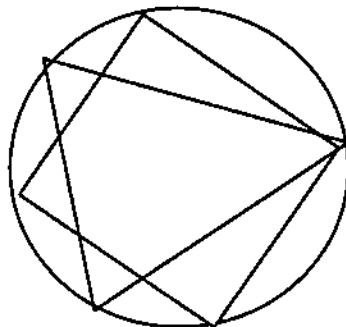


THE GANN PYRAMID

SQUARE OF NINE ESSENTIALS

Daniel T. Ferrera



6-Mar		308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324		8-Aug
	306		242	243	244	245	246	247	248	249	250	251	252	253	254	255	256		326	
	305	240		184	185	186	187	188	189	190	191	192	193	194	195	196		258	327	
	304	239	182		134	135	136	137	138	139	140	141	142	143	144		198	259	328	
	303	238	181	132		82	83	84	85	86	87	88	89	90		146	199	260	329	
	302	237	180	131	80		58	59	60	61	62	63	64		102	147	200	261	330	
	301	236	179	130	89	56		32	33	34	35	36		66	103	148	201	262	331	
	300	235	178	129	88	55	30		14	15	16		38	67	104	149	202	263	332	
	299	234	177	128	87	54	29	12		4		18	39	68	105	150	203	264	333	
21-Mar	298	233	176	127	86	53	28	11	2		6	19	40	69	106	151	204	265	334	23-Sep
	297	232	175	126	85	52	27	10		8		20	41	70	107	152	205	266	335	
	296	231	174	125	84	51	26		24	23	22		42	71	108	153	206	267	336	
	295	230	173	124	83	50		48	47	46	45	44		72	109	154	207	268	337	
	294	229	172	123	82		80	79	78	77	76	75	74		110	155	208	269	338	
	293	228	171	122		120	119	118	117	116	115	114	113	112		156	209	270	339	
	292	227	170		168	167	166	165	164	163	162	161	160	159	158		210	271	340	
	291	226		224	223	222	221	220	219	218	217	216	215	214	213	212		272	341	
	290		288	287	286	285	284	283	282	281	280	279	278	277	276	275	274		342	
1-Feb		360	359	358	357	356	355	354	353	352	351	350	349	348	347	346	345	344		8-Nov

SACRED SCIENCE LIBRARY

WWW.SACREDSOURCE.COM

IF YOU HAVE QUESTIONS ABOUT THIS COURSE
OR WOULD LIKE TO DISCUSS IT ONLINE WITH OTHER READERS
PLEASE VISIT THE NEW

FERRERA RESEARCH FORUM

AT THE LIVING LIBRARY OF THE
WWW.SACREDSCIENCE.COM/LIVINGLIBRARY

SACRED SCIENCE INSTITUTE
WWW.SACREDSCIENCE.COM/FERRERA

The Sacred Science Institute has arranged with the author, Daniel Ferrera, to make available an Online Research Forum for the readers of The Gann Pyramid: Square of Nine Essentials & Mysteries of Gann Analysis Unveiled! Dan has agreed to monitor this forum to answer questions which may develop while studying his Courses, and to provide further explanations and examples where needed. This Forum will be private and will only be accessible to owners of the Ferrera Courses. It will also serve as a Research Forum where new ideas, theories and developments in Gann Research will be presented through the synergy of this interactive environment. We encourage everyone who owns these Courses to participate in the Research Forum and help create a vast knowledge bank of questions, answers, and research on new developments in Gann Analysis and financial market forecasting.

To register for the Ferrera Research Forum, please call or email the Sacred Science Institute, or visit the website and follow the instructions listed there.

(800) 756-6141 IN US (909) 659-8181 INTERNATIONAL (909) 659-0621 FAX

EMAIL: **INSTITUTE@SACREDSCIENCE.COM**

WEBSITE: **WWW.SACREDSCIENCE.COM/FERRERA**

PUBLISHER'S PREFACE

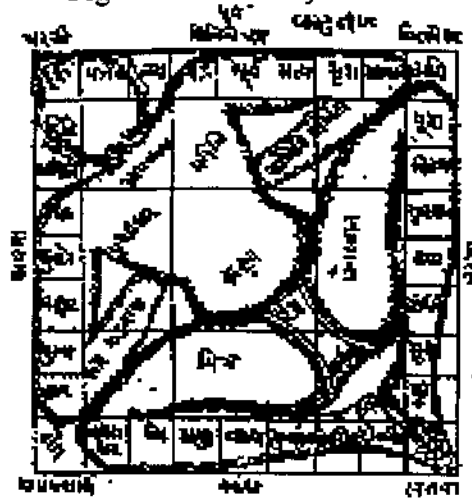
The Square of Nine is undoubtedly the most mysterious and popular of W. D. Gann's financial market calculators. There is something about this strange number wheel which intrigues all who see it, whether they be market enthusiasts or school children. There have probably been more courses written about the Square of Nine than any other of Gann's trading tools, yet there has been very little actually said.

One wonders what it is about this spiral number chart that so peaks everyone's interest. Is it simply the promise of great fortune for decoding the secret calculator of a legendary market master? Or is there something more subtle, something mysterious, ancient, and unknown that resonates deeper in the being of those intrigued by this chart? Upon exploration, we are pleasantly surprised to find that the Square of Nine is something that extends far beyond being simply an interesting trading tool of a legendary forecaster. In fact the Square of Nine has a history which extends into the far reaches of antiquity, deep into its ancient mysteries and sacred sciences.

It is said that Gann discovered the Square of Nine in India, a story that has not been verified, but would not be surprising since the Square of Nine may be found all over India. In Hindu temples throughout the land, there are small 5 x 5 squares (the inner square of the Square of 9) next to the doorways, with the squares serving as small containers filled with the earth and various botanical and natural elements of the region, while the temples themselves are designed according to exactly the same pattern.

This leads us to an ancient Vedic diagram called the Parmasayika Grid (Figure 1) which divides the Hindu Pantheon according to the measures of the "Purusha" (unmanifest creative potential) of the primal cosmic man, the "Anthropocosmos". In this diagram a lotus grows out of the naval of the cosmic man, at the exact center of the grid. This lotus is "Brahma" the universal vital principle, extending itself out through the lotus blossom into the multi-dimensional grid of the manifesting universe. Since vegetable growth, along with all life, extends itself in spiral motion, it would circumambulate the grid from center ring to outer, just as price and time do on Gann's calculators. As the lotus grows, it progresses from the greater deities at the center to the lesser deities at the outer edge, the deities representing in the sacred tradition, universal laws and principles by which all that is born and exists in manifest space-time is governed.

Figure 1. Parmasayika Grid



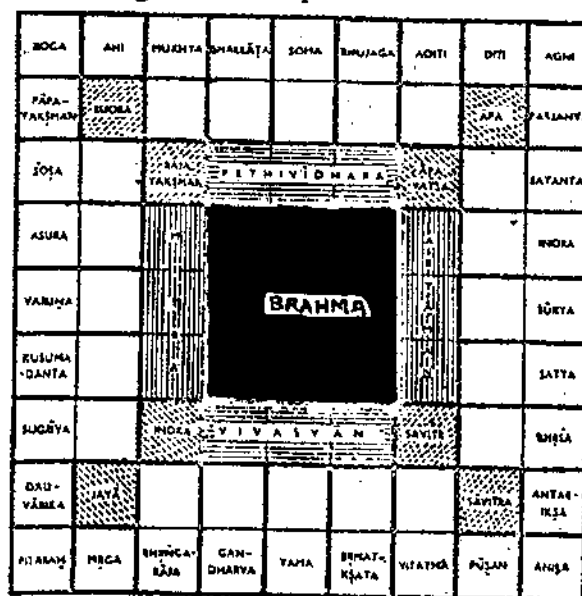
This universal vital principle, "Brahma", which comes forth from the center as the lotus flower extending itself into 3 dimensional space-time, is pure consciousness projecting itself into form according to mathematical relationships and harmonies. This projection can take on individual and physical form like a tree or a person, or it can be a group form like a business, a school or even an essentially non-physical thought form like a financial market. That group form is composed of all of the thought, work, energy and activity of any kind that is connected with that particular pattern of form. Hence, soybeans and charts of soybean behavior are graphical representation of the conglomerate of thought energy about soybeans, expressed as price behavior and driven by buying and selling, or hope and fear as Gann put it, craving and aversion in the Buddha's terms. Financial markets then, are barometers of mass human consciousness, and soybean charts are maps of the motion or activity of human soybean consciousness as it progresses through time.

Changes in a particular form or entity occur as a result of the sum of the effects of all energies internal and external as they relate to or influence that form. In seeking to forecast the financial markets, one must develop some understanding of the forces that effect the form and how they operate, so that one can anticipate changes through knowing their causes. Various techniques of market analysis represent certain perspectives of perception of these influences and the reactions to them of a particular thought pattern, like soybeans. Thus, price charts of the financial markets are representations of universal forces as expressed through the medium of human consciousness concentrated in a particular pattern. This is what is meant by the universal vital principle, "Brahma," which extends itself through every human, plant, animal, insect, planet, and cell, throughout everything in the cosmos, for it is the principle of action in the Now, the Verb which is the Function, which determines the nature of these particular patterns of Form existent in the manifest universe.

In *The Hindu Temple*, Stella Kramrisch presents the ground plan for Hindu temples since ancient Vedic times, called the Vastupurusamandala (Figure 2), again our Square of 9, defining it as, "the place for the meeting and marriage of heaven and earth, where the

whole world is present in terms of measure, and is accessible to man..." She explains that its essential form is a square which, "can be converted into a triangle, a hexagon, octagon and circle of equal area and retain its symbolism..." Sounds strikingly similar to Gann's Coffee Rio, Hexagon, and 360 Degree Charts. She further explains that, "the Vastu of 64 squares is meant for the construction of shrines and for worship by Brahmanas, and the Vastu of 81 squares is for the construction of other buildings and for worship on behalf of kings." Here with the 8 x 8 square, we discover Gann's Square of 4, the inner square of the Square of 8, as the alternative to the Square of 9, perhaps giving us an explanation for Gann's use of 8 x 8 grid paper for his charts. Kramrisch continues, "the square of the Vastupurusamandala is divided into small squares and in diagonals...their points of intersection are the vital parts and tender spots (marma) of the site...these must not be hurt or interfered with...", Gann's familiar crosses forming the "hot spots" on the Square of 9.

