtained a job for me in Irv's art department when I graduated High School during the depression. \$10.00 per week was the salary out of which I <sup>took</sup> ~~bought~~ mys train fare and nightly meals befroe night school and still saved \$275 in a year and a half. Irv took care of his parents and did not marry till late in life. He had one son Robert and died of a heart attack a few years after. In the studion I learned photo retouching and line drawing on ~~bleached~~ photographs which were then bleached out.

Then there was Joe's other brother, Johnny, who had an orchestra and wrote two songs which were pãagerized, to make "Stormy Weather ." My sister noticed the similarity on the radio and told Johnnay. They were the source of Lena Hornes success, and she had a long run at the Cotton Club as a result.

When my brother in law Joe passed the bar after the secondtry he gave me his saxophone( he had played so many years himself his thumbs were short from holding the sax, an alto sax). I began to learn to play it on my own but I was never good at reading music and didnt have the lung capacity. Between reading music and studying law, Joe wore heavy eyeglasses. I, myself, was always careful to read by daylight and when writing or drawing to have the light over my left shoulder to avoid shadows.



While I was picking up odds and ends about dentistry, I was also learning about business. (How unions bring in goons to help cause a strike and <sup>how,</sup> when they settle, the workers get very little as the union bosses work together with the factory bosses and we now have a third party sharing in the profits and sometimes actually bossing the bosses.)

Before I forget, I'd like to mention my inventions (never patented)

1. The concept of container cargo, circa 1943, 2. The bypass valve cap used on mustard and Elmers glue (circa 1947). 3. The wing door on the DeLorean - sent to GM <sup>by me</sup> as an idea about 1927 4. Three dimensional checkers. <sup>(an improvement on the one in Life Magazine)</sup>
  5. <sup>An article on</sup> Trisection of an angle with straight edge and compass ~~which is still in use~~ <sup>(An alphabetical system for Chinese characters).</sup>
  6. The Chinese to English Conversion System. Copyrighted. <sup>which is still in use</sup> 7. A nasal mask <sup>used at</sup> to protect dentist from aerosol. 8. <sup>An improved</sup> ~~French~~ technique for crown and bridge impressions. 9. <sup>Published in ORAL HYGIENE</sup> A weighted voting system, <sup>and</sup> using the causes of war as the basis for the weighted voting. 10. <sup>folded aluminum</sup> The origami canoe made from one piece of ~~aluminum~~.
  11. <sup>Published in 10th District Dental Society Journal</sup> A three dimensional localization technique, using x-rays, for impacted teeth.
- More information on business techniques. Salesmen keeping their contacts secret to protect their job. Robberies <sup>in a business</sup> frequently <sup>one</sup> being inside jobs. Each season in a seasonal business is almost like starting a new business since you need a new bank loan, therefore, the secret is to have a nest egg, or sinking fund, or reserve fund so that you are able to ~~be~~ <sup>some one else sees it</sup> be your own banker. A genius is <sup>some one else sees it</sup> someone who knows 2 good things when

Dentistry differs greatly from medicine. 1. You do not need a bedside manner. 2. You have to do most of the work yourself as compared to delegation to a nurse, lab technician, x-ray technician, etc. 3. Contact with the patients is much closer except in case of ~~and eye or~~ <sup>on</sup> ENT specialist. 4. Inability to sign death certificates. 5. Difficulty in treating emergencies due to specific limitations. etc.

~~\* APPENDIX - REFERENCE #~~

My first time on a horse was at Putnam lake. I didn't know the first thing about horses. Planning to ride him around one square country block, I <sup>had</sup> proceeded about halfway, when a dog blocked our path. Taking the path of least resistance, I turned <sup>my horse</sup> ~~him~~ around and proceeded back to the barn. Knowing he was near home, he began to race, ~~and~~ I took one look at the barn door and saw that I would never make it under. Using all my strength (about 100 pounds,) I managed to stop him about two inches from the door.

In the old days, piano keys were made of ivory and ebony. My <sup>Tony</sup> Uncle <sup>A</sup> had a player piano that was a great thing to play. He had a drygoods store on Fulton St. which had an elevated train in those days. My <sup>for infants and childrens coats</sup> father's factory <sup>A</sup> was on Broadway (1333), later at 505 8th Ave. and still later on 36 st. The streets on the uptown side have all even numbered buildings and vice versa. Uptown and downtown, <sup>and have the odd numbers on the west side.</sup> the building numbers run about 100 to a block. About 20 city blocks make a mile.