Figure 2 Vastupurusamandala



However, we may still wonder what exactly these sensitive "marma" points are measuring; how is this "marriage of heaven and earth" quantified? An ancient Hindu architectural text dedicates its wisdom, "for the pleasure of the astronomers and astrologers, as it has been transmitted from Brahma to our days through an unbroken series of sages. Building is begun under favorable stars. They are consulted when the ground is taken possession of and when the rite of depositing the Germ of the temple is performed. The regents of the planets and the stars have their allocation in the diagram of the temple and their images are carved on its walls. By them are regulated the measurement of the whole building and its parts; the life of the donor, and the age of the temple too. The temple is built in the likeness of the universe and is its reduced image."

Growth within the builder's grid ensues from a specific point of birth, and exactly at the point when the seed is germinated and growth initiated, the planets and stars are carved

into their positions on the walls of the grid. On the walls of Gann's grid we find the 360° circle of the zodiac, marking the motions of the planets and stars, and the birth point is likewise an essential key for Gann, for it is the beginning point of the number count in the square, and essential for casting a proper natal chart. The Square of 9 is an instrument which calculates the mathematical measure of the growth of a form from a germination point, and correlates the motion or growth of that form with the astronomical and astrological influences governing it, allowing the analyst to read the stages of and influences upon the development of the Stupa, lotus, form or market.

Daniel Ferrera in his new course, *The Gann Pyramid: Square of Nine Essentials*, beautifully describes the various functions of the Square of 9 as a mathematical and astronomical calculator. He also points out that the Square of 9 is not to be perceived in only its two-dimensional perspective, but as a pyramid, spiraling from the center around and down to the outer ring at the base of the pyramid. This ties in nicely with our understanding of natural growth and its relationship to the extension of Brahma through the lotus, temple or market. Manifest form projects itself into the three dimensions of space and time in the form of a three-dimensional conic, not a two-dimensional spiral. Therefore we should perceive the growth of our form taking on extension in the Z-plane forming a vortex, whirlpool, or conic spiral as it rotates through the mathematical grid of planetary and stellar influences.

India is not the only ancient civilization to have possessed this subtle wisdom. Again, in Ancient Egypt we find the same design built into the ground plan of the Great Pyramid, probably the oldest surviving structure on Earth, dated by recent research to perhaps earlier than 10,000 B.C.E., and theorized by some to be the last remnant of the legendary Atlantis. Schwaller de Lubicz, one of the greatest thinkers of the 20th century, Pythagorean, alchemist, and egyptologist demonstrates in his monumental work, *The Temple of Man*, that the Square of Eight & Nine form the backbone of the Egyptian *canevas* about which he says, "The mentality of the Ancients is geometric (Functional), and, in Egypt, it always refuses the scholarly form that substitutes the mental concept for the graphic means...[this] allows us to place canon, architecture, and calculation on a sort of "backdrop" that we call the *canevas*, the grid pattern of squares used by the *Bauhutte* [mason's guild] of the temple builders." Of the importance of the Square of 8 and 9 grid relationship, Schwaller says, "These two lengths, 8 and 9, are related to musical harmony and are the very heart of the 'hieratical pavement.' This is the tone in music and also the ratio between the diameter of a disk and the side of a square of the same surface area. The sum of 8 and 9 is 17, the famous number of Jabir [the famous Arabic alchemist of the 8th century C.E.]. It is associated with 28 and is the key number for the "balance" (*mizan*, measure of balance)." Not surprisingly, this same "hieratical pavement" also forms the basis of the labyrinth floor designs of the Gothic cathedrals of Chartres and Reims.

Schwaller shows how this *canevas* is integrated into all Egyptian art & architecture, most particularly the Temple of Luxor, a second millennium B.C.E. temple built by Amenhotep III, father of the enigmatic heretic Akhnaten, to whom the Rosicrucian Order traces the origin of their secret society. Schwaller considers the Luxor Temple one of the structures in Egypt, calling it the "Temple of Man" because it contains within its

architectural symbolism a model of cosmic man, Purusha, or Anthropocosmos, and his relation to the universe, exactly as we have seen in India. This is the model of "divine correspondences" as expressed in esoteric tradition by the Hermetic axiom, "As Above, So Below.

Is it surprising, then, that a diagram of such importance to the ancients is to be found applicable to the modern financial markets? Obviously the ancients chose this design as the basis for their most holy and magnificent achievements for an important purpose. We see in both the Egyptian and Vedic traditions that the Square of Nine has, since the beginning of time, been used as a measure of the relationship between man and cosmos. Perhaps by understanding the role it played in ancient times we may derive some insight into how we may apply it to the manifest realities of our time. It is this value which makes the Square of Nine so intriguing to all who see it. There is something to it which transcends the conscious mind and reaches far back to a subconscious racial memory, finding something mysterious which draws one's attention to this strange mathematical calculator.

This course, while perhaps not revealing the infinite mystery of this most ancient of diagrams, goes further in revealing W. D. Gann's use of the Square of Nine as a market calculator than anything that has ever before been presented. We are excited that this material is currently being made available, and hope that it serves as inspiration for further research and appreciation the great wisdom that has been passed down from antiquity through the Ancient Mysteries.

W. Bradstreet Stewart
SACRED SCIENCE INSTITUTE

TABLE OF CONTENTS

Introduction	P-2
Navigating With the Square of Nine	P-7
Bible Interpretations Related to W. D. Gann	P-11
What Gann Said About the Square of Nine	P-15
Six Squares of Nine	P-16
Square of Nine Time Applications	P-19
Price Targets For Support & Resistance	P-23
Using A Square of Nine Table	P-25
Time As a Price & Price as a Time	P-28
Gann Angle Projection	P-30
Square of Nine Time Techniques, A Different Look at History	P-33
Analyzing Markets	P-39
Nine Rules For The Square of Nine	P-40
Periodic Number Cycles	P-42
Price as a Time Period	P-45
Price Levels For Support & Resistance	P-47
Converting Astronomical Longitude to Price	P-49
Another Astronomical Technique	P-55
Fibonacci Ratios	P-60
Conclusion	P-62
W. D. Gann Calculators	P-63

Introduction

Over the years, many market enthusiasts have become familiar with the remarkable forecasting and trading record of W.D. Gann. Many so called "Gann experts" have tried to figure out how Gann was able to trade with such a high accuracy rate and make so many incredible market predictions. For example, the Ticker and Investment Digest, volume 5, number 2, December 1909, shows that W.D. Gann took a total of 286 trades in the presence of William E. Gilley of which, 264 were profitable winning trades. His success rate was an amazing 92%. In this 25-day period, which the article covers, Gann was able to double his initial capital ten times for a gain of 1000% on his margin.

It has also been reported that Gann carried a miniature version of the Square of Nine with him into the trading pits during his most successfully recorded trades. The source of this information is Mr. Renato Alghini an associate of Gann's for nearly six years. Gann believed that every top and every bottom in the markets had a mathematical counterpart in both price and time. He quoted Faraday saying "there is no chance in nature, because mathematical principles of the highest order lie at the foundation of all things. There is nothing in the Universe but mathematical points of force".

The true origin of the Square of Nine is unknown. It is believed that Gann either discovered it in Egypt or India and that it is of some ancient origin. I have talked with some friends of mine who are from India and they had never seen anything like the Square of Nine. One suggested that it may have something to do with a type of Vedic astrology but he was only guessing. My personal belief is that it probably came from Egypt because the Temple of Luxor incorporates the Square of Nine in its architecture. However, this is only an opinion. The truth is that nobody knows for certain where it came from. Maybe Gann invented the thing himself? The only thing we know for certain is that Gann used the Square of Nine and considered it very valuable.

In his Egg course, Gann describes the Square of 4 as the "even square" because it is the square of the first even number, i.e. the square of 2. The first odd square would be "1" but this does not produce a number greater than itself because $1 \times 1 = 1$. The first odd square greater than itself is "9" or 3 squared. Gann said, "We use the square of odd and even numbers to get, not only the proof of market movements, but the cause".

What is the Square of 9 (Keep a Square of Nine Chart in front of you while reading)

The Square of Nine is basically a spiral of numbers starting with the number one in the center (or apex of the Great Pyramid) with the number 2 immediately to the left. The rest of the numbers spiral around the center in a clockwise fashion to the number 9, which completes the first cycle of numbers around the center. 10 through 25 completes the 2nd cycle, 26 through 49 completes the 3rd, etc. The square is divided into eight 45-degree angles. On the cover page I have provided a copy of the Square of Nine. You also have a large Square of Nine chart (for Microsoft Excel) included with this course that you can refer to as well.

The numbers that run through the center in the shape of a "+" sign are the cardinal numbers. The numbers that run through the center in the shape of a "X" are the corner numbers. In the first cycle around the center, there is one digit separating each 45-degree angle. In cycle number two (10 to 25) there are 2 digits separating each 45-degree angle. In cycle three (26 to 49), there are 3 digits separating each 45-degree angle. In cycle 1000; there would be 1000 digits or cells separating each 45-degree angle. Technically, the number "1" in the center is a complete cycle and would therefore be cycle #1, but there is a nice simple mathematical relationship to the cycle number and the difference between numerical values of the 45-degree angles when you count the Square of Nine numbers in this manner.

To fully appreciate the Square of Nine in terms of its geometric origins, take a look at the large chart of the Square of Nine that is included with this course. Try to visualize it as a pyramid. At the very top or apex of the pyramid is the number 1 and there are four equal sized triangular walls descending down to the pyramids square base. Each block in this pyramid is given a number as you work your way down and around each level of blocks. Now if you remember, the numbers on the "+" are called the cardinal numbers. These numbers are all separated by increments of 90°, i.e. 90°, 180°, 270° and then 360°, which brings you back to the location that you started from.

The numbers on the "X", which connect the four corners of the square base, i.e. the corner numbers, also are separated by increments of 90°, giving the appearance of an Egyptian style pyramid. The cardinal "+" and corner "X" numbers divide the square base of the pyramid into 8 equal divisions of 45°, hence its other popular name "The Octagon Chart" (Octa meaning eight).

If you look at the Square of Nine chart, you will also see circles or rings, which have been drawn around certain squares. The last circle has calendar dates that revolve in a clockwise fashion around the square base, which starts from the date March 21st. This is the vernal equinox, when the Sun is at 0° Aries, also known as the 1st day of spring and represents the beginning of the natural year. Actually, the Sun does not move, it only appears to be at 0° Aries. In reality, the Earth, which revolves around the Sun, as one of its many satellites is at the opposite sign of 0° Libra. We will get into more detail of the Zodiac in a little while.

The first inner most circle has a radius that runs from the center down to the cardinal "+" number 352. This number appears on the same cycle or level of pyramid blocks as the number 360, which is 8 blocks to the left of 352. As you know, there are 360° in a circle and this is why Gann has a ring around this particular square. The next circle or ring from the center has a radius that runs down to the cardinal "+" number 716. This number appears on the same cycle or level as the number 720, which equals 2 times 360 and is the reason the 2nd ring is located here. The third ring runs through the number 1080, which equals 3 times 360, etc. Gann set his 3rd ring radius 4 blocks below the 2nd ring, which was the amount of space or blocks between ring 2 and ring 1.

The reason for constructing a chart like this is based upon the hypothesis that each positive whole number, i.e. the regular counting numbers 1, 2, 3, 4, 5, etc. all correspond to some specific angle of a circle between 0° and 360° . Pythagoras, one of history's greatest mathematicians and philosophers said "Units in a circle or in a square are related to each other in terms of Space & Time at specific points." The Square of Nine is unique

in that it achieves the ancient practice of squaring the circle and is often called The Pythagorean Cube.

Notice how the square completes at the corner number "X" 361 on one of the 45° angles of the Square of Nine, the 315° angle. If you started with a zero in the center, it would have come out exactly at 360. Notice how the 2nd ring from the center has a radius that runs through 720, (2 x 360) as stated earlier, but also perfectly inscribes the 361 block (square base) within it's radius.

Now if you look at the number "4" on the chart and follow an angle of 45° going up to the top right hand corner, you get the number series: 4, 16, 36, 64, 100, 144, etc. These numbers are all squares of even numbers, i.e. 2 x 2, 4 x 4, 6 x 6, 8 x 8, 10 x 10, 12 x 12, respectively, etc. If you look at the number "1" on the chart and follow an angle of 45° going down to the bottom left hand corner, you get the number series 1, 9, 25, 49, 81, 121, 169, etc. These numbers are all squares of odd numbers, i.e. 1 x 1, 3 x 3, 5 x 5, 7 x 7, 9 x 9, 11 x 11, 13 x 13, respectively, etc. Gann said, "We use the square of odd and even numbers to get, not only the proof of market movements, but the cause".

This particular arrangement of numbers on the Square of Nine creates a very unique square root relationship with all the other numbers on the Square of Nine chart. My friend, Michael S. Jenkins illustrates some interesting square root trading techniques utilizing the Fibonacci ratios with the Square of Nine in his Stock Trading Course and his book Chart Reading for Professional Traders.

Navigating with the Square of Nine

Basically, if you want to move in cycles of 360° around the Gann Wheel you take the number you are interested in such as the all time High or Low price, take the square-root of the number, then add or subtract 2 from the root and re-square the result.

Example: Lets say that we are interested in the price 664 (which is in the vertical column straight up from the center). The square root is $25.768 + 2 = 27.768^2 = 771$, which is the number directly above 664 or one full 360° degree cycle out from center. If we subtracted 2 from the square-root and re-squared the number ($25.768 - 2 = 23.768^2 = 564.9$) we would get 565, which is directly below 664 or one full 360° degree cycle in towards center. The reason this works is that the squares of the "even" and "odd" numbers line up on a straight line from the apex or main Center Square of the chart. It's also mathematically simple to observe that all odd numbers are separated by units of 2, such as 1, 3, 5, 7, 9, 11, etc. The same is obviously true for all the even numbers: 2, 4, 6, 8, 10, 12, etc. This is why adding or subtracting "2" to the square-root of a number, then re-squaring the sum is equivalent to a 360° cycle on the Square of Nine. Another mathematical proof is that $\frac{1}{2}$ a circle is 180° and we can see that the squares of the "even numbers" line up on the opposite side of the Square of Nine to the squares of the "odd numbers". We learned that adding "2" to the square root of a number, re-squared was equal to 360° . Therefore, adding "1" to the square root of a number, re-squared would have to be equivalent to 180° , because $\frac{1}{2}$ of 2 equals "1" and $\frac{1}{2}$ of 360° equals 180° . If we wanted 90° relationships, we would add or subtract 0.5 to the square root, then re-square because 90° is $\frac{1}{4}$ of 360° and $\frac{1}{2}$ of 180° and 0.5 is $\frac{1}{4}$ of "2" and $\frac{1}{2}$ of "1", etc.

Gann said "We use three figures in geometry: the circle, the square and the triangle. We get the square and triangle points of a circle to determine points of time, price and space resistance; we use the circle of 360° degrees to measure time and price". Gann's emblem was a square and triangle inside a circle (see the cover page for an example). Incorporating the Gann Emblem with the square root technique, allows us to calculate coordinates or numbers that are Conjoint ($360^\circ = +/- 2$ from the root), Opposition ($180^\circ = +/- 1$ from root #), Trine ($120^\circ = +/- 0.666$) & ($240^\circ = +/- 1.333$) or Square ($90^\circ = +/- 0.5$) & ($270^\circ = +/- 1.5$). This technique is extremely fast and useful for finding coordinate cells (pyramid blocks) on the Square of Nine that have a geometrical relationship to a previous position on the chart. Gann also used these same geometric relationships to divide the outer calendar circle that circumscribes the Square of Nine. Gann basically divided the Earth's 360-degree orbital cycle around the Sun into quarters and thirds to find geometric relationships in terms of time as well. The quarter divisions are 90, 180, 270, 360 degrees. The one-third divisions are 120, 240 and 360 degrees. Because the Earth on average will move about 1-degree per day, Gann used these numbers as calendar days, which he added to the dates of previous tops and bottoms to find dates in the future that had a mathematical or geometrical relationship to past highs and lows.

Gann believed that the numbers that connected the square base of the pyramid (the 4 diagonal corners "X" of the square, i.e. corner #'s.) to the "main center" and also the numbers that ran straight vertical and horizontal from the "gravity center" in the form of a cross (cardinal numbers "+") were very important in balancing "Price & Time" on the wheel. He was basically looking for the astronomical longitudes of the Sun or Earth

to balance with price on these key angles. Remember, Pythagoras said "Units in a circle or in a square are related to each other in terms of Space & Time at specific points."

Gann often quoted the Bible, Emerson, Pythagoras and Faraday to name a few.

Basically, he was pointing the reader of his works to clues that would allow his student to unlock the code of his writing style.

Because many readers of this course are probably not familiar with using longitude, planets or the divisions of the zodiac, we give the following explanation. The zodiac is an imaginary circle based upon the apparent path of the sun as it appears to rise and set in circular motion against the backdrop of the constellations or stars. This is similar to the equator being an imaginary circle at the center of our planet. We measure longitude on earth in degrees and minutes of the imaginary circle (Equator) west of Greenwich England, which represents the 0° starting point of the circle.

The zodiac is measured in a similar fashion. We measure the heavens in an imaginary 360° circle called the zodiac. It is measured in degrees and minutes from 0° Aries, which is the location of the Sun at the Vernal Equinox, i.e. spring. The zodiac is divided into 12 equal divisions of 30° each. Aries runs from 0° to 30° , Taurus runs 30° to 60° , Gemini runs 60° to 90° , Cancer runs 90° to 120° , Leo runs 120° to 150° , Virgo runs 150° to 180° , Libra runs 180° to 210° , Scorpio runs 210° to 240° , Sagittarius runs 240° to 270° , Capricorn runs 270° to 300° , Aquarius runs 300° to 330° and Pisces runs 330° to 360° or back to 0° Aries.

If you look at your Square of Nine chart, you will see the date March 21st, at the 9 o'clock position. This is the date that the Sun appears to be at 0° Aries, beginning the natural year. "Lamb of God, you take away the sins of the world", the season of spring

takes away the sins of winter. Moving in a clockwise fashion to the top left corner, you find the date May 5th a.k.a. Cinco de Mayo. On this day, the Sun appears to be at 15° of Taurus. The next date at the top of the chart in the 12 o'clock position is June 21st. This is the Summer Solstice, which is the longest day of the year for the Northern Hemisphere. The Sun appears to be at 0° of Cancer on this date. The top right hand corner of the chart has the date August 5th. The Sun now appears to be at 15° of Leo. On the right hand side of the chart at the 3 o'clock position is the date September 22nd. This date is the Autumnal Equinox, which begins the season of fall and the sun literally begins to fall below the Earth's equator, i.e. declination. The Sun appears to be at 0° of Libra on this day. Moving down to the bottom right hand corner of the chart, the date November 6th appears. The Sun is now at 15° of Scorpio. The bottom of the chart at the 6 o'clock position has the date December 21st, which is the Winter Solstice. This is the shortest day of the year in the Northern Hemisphere marking the season of winter. The Sun appears to be at 0° Capricorn on this date. Moving over to the bottom left hand corner, we see the date February 4th. The Sun appears to be at 15° Aquarius on this date. Moving up takes us full circle or back to 0° Aries or March 21st.

Notice how the four seasons are aligned with the cardinal "+" numbers of the Square of Nine. This relationship allows the user of the Square of Nine chart to correlate the Sun or other planetary longitudes to the numbers on the chart with a measure of time. The user can also quickly locate dates that are square (90° and 270°), opposite (180°) or trine (120° and 240°) to a past date based upon the apparent longitude of the Sun.

The fundamental philosophy that Gann was spotlighting was simply that March 21st was the annual reincarnation of life's new birth. By June 21st at the Summer Solstice, intense new growth has taken place in the animal, plant and insect kingdoms. By the Autumnal Equinox on September 22nd, the peak of vitality and fruition was being reached and the life cycle was ebbing towards old age as the new dominant cycle. By December 21st, at the Winter Solstice, the life cycle is in a frozen state of suspended animation as animals hibernate, plants appear dead and the suspended seeds of the next generation of new life lie waiting for the resurrection of the life giving rays of the Sun, at the Vernal Equinox. The Bible plainly states that there is a time and a season for everything under the Sun and there are no exceptions to this cyclic rule. The Earth revolves around the Sun in 365 days or one year. This completes its journey through the 12 signs of the zodiac or 360° orbit. Gann instructed his students to read the Bible at least 3 times because his greatest discoveries were found in the Bible. He considered it the greatest scientific book ever written.