Dr. Saffier,

My cousin Bessie's husband <sup>A</sup> had a tooth extracted and died on the way home. There were a few other cases somewhat similar. As a result, I advise <sup>my patients forty or older.</sup> ~~anyone~~ over <sup>twenty four hours</sup> ~~40~~ years of age <sup>A</sup> to take a prophylactic dose of an antibiotic <sup>h</sup> 24 hrs before. Most neurological diseases are weird, and of unknown cause. My <sup>A</sup> school chum, J. Zeigler (name altered) contracted a cold virus and later developed Parkinson's, which seems to be terminal in about 5 years. <sup>Another school chum developed a partial paralysis of unknown cause</sup> In college, I learned that every species that becomes overspecialized shortly becomes extinct which I feel may well be the case with man. On my first dive, off a diving board, I held my hands so as to lessen the blow on my head but I made the mistake of keeping my head up although my eyes were closed. The blow on my eyeballs is still remembered.



*doe to straining my toes, on the slimy bottom*  
 A leg cramp in the same swimming pool left me in agonizing pain until someone showed me how to rub the calf till the pain disappeared. Walking on the foot also helps. So does keeping it warm.

On the Galapagos Islands I removed a tooth from a dead shark with my hunting knife. I had to pound the knife with the back of my hand before I could pry the tooth loose. The teeth are sandwiched in one right next to the other.

*Same for  
Galapagos*

The first dentist was probably a barber in the days when men had their own shaving mugs with their name on it. I constantly suffered from barbers itch and was fortunate not to develop boils on the back of my neck. Now, I cut my own hair, which takes a bit of ambidextrousness and a left handed scissor and left handed mirror. *(ooooo "ooooo" for CW Pans)* My father instructed me in the use of the old fashioned razor and to this day it *is the cheapest and it* gives the best shave but is a nuisance to use. Don't believe everything you read, even if written by a physician. They advise against splitting a toenail that is ingrown. I trimmed mine, cut a channel down the middle and kept making adjustments every day until it healed properly.

When we moved from the Concourse to Anthony Ave., my mother told me of the old custom of taking three essentials, a candle, salt and some bread. The house number was 1957 and that was the same number <sup>25</sup> of the year my father died. An amazing fact about the mouth: My Uncle, who was a tailor, could hold an hundred pins in his mouth and bring them out one at a time with his tongue to use in basting a piece of cloth or clothing.

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*Page 12-13*  
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About 1935, I and Donald Jordan went up to Van Cortlandt park to see the landing of the first cross country flight by glider.

My folks loved the theatre and I saw a number of Broadway musicals Tea for Two, Show Boat with Helen Morgan in person, etc. *plus Singers Midgets at the Fontham Theater*

One night my mother couldn't go with my father and he took me to a dinner held by the National Association of Manufacturers at the Commodore Hotel. It was a very elaborate affair and, near the end, about fifty waiters marched in by candlelight with the deserts under glass covers. An entertainer sang <sup>one of</sup> Harry Laurels songs. "Oh I'm not so young as I used to be when I was in my prime, Although I'm getting old and gray, I've had a lovely time, Ah, when I was young awacky, why I was never shy, On the ~~very~~ <sup>very, very, very</sup> night when I was twenty one."

My Aunt Sara, (my fathers half sister) used to hve us out for dinner every Thanksgiving. She lived with my fathers full sister, <sup>Ruth</sup> who was a spinster. The two of them had a passementerie business in their home, making floweres and other decorations out of silk and other materials. They lived on Eldert St. in Brooklyn, in one of the old fashioned three story <sup>r</sup> bick houses something like the old brownstone houses.

S. We spent a number of summers at Spring Valley which was a long trip by car in those days. <sup>HERBERT (---)</sup> My fathers had an Overland with a convertible top which seated six ~~people~~. The trip entailed a ferry ride as there were no bridges over the Hudson in those days. (An <sup>night</sup> The old steam engine still ran up to Spring Valley from Jersey.) One fourth of July, we came down snake hill, past a colored, holy roller church, and were the last car on the last (midnight) ferry. We had the top down and we gave the accondion player on the ferry a ride back to New York City. He played all the way back.