Bible Interpretations Related to W.D. Gann

I will start with Gann's circle chart; I will use this for my first Bible interpretation. "In the center was the One, the unnamable, surrounded by four powerful beings. And around the throne were 24 chairs with the 24 elders. They prayed to the unnamable: Through you alone all things and all beings exist. Your will enabled them to be and gave them form. Around the throne, were the four powerful beings, and around the 24 elders there were 10,000 times 10,000 and again 1,000 times and again 1,000 angels". This is from the Book of Revelations, which was written in the style of Ezekiel. The four powerful beings are the "Fixed Cross" signs of Aquarius, Taurus, Leo, and Scorpio. The

24 elders are the 12 signs of the zodiac. The 24 comes from each sign's 15-degree ascending phase each day and its 15-degree negative or descending phase each day. This is also the basis of King Arthur's round table, which always required the presence of either 12 or 24 knights to be seated. The rose in the center of King Arthur's table is a play on words and represents that Christ "rose" from the dead. The number 24 is equal to the 360-degree revolution of the earth on its own axis giving us 24 hours to a day. If you convert these hours to minutes, you get $24 \times 60 = 1440$. This relates to the Twelve tribes of Israel. Half this amount which is 720 or 2 circles (or the hours of either day or night) is the cycle for the precession of the equinoxes which advances one degree every 72 years.

Tunnel Thru The Air page 69, Gann says that he believed there was a secret meaning in what Jesus said: "For as Jonah was three days and three nights in the whale's belly; so shall the Son of man be three days and three nights in the heart of the earth". Gann said that this was the key to the interpretation of the future. This allegory regarding three days and nights has been told in many different ways by several religions. I believe that it is a story about the Sun ("the son or Sun of man" not the Son of God) as it symbolically dies on the cardinal (cross) sign Capricorn during the Winter solstice on December 21st, 22nd each year. Three days later on December 25th, the birthday of Christ, Apollo, Horus, etc., the days start to become noticeably longer. Three months ("days") later, the Sun reaches 0-degrees Aries at the Vernal Equinox on March 21st each year. "Lamb of God, you take away the sins of the world". This is the point where the Sun starts to move north of the equator. This is why Easter is always based on the Full moon following the Vernal

Equinox in April. The word Easter comes from "East Star" and you know what star rises in the east every morning at "sunrise".

From this point on, the amount of daylight increases and the Sun increases in strength as it rises (from the dead) until the Summer Solstice in the cardinal sign of Cancer June 21st. Notice that Gann wrote this on page 69, which is the astrological symbol for Cancer ☊, turned on its side. As far as the significance for interpretation of the future, I believe that Gann may have been referring to the apparent ingress of the Sun into the cardinal signs, and also the nodes of the planets. Several planets have their node in the sign of Cancer ☊. The planetary nodes and conjunctions of the major planets are used in the practice of Mundane Astrology along with the solar ingress into each of the four cardinal "+" signs with primary emphasis on the Vernal equinox. "O, ye hypocrites, ye can discern the face of the sky; but can ye not discern the signs of the times?"

"And God said, let there be lights in the firmament, of the heaven to divide the day from the night, and let them be for signs, and for seasons, and for days, and for years."

Another related interpretation involves the constellation Cetus- The Whale, which symbolically swallowed Jonah. This constellation runs from Pisces to Taurus, the whales belly is in Pisces when the Sun would be south of the equator, corresponding to the month of February and the whales mouth, where Jonah is symbolically spit out is in the sign of Taurus (sun is now north of the equator) corresponding to April the month that Christ rises from the dead on Easter.

“And whereas they commanded to leave the stump of the tree roots; thy kingdom shall be sure unto thee, after that thou shalt have known that the heavens do rule.” I have given just a few examples of Biblical interpretation and the work of Gann. There are many more examples in the book Tunnel Thru The Air. W. D. Gann and George Bayer, another market forecaster, both believed that the Bible and many other works, were veiled books about astrology or the influence of the heavens.

Looking at your Square of Nine chart and its circular calendar, it is easy to see these important seasonal times of the year. They occur at the cardinal “+” and corner “X” points of the Square of Nine chart or every 45-degrees of longitude. This blending of the Earth’s orbit, i.e. our calendar with the Square of Nine chart allowed Gann to combine numbers (price) with time. Gann’s Square of Nine chart implies that the Pythagorean logic of “Units in a circle or in a square are related to each other in terms of Space & Time at specific points”, also applies to price, which is a form of “space movement” on a two dimensional surface. Price can move either up or down and the number of points it moves in either direction is the amount of “space” movement. Remember that Gann believed that “every top and every bottom in the markets had a mathematical counterpart in both price and time”.

What Gann Said About the Square of Nine

The SQUARE OF NINE is very important because nine digits are used in measuring everything, and we cannot go beyond 9 without starting to repeat and using the 0. If we divide 360° by 9, we get 40, which measures 40° , 40 months, 40 days, or 40 weeks, and shows why bottoms and tops often come out on these angles measured by one-ninth of the total circle.

If we divide our 20-year period, or 240 months, by 9 we get $26\frac{2}{3}$ months, making an important angle of $26\frac{2}{3}^\circ$, months, days or weeks. Nine times nine equals 81, which completes the first Square of Nine. Note the angles and how they run from the main center. The Second Square of Nine is completed at 162. Note how this is in opposition to the main center. The Third Square of Nine is completed at 243, which would equal 243 months or 3 months over our 20-year period and accounts for the time which often elapses before the change in the Cycle, sometimes running over 3 months or more. The Fourth Square of Nine ends at 324. Note the angles of 45° cross at 325, indicating a change in cycles here. To complete the 360° requires Four Squares of 9 and 36 over. Note that 361 equals a Square of 19 times 19, thus proving the great value of the Square of Nine in working out the important angles and proving up discrepancies.

Beginning with "1" at the center, note how 7, 21, 43, 73, 111, 157, 211, 273 and 343 all fall on a 45° angle. Going the other way, note that 3, 13, 31, 57, 91, 133, 183, 241 and 307 fall on an angle of 45° . Remember there are always four ways you can travel from a center following an angle of 45° , or an angle of 180° or an angle of 90° , which all

equal about the same when measured on a flat surface. Note that 8, 23, 46, 77, 116, 163, 218, 281 and 353 are all on an angle from the main center also note that 4, 15, 34, 61, 96, 139, 190, 249 and 316 are on an angle from the main center, all of these being great resistance points and measuring out important time factors and angles.

Study the SQUARE OF NINE very carefully in connection with the MASTER TWELVE and 360° CIRCLE CHART.

SIX SQUARES OF NINE

We are sending you six Permanent Charts, each containing 81 numbers. The First Square of Nine runs from 1 to 81. Everything must have a bottom, top, and four sides to be a square or cube. The First Square running up to 81 is the bottom, base, floor or beginning point. Squares #2, 3, 4 and 5 are the four sides, which are equal and contain 81 numbers. The Sixth Square of Nine is the top and means that it is times times as referred to in the Bible, or a thing reproducing itself by being multiplied by itself. Nine times nine equals 81 and six times 81 equals 486. We can also use 9 times 81, which would equal 729 (the 9th square of nine).

1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180	189	198	207	216	225	234	243
8	17	26	35	44	53	62	71	80	89	98	107	116	125	134	143	152	161	170	179	188	197	206	215	224	233	242
7	16	25	34	43	52	61	70	79	88	97	106	115	124	133	142	151	160	169	178	187	196	205	214	223	232	241
6	15	24	33	42	51	60	69	78	87	96	105	114	123	132	141	150	159	168	177	186	195	204	213	222	231	240
5	14	23	32	41	50	59	68	77	86	95	104	113	122	131	140	149	158	167	176	185	194	203	212	221	230	239
4	13	22	31	40	49	58	67	76	85	94	103	112	121	130	139	148	157	166	175	184	193	202	211	220	229	238
3	12	21	30	39	48	57	66	75	84	93	102	111	120	129	138	147	156	165	174	183	192	201	210	219	228	237
2	11	20	29	38	47	56	65	74	83	92	101	110	119	128	137	146	155	164	173	182	191	200	209	218	227	236
1	10	19	28	37	46	55	64	73	82	91	100	109	118	127	136	145	154	163	172	181	190	199	208	217	226	235
1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
252	261	270	279	288	297	306	315	324	333	342	351	360	369	378	387	396	405	414	423	432	441	450	459	468	477	486
251	260	269	278	287	296	305	314	323	332	341	350	359	368	377	386	395	404	413	422	431	440	449	458	467	476	485
250	259	268	277	286	295	304	313	322	331	340	349	358	367	376	385	394	403	412	421	430	439	448	457	466	475	484
249	258	267	276	285	294	303	312	321	330	339	348	357	366	375	384	393	402	411	420	429	438	447	456	465	474	483
248	257	266	275	284	293	302	311	320	329	338	347	356	365	374	383	392	401	410	419	428	437	446	455	464	473	482
247	256	265	274	283	292	301	310	319	328	337	346	355	364	373	382	391	400	409	418	427	436	445	454	463	472	481
246	255	264	273	282	291	300	309	318	327	336	345	354	363	372	381	390	399	408	417	426	435	444	453	462	471	480
245	254	263	272	281	290	299	308	317	326	335	344	353	362	371	380	389	398	407	416	425	434	443	452	461	470	479
244	253	262	271	280	289	298	307	316	325	334	343	352	361	370	379	388	397	406	415	424	433	442	451	460	469	478

The number 5 is the most important number of the digits because it is the balance or main center. There are four numbers on each side of it. Note how it is shown as the balancing or center number in the Square of Nine.

3	6	9
2	5	8
1	4	7

We square the Circle by beginning at 1 in the center and going around until we reach 360. Note that the Square of Nine comes out at 361. The reason for this is it is 19 times and the 1 to begin with and one over 360 represents the beginning and ending points. 361 is a transition point and begins at the next circle. Should we leave the first space blank or make it "0", then we would come out at 360. Everything in mathematics must prove. You can begin at the center and work out, or begin at the outer rim and work in to the center. Begin at the left and work right to the center or to the outer rim or square.

Note the Square of Nine or the Square of the Circle where we begin with 1 and run up the side of the column to 19, then continue to go across until we have made 19 columns, again the square of 19 by 19. Note how this proves up the circle. One-half of the circle is 180°. Note that in the grand-center, where all angles from the four corners and from the East, West, North and South reach gravity center, number 181 appears, showing that this point we are crossing the Equator or Gravity center and are starting on the other half of the circle.

We have astronomical and astrological proof of the whys and wherefores and the cause of the workings of geometrical angles. When you have made progress, proved yourself worthy, I will give you the Master Number and also the Master Work.

Study the human body in every way and you will find that it is the work of a Master Mind, and when once you know yourself and know your body, you will know the Law and will understand all there is to know. Remember there is a source of all supply, and that you have within you the power to know all there is to know, but you must work hard, seek and you shall find. This ends everything that Gann said about the Square of 9.

The reference to the Square of Nine or the "Square of the Circle" above is not referring to the Square of Nine chart. Many students have mistaken this to be the same chart. The chart below is a copy of what Gann was talking about. It is simply a square of 19 by 19.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
19	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323	342	361
18	31	56	75	94	113	132	151	170	189	208	227	246	265	284	303	322	341	360
17	36	55	74	93	112	131	150	169	188	207	226	245	264	283	302	321	340	359
16	35	54	73	92	111	130	149	168	187	206	225	244	263	282	301	320	339	358
15	34	53	72	91	110	129	148	167	186	205	224	243	262	281	300	319	338	357
14	33	52	71	90	109	128	147	166	185	204	223	242	261	280	299	318	337	356
13	32	51	70	89	108	127	146	165	184	203	222	241	260	279	298	317	336	355
12	31	50	69	88	107	126	145	164	183	202	221	240	259	278	297	316	335	354
11	30	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353
10	29	48	67	86	105	124	143	162	181	200	219	238	257	276	295	314	333	352
9	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351
8	27	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350
7	26	45	64	83	102	121	140	159	178	197	216	235	254	273	292	311	330	349
6	25	44	63	82	101	120	139	158	177	196	215	234	253	272	291	310	329	348
5	24	43	62	81	100	119	138	157	176	195	214	233	252	271	290	309	328	347
4	23	42	61	80	99	118	137	156	175	194	213	232	251	270	289	308	327	346
3	22	41	60	79	98	117	136	155	174	193	212	231	250	269	288	307	326	345
2	21	40	59	78	97	116	135	154	173	192	211	230	249	268	287	306	325	344
1	20	39	58	77	96	115	134	153	172	191	210	229	248	267	286	305	324	343

As you can see, Gann did not leave any instructions on how to use the Square of Nine. One of the unique properties of the number 9 that Gann was spotlighting, when he said that “we use 9 numbers to measure everything and we can not go past nine without starting over and using the zero” has to do with the mathematics of multiplying or adding 9 to any number. If you add “9” to any number, the resulting number will reduce back to the original single digit number through addition. For example, $1 + 9 = 10$ and $1 + 0 = 1$ again. $2 + 9 = 11$ and $1 + 1 = 2$. $3 + 9 = 12$ and $1 + 2 = 3$ and so on. If you multiply any number by “9”, the resulting product will reduce to a “9” through addition. For example, $9 \times 5 = 45$ and $4 + 5 = 9$. $9 \times 8 = 72$ and $7 + 2 = 9$, $9 \times 33 = 297$ and $2 + 9 + 7 = 18$ and $1 + 8 + 9$ and so on. Also, the sum of the digits 1 through 9 = 45, i.e. $1+2+3+4+5+6+7+8+9 = 45$ and this also reduces to a “9” because $4 + 5 = 9$. This is why Gann says that the

number 9 will measure everything. In Gann's Egg course, is a quote that pertains to measuring time periods and the basic construction of the Square of Nine chart. It reads "Man first learned to record and measure time by the use of the Sun dial, and by dividing the day into 24 hours of 15-degrees in longitude. The "reflection" of the geometrical angle on the Sundial indicated the time of day. Since all time is measured by the Sun, we must use the 360 degrees of the circle to measure time periods for the market, but remember, you must always begin to count time is days, weeks and months from extreme high and extreme low levels, and not from exact seasonal or calendar time periods. 45 days is $1/8^{\text{th}}$ of a year, 90-degrees is $1/4^{\text{th}}$ of a calendar year, or a square. $112\frac{1}{2}$ days is $90 + 22\frac{1}{2}$. 120 is $1/3^{\text{rd}}$ of the circle and is a triangle. 135 is $90 + 45$, 150 is $90 + 60$, $157\frac{1}{2}$ is $135 + 22\frac{1}{2}$, 165 is $120 + 45$. 180 is $1/2$ of a complete circle or opposite to 0, the starting point. Very important for a change in trend. $202\frac{1}{2}$ is $180 + 22\frac{1}{2}$, 225, a 45-degree angle is $180 + 45$. 240, a triangle is 2 times 120. $247\frac{1}{2}$ is $225 + 22\frac{1}{2}$. 270 is $3/4$ of a circle and 3 squares of 90. $292\frac{1}{2}$ is $270 + 22\frac{1}{2}$, 315 is $270 + 45$, $337\frac{1}{2}$ is $315 + 22\frac{1}{2}$ and 360 degrees is the complete circle. You measure weekly and monthly time periods in the same way as you do the days and watch all of these important time angles for a change in trend.

Square of Nine Time Applications

The first and most simple application is calculating time objectives. What you do is keep track of dates of major highs and lows of the market you are following or planning to trade. Once you have your list of important past dates compiled, you simply add the proportionate parts of the circle, i.e. the Earth's orbit, to your past dates. Because the Earth takes 365 days to orbit the Sun, I recommend using 46, 61, 91, 121, 137, 182,

227, 242, 272, 317, 333, 365 calendar days. These time periods approximate 45, 60, 90, 120, 135, 180, 225, 240, 270, 315, 330, 360 degrees of longitude. If you want to be exact, I suggest you learn to use an ephemeris or download the free program Astrolog from <http://www.magitech.com/~cruiser1/astrolog.htm>. As an example, the Dow Jones Industrial Average had the following significant dates in the year 1997. High on March 12, 1997, Low on April 13th, High on July 30th, double top on August 6th, Low on August 31st, High on October 7th, Low on October 27th, Top on December 7th, and a Low on December 25th. I have created a table in Excel on the next page with these dates and the future dates that resulted from adding the calendar day series of 46, 61, 91, 121, 137, 182, etc to the date of a major turn in the Dow Jones Industrials.

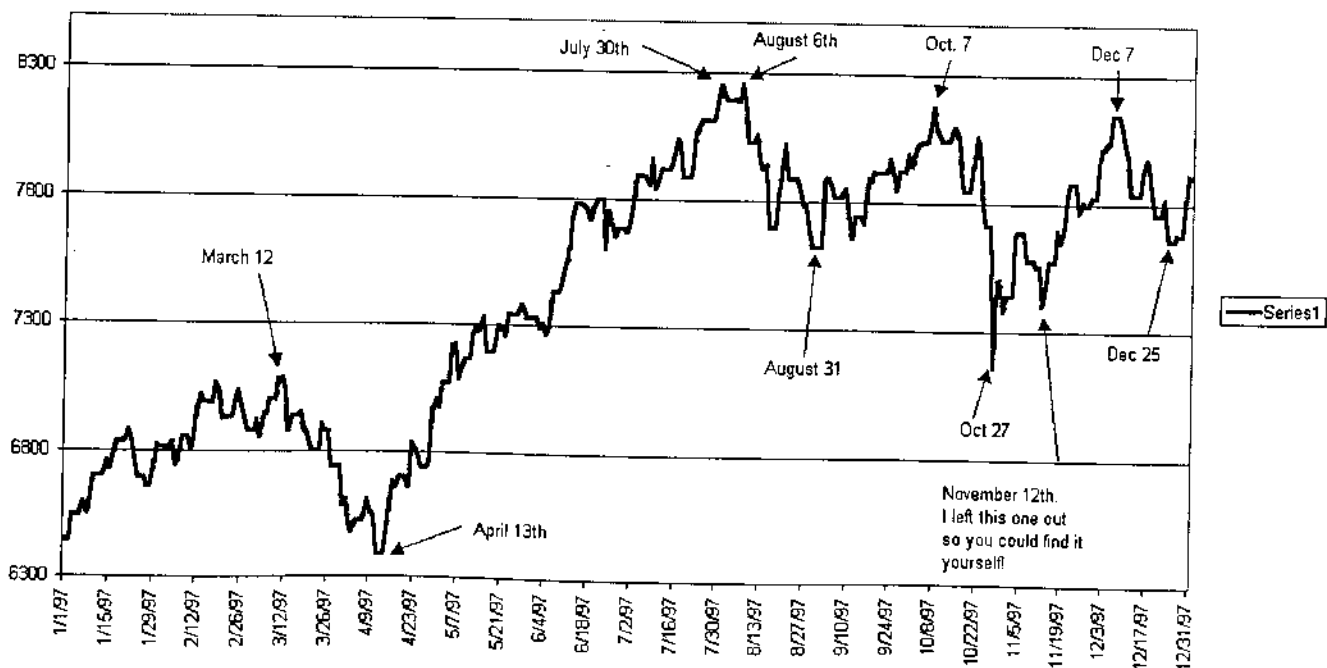
Date	46	61	91	121	137	182	227	242	272	317	333	365
3/12/97	4/27/97	5/12/97	6/11/97	7/11/97	7/27/97	9/10/97	10/25/97	11/9/97	12/9/97	1/23/98	2/8/98	3/12/98
4/13/97	5/29/97	6/13/97	7/13/97	8/12/97	8/28/97	10/12/97	11/26/97	12/11/97	1/10/98	2/24/98	3/12/98	4/13/98
7/30/97	9/14/97	9/29/97	10/29/97	11/28/97	12/14/97	1/28/98	3/14/98	3/29/98	4/28/98	6/12/98	6/28/98	7/30/98
8/6/97	9/21/97	10/6/97	11/5/97	12/5/97	12/21/97	2/4/98	3/21/98	4/5/98	5/5/98	6/19/98	7/5/98	8/6/98
8/31/97	10/16/97	10/31/97	11/30/97	12/30/97	1/15/98	3/1/98	4/15/98	4/30/98	5/30/98	7/14/98	7/30/98	8/31/98
10/7/97	11/22/97	12/7/97	1/6/98	2/5/98	2/21/98	4/7/98	5/22/98	6/6/98	7/6/98	8/20/98	9/5/98	10/7/98
10/27/97	12/12/97	12/27/97	1/26/98	2/25/98	3/13/98	4/27/98	6/11/98	6/26/98	7/26/98	9/9/98	9/25/98	10/27/98
12/7/97	1/22/98	2/6/98	3/8/98	4/7/98	4/23/98	6/7/98	7/22/98	8/6/98	9/5/98	10/20/98	11/5/98	12/7/98
12/25/97	2/9/98	2/24/98	3/26/98	4/25/98	5/11/98	6/25/98	8/9/98	8/24/98	9/23/98	11/7/98	11/23/98	12/25/98