12A  
12B

I had a neighbor who developed cancer of the lip from the hot pipe stem of the pipe he smoked. Also, I had a friend who suffered from a deviated septum and had difficulty breathing through his nose. He sucked on lemons continually to keep the membranes shrunken. One of my sons had a terribly clogged nose as a child and reached the point where he couldn't breathe. I hooked a tube up to our vacuum, tested the strength of the suction and, then, used it to remove the gunk from his nose. <sup>I +</sup> <sup>Cured his problem</sup> When I was a child they wanted to remove my <sup>swollen, spotted</sup> tonsils but I objected <sup>(Dr. W. Littleman)</sup> and my doctor used some cotton dipped in Dakins solution to paint my tonsils which resulted in a cure of the infection.

In those days, the tooth fairy only left a nickel under your pillow. From about the age of four years, I spent quite a bit of time in the dentist's chair <sup>and ended up</sup> having but one tooth that did not possess a filling and having more than two fillings in most of the others, of which many were gold inlays, to say nothing of a fixed gold bridge replacing one tooth. You can easily see that I learned about dentistry the hard way. The depression, in a way, was a blessing for it made me realize the benefits we had possessed before. My first trade was that of carpenter, as a result of my father's instruction, although I never worked at it commercially. When I went back to college, after <sup>Cooper Union Art School and</sup> quitting my job as an artist, I learned that memory is directly proportional to good learning. Then, I went to dental school. As a result of my art work and drafting, I know for a fact that I carved the most exact set of teeth according to the measurements given but, unfortunately, those measurements did not delineate the most natural appearing teeth and I did not receive the highest grade which did not disturb me as learning and not grade was the important thing.



~~14~~ 14

~~As a child patient,~~ I still have some strong recollections of dental treatment as a child patient. The annoying sensation of a small drill going round and round in a large hole. The increased pain as the drill approached the nerve. The loud cracking noise when my tooth was pulled, <sup>if</sup> sounding as half my jaw was cracking.

And last but not least, the odd sensation of laughing gas <sup>which I tried just to see what it was like.</sup> <sup>(MUS # 11)</sup> Dentistry is a gruelling, dangerous profession. Several young dentists I knew had heart attacks and passed away. The length of working time is greater than that of a surgeon operating and the concentration is just as <sup>great. the chance of infection are much greater.</sup> ~~as gruelling.~~ In my studies of biology, teeth seem to play a very important part in the survival of the fittest. In high school, I only learned two Latin songs. Mica, Mica Parve Stella and Gaudeamus Igitur (the latter being the graduation song sung in ancient colleges).

My dentist had an old style x-ray machine with the exposed, overhead wires and you could smell the ozone ~~wh~~ generated when he used it. One day his nurse touched the sink and the sterilizer at the same time and the shock almost killed her. He was a consummate magician and always had something to entertain me with ~~facts~~ to take my mind off the subject at hand. He was always cheerful despite the fact that he was always down in the mouth.

14

# Trisection of an Angle with Straight Edge and Compass

The impossible takes a little longer. For many years, proofs have existed to show that it is impossible to trisect an angle with straight edge and compass without sliding or rotating( "cheating") the straight edge around or along a point. B.L.Van der Waerden in Modern Algebra, page 44 states "the cubic equation involved in trisection is  $4X^3 - 3X = \alpha$ , which by Eisenstein's criterion is irreducible. From this it is inferred that an angle cannot be trisected. Undaunted by this and encouraged by my success in rediscovering a solution that has been discovered and rediscovered several times before, (Fig. I A), I proceeded to create a perfect solution(Fig. I B) so I thought. My friend, John Selby, had already given me an algebraic proof as to the fact that Fig. I A solution was only an approximation.