We are going to use this table to find dates for the year 1998, but first, I would like to encourage you to study the table for the year 1997 as well. To get you started, I will give you the following example. From the date 3/12/97 notice that the July 30th top is 135-degrees or 137 days from the March 12th top. The October 27th Low is 225-degrees or 227 days from the March 12th High. The August 31st low is also 135-degrees or 137 days from the April 13th Low. The October 7th high is approximately 180-degrees from

the same April 13th Low, etc. Now, when we look at this table for 1998, we see that the following dates have multiple geometric relationships to previous turning dates.

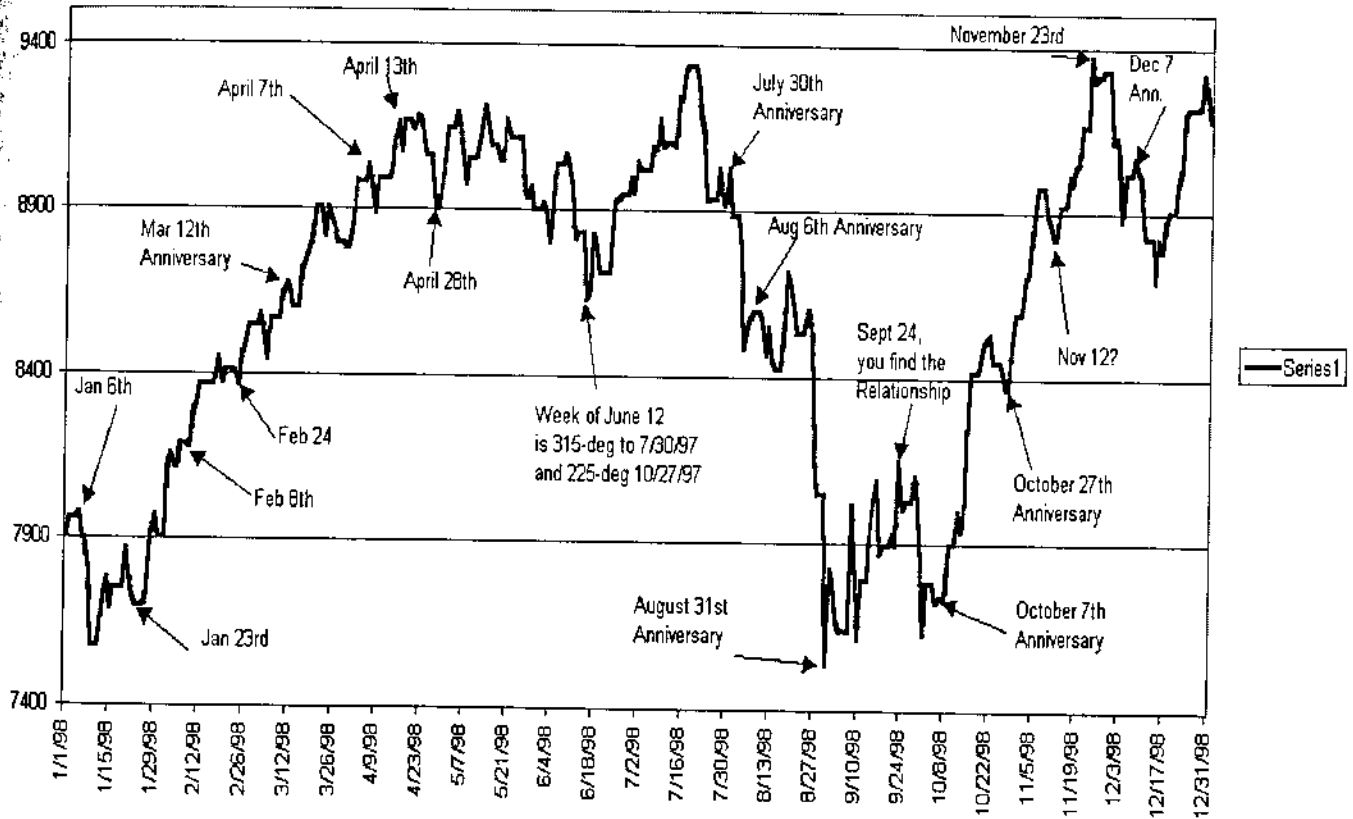
The week of January 6th, 1998 is 270° from 4/3/97 and 90° from 10/7/97. The week of January 23rd, 1998 is 315° to 3/12/97, 180° to 7/30/97 and 90° to 10/27/97. The week of February 8th, 1998 is 330° to 3/12/97, 180° to 8/6/97, 60° to 12/7/97 and 45° to 12/25/97. The week of February 24th, 1998 is 315° to 4/13/97, 135° to 10/7/97, 120° to 10/27/97 and 60° to 12/25/97. The week of March 12th, 1997 is 360° (Anniversary Date!) to 3/12/97, 330° to 4/13/97, 225° to 7/30/97, 135° to 10/27/97 and 90° to 12/7/97. April 7th, 1998 is 240° to 8/6/97, 180° to 10/7/97 and 120° to 12/7/97. The week of April 13th, 1998 is 360° (Anniversary Date!) to 4/13/97 and 225° to 8/31/97. The week of April 28th is 270° to 7/30/97, 240° to 8/31/97 and 180° to 10/27/97. This is the basic process used for calculating important future turning dates. The chart on the following page illustrates this technique on a chart. I did not fill in all of the turns so that you would have the opportunity to discover these on your own.

Dow30 1997



Date	46	61	91	121	137	182	227	242	272	317	333	365
3/12/97	4/27/97	5/12/97	6/11/97	7/11/97	7/27/97	9/10/97	10/25/97	11/9/97	12/9/97	1/23/98	2/6/98	3/12/98
4/13/97	5/29/97	6/13/97	7/13/97	8/12/97	8/28/97	10/12/97	11/26/97	12/11/97	1/10/98	2/24/98	3/12/98	4/13/98
7/30/97	9/14/97	9/29/97	10/29/97	11/28/97	12/14/97	1/28/98	3/14/98	3/29/98	4/28/98	6/12/98	6/28/98	7/30/98
8/6/97	9/21/97	10/6/97	11/5/97	12/5/97	12/21/97	2/4/98	3/21/98	4/5/98	5/5/98	6/19/98	7/5/98	8/6/98
8/31/97	10/16/97	10/31/97	11/30/97	12/30/97	1/15/98	3/1/98	4/15/98	4/30/98	5/30/98	7/14/98	7/30/98	8/31/98
10/7/97	11/22/97	12/7/97	1/6/98	2/5/98	2/21/98	4/7/98	5/22/98	6/6/98	7/6/98	8/20/98	9/5/98	10/7/98
10/27/97	12/12/97	12/27/97	1/26/98	2/25/98	3/13/98	4/27/98	6/11/98	6/26/98	7/26/98	9/9/98	9/25/98	10/27/98
12/7/97	1/22/98	2/6/98	3/6/98	4/7/98	4/23/98	6/7/98	7/22/98	8/6/98	9/5/98	10/20/98	11/5/98	12/7/98
12/25/97	2/9/98	2/24/98	3/26/98	4/25/98	5/11/98	6/25/98	8/9/98	8/24/98	9/23/98	11/7/98	11/23/98	12/25/98

Dow30 1998



There are other methods of calculating future time targets that are covered later in this course on the Square of Nine. You must master the basics before you move on to

more complicated tasks. The first thing a professional athlete does when his performance is not up to par is to return to the basics. The K.I.S.S (Keep it Simple Stupid) rule applies to the Square of Nine as well.

Price Targets for Support & Resistance

Calculating price targets for support and resistance is a very simple task. As stated earlier, the Square of Nine's number arrangement is such that the numbers have a simple square root relationship to other numbers on the wheel. I will illustrate the basic square root calculations, but if you prefer to use the chart itself, I have provided a clear plastic overlay that you can place on top of the Square of Nine to see the geometric relationships. Just simply place the 0° line of the overlay so that it runs across your price number and also through the center "1" of the Square of Nine chart. For example, if the market you were trading had an important low at \$2.23, you would place the overlay so that the 0° line connects the number 223 to the center "1". Now you can quickly see the other numbers that are square (90° & 270°), trine (120° & 240°), semisquare (45°, 315°), sextile (60° & 330°), etc. As discussed earlier, these "pressure points" can be mathematically calculated using simple addition or subtraction to the square root of the price. To calculate what a geometric relationship is equal to as a square root increment, we simply divide the number by 180 as illustrated below. The numbers in bold print are considered as more important for support or resistance than the numbers in regular print.

$$45^\circ = 45/180 = 0.25$$

$$60^\circ = 60/180 = 0.333$$

$$90^\circ = 90/180 = 0.50$$

$$120^\circ = 120/180 = 0.666$$

$$135^\circ = 135/180 = 0.75$$

$$180^\circ = 180/180 = 1.0$$

$$225^\circ = 225/180 = 1.25$$

$$240^\circ = 240/180 = 1.333$$

$$270^\circ = 270/180 = 1.50$$

$$300^\circ = 300/180 = 1.666$$

$$315^\circ = 315/180 = 1.75$$

$$360^\circ = 360/180 = 2.0$$

Taking our example of \$2.23, we would first treat this as the number 223 on the Square of Nine. This is because the Square of Nine tends to work better when you float the decimal point on prices, making all prices either a three or four digit whole number. We will first assume that 223 is a low price, and that we want to calculate future resistance levels. We simply take the square root of 223, which is 14.93 and add the increments we calculated on the previous page to this root number (14.93) and re-square.

$45^\circ = 45/180 = 0.25$	$14.93 + 0.25 = 15.18^2 = \230.43
$60^\circ = 60/180 = 0.333$	$14.93 + 0.333 = 15.263^2 = \232.96
$90^\circ = 90/180 = 0.50$	$14.93 + 0.50 = 15.43^2 = \238.08
$120^\circ = 120/180 = 0.666$	$14.93 + 0.666 = 15.59^2 = \243.23
$135^\circ = 135/180 = 0.75$	$14.93 + 0.75 = 15.68^2 = \245.86
$180^\circ = 180/180 = 1.0$	$14.93 + 1.0 = 15.93^2 = \253.76
$225^\circ = 225/180 = 1.25$	$14.93 + 1.25 = 16.18^2 = \261.79
$240^\circ = 240/180 = 1.333$	$14.93 + 1.333 = 16.263^2 = \264.48
$270^\circ = 270/180 = 1.50$	$14.93 + 1.5 = 16.43^2 = \269.94
$300^\circ = 300/180 = 1.666$	$14.93 + 1.666 = 16.596^2 = \275.42
$315^\circ = 315/180 = 1.75$	$14.93 + 1.75 = 16.68^2 = \278.22
$360^\circ = 360/180 = 2.0$	$14.93 + 2.0 = 16.93^2 = \286.62

If our \$223 price was a high instead of a Low, we would have subtracted the square root increments from 14.93 and then re-square the difference to calculate support. If you build a table of important price highs & lows, similar to what was illustrated with dates and do the above calculations, you can determine if certain prices have a cluster of geometric relationships to previous significant prices, thus making that specific price or circular degree more important for support or resistance. A simple way to do this is to determine what degree of the circle your price is on using a Square of Nine Table.

Using A Square of Nine Table

To determine the exact angle or degree of the circle a particular number or price is on is a relatively simple process. If you want to know what angle the number 3281 is on, you look for the closest number you can find on the table, which in this case is 3278 on the 0° angle. This number is in cycle #29, which means that there are 29 cells or digits between each 45° angle. $29/45 = 0.6444$. This means that every 1° grows by 0.6444 in this cycle. I show these fractional numbers in the deg-ratio column of the table. The number we want is 3281, which is 3 digits larger than our zero angle number 3278. If we divide 3 by the 1° fraction amount 0.6444, we get 4.655°. This is the amount of degrees past the 0° angle. That's all there is to it. If we wanted to find the number 3680, we first find the closest number to it on the table, which is 3661 on the 225° angle of cycle #30. This means that there are 30 digits between each 45° so our fraction is now $30/45 = 0.666$. Taking the difference between the numbers is $3680 - 3661 = 19$ and this divided by $0.666 = 28.53°$. Add 28.53 to the angle of 225° gives $253.53°$ as the angle for the number 3680. Practice this technique, it's really simple. By the way, the number "1" comes out on the 315° angle with the rest of the "odd squares". $2 - 1 = 1$ divided by $0.0222 = 45$. The 0° angle is also the 360° angle and $360° - 45 = 315°$.

The Square of Nine Table

Angle>	deg-ratio	0	45	90	135	180	225	270	315
cyc#1	0.022222	2	3	4	5	6	7	8	9
2	0.044444	11	13	15	17	19	21	23	25
3	0.066667	28	31	34	37	40	43	46	49
4	0.088889	53	57	61	65	69	73	77	81
5	0.111111	86	91	96	101	106	111	116	121
6	0.133333	127	133	139	145	151	157	163	169
7	0.155556	176	183	190	197	204	211	218	225
8	0.177778	233	241	249	257	265	273	281	289
9	0.2	298	307	316	325	334	343	352	361
10	0.222222	371	381	391	401	411	421	431	441
11	0.244444	452	463	474	485	496	507	518	529

12	0.266667	541	553	565	577	589	601	613	625
13	0.288889	638	651	664	677	690	703	716	729
14	0.311111	743	757	771	785	799	813	827	841
15	0.333333	856	871	886	901	916	931	946	961
16	0.355556	977	993	1009	1025	1041	1057	1073	1089
17	0.377778	1106	1123	1140	1157	1174	1191	1208	1225
18	0.4	1243	1261	1279	1297	1315	1333	1351	1369
19	0.422222	1388	1407	1426	1445	1464	1483	1502	1521
20	0.444444	1541	1561	1581	1601	1621	1641	1661	1681
21	0.466667	1702	1723	1744	1765	1786	1807	1828	1849
22	0.488889	1871	1893	1915	1937	1959	1981	2003	2025
23	0.511111	2048	2071	2094	2117	2140	2163	2186	2209
24	0.533333	2233	2257	2281	2305	2329	2353	2377	2401
25	0.555556	2426	2451	2476	2501	2526	2551	2576	2601
26	0.577778	2627	2653	2679	2705	2731	2757	2783	2809
27	0.6	2836	2863	2890	2917	2944	2971	2998	3025
28	0.622222	3053	3081	3109	3137	3165	3193	3221	3249
29	0.644444	3278	3307	3336	3365	3394	3423	3452	3481
30	0.666667	3511	3541	3571	3601	3631	3661	3691	3721
31	0.688889	3752	3783	3814	3845	3876	3907	3938	3969
32	0.711111	4001	4033	4065	4097	4129	4161	4193	4225
33	0.733333	4258	4291	4324	4357	4390	4423	4456	4489
34	0.755556	4523	4557	4591	4625	4659	4693	4727	4761
35	0.777778	4796	4831	4866	4901	4936	4971	5006	5041
36	0.8	5077	5113	5149	5185	5221	5257	5293	5329
37	0.822222	5366	5403	5440	5477	5514	5551	5588	5625
38	0.844444	5663	5701	5739	5777	5815	5853	5891	5929
39	0.866667	5968	6007	6046	6085	6124	6163	6202	6241
40	0.888889	6281	6321	6361	6401	6441	6481	6521	6561
41	0.911111	6602	6643	6684	6725	6766	6807	6848	6889
42	0.933333	6931	6973	7015	7057	7099	7141	7183	7225
43	0.955556	7268	7311	7354	7397	7440	7483	7526	7569
44	0.977778	7613	7657	7701	7745	7789	7833	7877	7921
45	1	7966	8011	8056	8101	8146	8191	8236	8281
46	1.022222	8327	8373	8419	8465	8511	8557	8603	8649
47	1.044444	8696	8743	8790	8837	8884	8931	8978	9025
48	1.066667	9073	9121	9169	9217	9265	9313	9361	9409
49	1.088889	9458	9507	9556	9605	9654	9703	9752	9801
50	1.111111	9851	9901	9951	10001	10051	10101	10151	10201
Angle>	deg-ratio	0	45	90	135	180	225	270	315
51	1.133333	10252	10303	10354	10405	10456	10507	10558	10609
52	1.155556	10661	10713	10765	10817	10869	10921	10973	11025
53	1.177778	11078	11131	11184	11237	11290	11343	11396	11449
54	1.2	11503	11557	11611	11665	11719	11773	11827	11881
55	1.222222	11936	11991	12046	12101	12156	12211	12266	12321
56	1.244444	12377	12433	12489	12545	12601	12657	12713	12769
57	1.266667	12826	12883	12940	12997	13054	13111	13168	13225
58	1.288889	13283	13341	13399	13457	13515	13573	13631	13689
59	1.311111	13748	13807	13866	13925	13984	14043	14102	14161
60	1.333333	14221	14281	14341	14401	14461	14521	14581	14641
61	1.355556	14702	14763	14824	14885	14946	15007	15068	15129
62	1.377778	15191	15253	15315	15377	15439	15501	15563	15625

63	1.4	15688	15751	15814	15877	15940	16003	16066	16129
64	1.422222	16193	16257	16321	16385	16449	16513	16577	16641
65	1.444444	16706	16771	16836	16901	16966	17031	17096	17161
66	1.466667	17227	17293	17359	17425	17491	17557	17623	17689
67	1.488889	17756	17823	17890	17957	18024	18091	18158	18225
68	1.511111	18293	18361	18429	18497	18565	18633	18701	18769
69	1.533333	18838	18907	18976	19045	19114	19183	19252	19321
70	1.555556	19391	19461	19531	19601	19671	19741	19811	19881
71	1.577778	19952	20023	20094	20165	20236	20307	20378	20449
72	1.6	20521	20593	20665	20737	20809	20881	20953	21025
73	1.622222	21098	21171	21244	21317	21390	21463	21536	21609
74	1.644444	21683	21757	21831	21905	21979	22053	22127	22201
75	1.666667	22276	22351	22426	22501	22576	22651	22726	22801
76	1.688889	22877	22953	23029	23105	23181	23257	23333	23409
77	1.711111	23486	23563	23640	23717	23794	23871	23948	24025
78	1.733333	24103	24181	24259	24337	24415	24493	24571	24649
79	1.755556	24728	24807	24886	24965	25044	25123	25202	25281
80	1.777778	25361	25441	25521	25601	25681	25761	25841	25921
81	1.8	26002	26083	26164	26245	26326	26407	26488	26569
82	1.822222	26651	26733	26815	26897	26979	27061	27143	27225
83	1.844444	27308	27391	27474	27557	27640	27723	27806	27889
84	1.866667	27973	28057	28141	28225	28309	28393	28477	28561
85	1.888889	28646	28731	28816	28901	28986	29071	29156	29241
86	1.911111	29327	29413	29499	29585	29671	29757	29843	29929
87	1.933333	30016	30103	30190	30277	30364	30451	30538	30625
88	1.955556	30713	30801	30889	30977	31065	31153	31241	31329
89	1.977778	31418	31507	31596	31685	31774	31863	31952	32041
90	2	32131	32221	32311	32401	32491	32581	32671	32761
91	2.022222	32852	32943	33034	33125	33216	33307	33398	33489
92	2.044444	33581	33673	33765	33857	33949	34041	34133	34225
93	2.066667	34318	34411	34504	34597	34690	34783	34876	34969
94	2.088889	35063	35157	35251	35345	35439	35533	35627	35721
95	2.111111	35816	35911	36006	36101	36196	36291	36386	36481
96	2.133333	36577	36673	36769	36865	36961	37057	37153	37249
97	2.155556	37346	37443	37540	37637	37734	37831	37928	38025
98	2.177778	38123	38221	38319	38417	38515	38613	38711	38809
99	2.2	38908	39007	39106	39205	39304	39403	39502	39601
100	2.222222	39701	39801	39901	40001	40101	40201	40301	40401