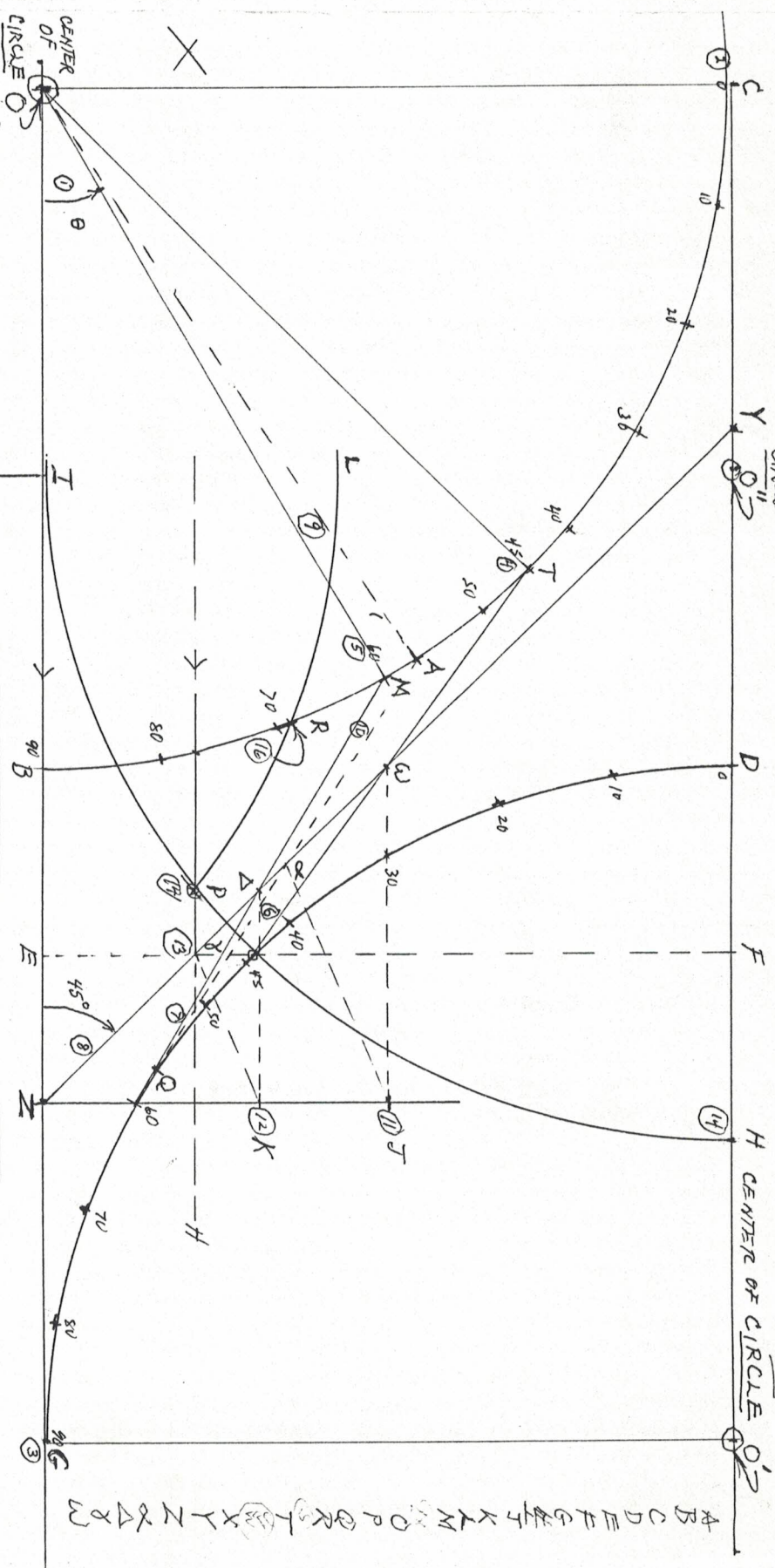
Fig. I B involves ratios and the algebra of Cartesian coordinates in the proof gets so complicated that I looked for a simpler solution. In addition, the validity of the ratios bothered me. This proof, balancing circular arcs, was derived from the concept of the Neusis of Hippias in which the rate of change of a circle is compared with the rate of change of a straight line.

In the search for a simpler solution, which would be easily proveable by algebra, I resorted to the exception to the rule, the equilateral triangle\* which gives us  $60^\circ = 2/3 \ 90^\circ$ .

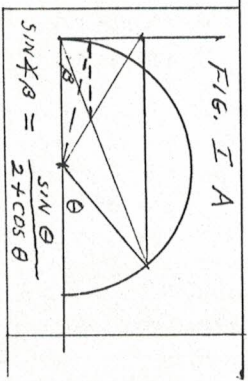


永年

CENTER OF  
CIRCLE



1. GIVEN: UNKNOWN  $\angle \theta = \angle AOB = \text{ARC AB}$ , TRISECT WITH STRAIGHT EDGE AND COMPASS
2. DRAW  $\frac{1}{2}$  CIRCLE (OF ARCS AB) WITH CENTER O AND  $\frac{1}{2}$  CIRCLE WITH CENTER O' (ARC DG)
3. BISECT CD AT Y AND BISECT BG AT Z AND DRAW YZ. (NOTE: YZ IS  $45^\circ$ )
4. DRAW OY AT  $45^\circ$  AND CONNECT TO  $45^\circ$  ON CIRCLE O' CUTTING YZ AT W
5. DRAW OM AT  $60^\circ$  AND CONNECT TO  $60^\circ$  ON CIRCLE O' CUTTING YZ AT  $\Delta$
6. MARK OFF ARC DQ = TO CA AND CONNECT AQ CUTTING YZ AT  $\alpha$
7. CREATE RATIO TRIANGLE WZT SO THAT TZ =  $\alpha Z$  AND DRAW  $\Delta K$  PARALLEL TO WT
8. LAY OFF KZ ON WZ GIVING POINT  $\delta$  (WD:WZ = JK:TZ =  $\alpha\delta$ : $\alpha Z$ )
9. DRAW VERTICAL "AXIS" LINE FE THRU  $\delta$  AND REFLECT  $\Delta$  CIRCLE O' FORMING  $\Delta$  CIRCLE O"
10. DRAW HORIZONTAL LINE HX AND EXTEND IT CUTTING CIRCLE O" AT P
11. USING "AXIS" LINE HP, REFLECT  $\Delta$  CIRCLE O' FORMING  $\Delta$  CIRCLE O''' CUTTING AB AT R
12. ARC AR =  $\frac{1}{3}$  ARC AB



MATHEMATICAL CHECK ON TRISEPTON

GIVEN:  $\triangle MM'H' = 30, 60, 90$ ,  $\triangle M'OM' = 45, 90, 45$ ,  $HM' = 2$ ,  $H'M = \sqrt{3}$ ,  $MM' = 1$

To Prove: Special case of Yukawa  $\phi = 30^\circ$  has  $y_2 = \frac{2}{3} x_2$ .

①  $60^\circ - 45^\circ = \angle OMH' = 15^\circ = \angle EOM'$

②  $135^\circ + 15^\circ = 150^\circ$

③  $\dot{H}_O = H_M - OM = 0.732$

④  $\triangle H'OE = 2 \text{ SIDES \& BETWEEN } = 732, 150, 1.44$

⑤  $\angle OH'E = \gamma_2 = 20^\circ = \frac{2}{3} \alpha_2$

⑦ PROOF FOR H'E gets larger - Find a

(A)  $\cos \angle A = -.866$ ,  $\sin \angle A = .500$

~~(B)  $\frac{a}{\sin A} = \frac{c}{\sin C} \rightarrow \frac{a}{\sin A} = \frac{\sqrt{2}}{\sin C} \rightarrow \text{Find } a$~~

④  $a^2 = c^2 + b^2 - 2bc \cos A$

$$d^2 = (\sqrt{2})^2 + (.732)^2 - 2(\sqrt{2})(.732)(-.866)$$

$$a^2 = 2 + 0.5358 + 1.2678(1.444)$$

$$2.5358 + 1.8028 = 4.3386$$

$$a = \sqrt{4.3386} = 2.0830$$

$$\textcircled{B} \frac{2.083}{\sin 50^\circ} = \frac{1.444}{\sin C} \rightarrow \sin C = \frac{1.444}{2.083}$$

~~$\sin C = 0.3394$~~

$$C = 190^{\circ} 50' 30''$$

~~$$C = 19^{\circ} 50' 30''$$
$$\text{But } C = 20^{\circ} \Rightarrow \sin C = .3420 \text{ rad} = .0026$$
$$= 9' 30''$$~~

STILL TOO SMALL