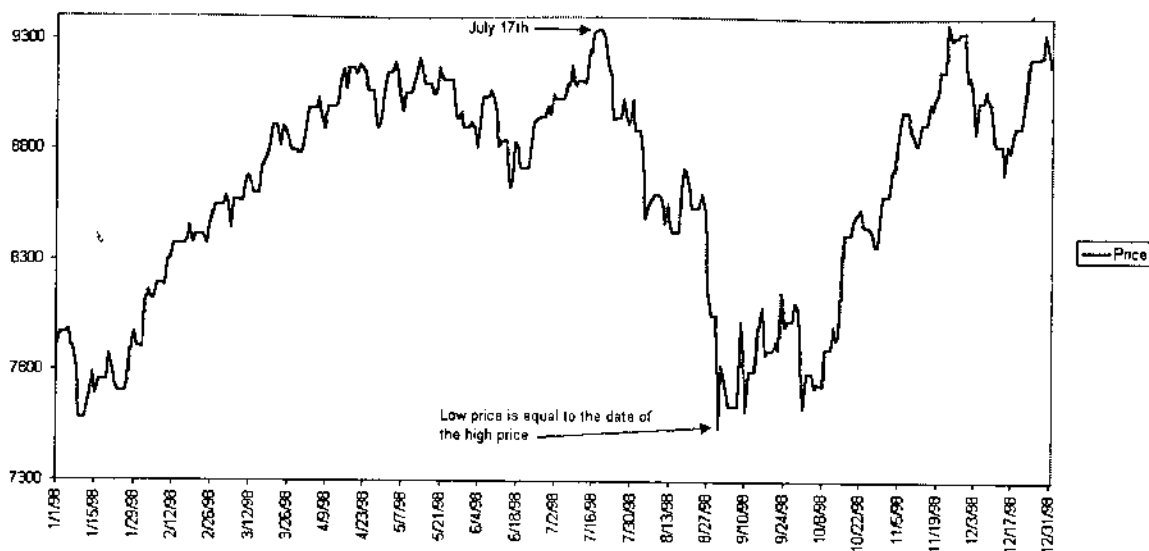
If you will take the time to build a price table similar to the timetable on page 20, you will be able to determine which prices have a cluster of geometric relationships to previous highs and lows. For example, if one of the significant price highs or lows of the market you were interested in fell on an angle of 125°; you would simply add the proportionate parts of the circle, the same as we did with time. In other words,

you would add 45, 60, 90, 120, 135, 180, 225, 240, 270, 315, 330, 360 degrees to 125°. If the resulting number is greater than 360, you simply reject the circle or 360°. If your price fell on 125°, you would be interested in the angles of 170°, 185°, 215°, 245°, 260°, 305°, 350°, 5°, 35°, 80°, 95°, and also 125°, which is the same angle or degree that the original price was on. If you build a price table based upon the angle or degree of the circle that past significant highs and lows have occurred on, you will be better prepared to determine support & resistance in the future. In other words, you will see that current prices are moving towards a degree or angle of the circle that has a "cluster" of harmonic relationships to previous significant highs and lows. This is the same process we used with time on page 21. Only this time, it is with price.

Time as a Price & Price as a Time

Another technique that can be utilized with the Square of Nine is to treat the price as a date. First you calculate what degree of the circle the price is on, using the Square of Nine table presented on page 25. Next, you correlate this degree with a date based upon the apparent longitude of the Sun. For example, the price low of the Dow Jones Industrial Average on 9/1/98 was 7379.70. This number is on the angle of 116.89° or 117-degrees past zero. As a date, this would be about 117 days from the Vernal Equinox or March 21st. This means that the price of 7379.7 is approximately equal to a calendar date of July 16th. The exact high occurred on July 17th, 1998 at a price of 9408.26 (The Low Price was equal to the calendar date of the High price). You can now add the proportionate parts of the circle to the date of July 17th to generate future turning dates.

Dow30 1998



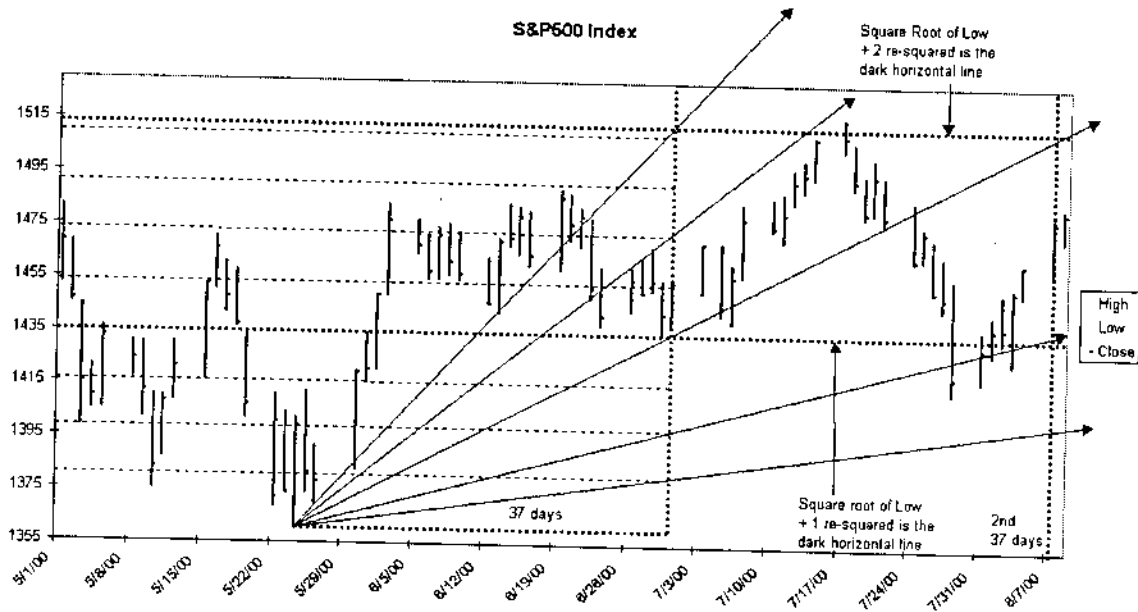
The date of the Low (9/1/98) is 164 days from March 21st (0°). This is about 162° from March 21st. Now we will determine what prices are on the same angle as the number 162 or have a geometric relationship to 162. First, we will take the square root of the 737.97 (7379.70 as a 3 digit number), which equals 27.16 and the square root of 162, which equals 12.72. The difference between these square roots is $27.16 - 12.72 = 14.44$. Because 360° moves on the Square of Nine are related by adding increments of “2” to the square root and re-squaring the sum, the first number that I will use as a root increment will be 16 (2 + 14). The square root of 162 = 12.72 and $12.72 + 16 = 28.72$, re-squared = 824.83 (8248.3). The next number on the same angle would be $12.72 + 18 = 30.72$, re-squared = 943.71 (9437.10), etc. Once you have calculated the first price, it is easy to calculate the other geometric relationships as illustrated on page 24. If you decide to look for “clusters” of geometric relationships, it is important that they all come from the same method of calculation or technique. In other words, don’t consider a future date to be a

geometric “cluster” if it only has one hit from adding the proportionate parts of the circle (page 21) and another hit from converting a price to a calendar date (page 28).

Gann Angle Projection

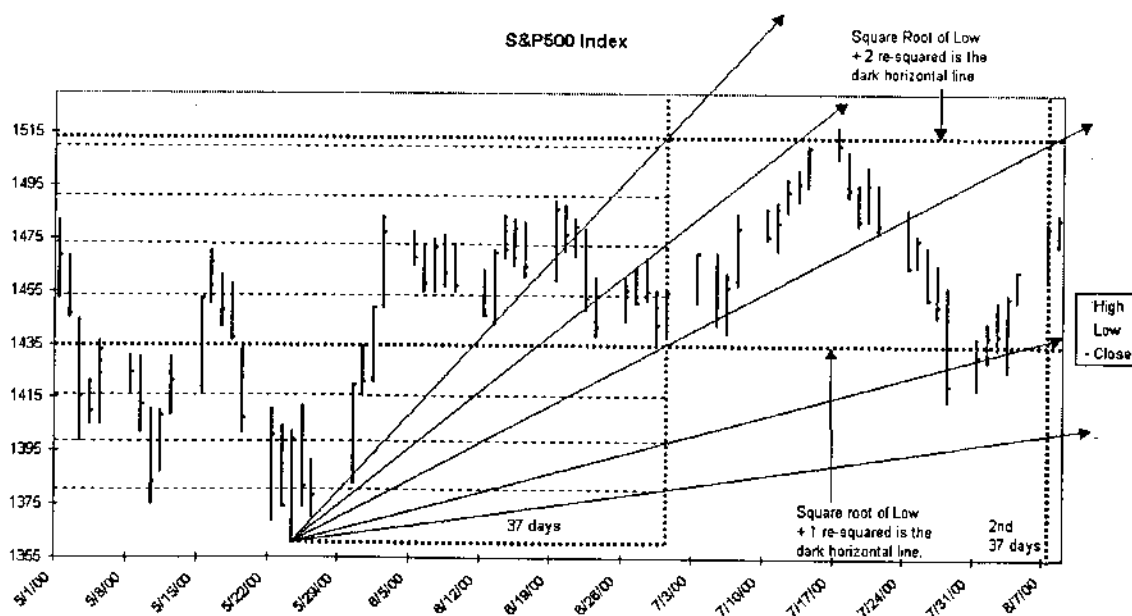
If you would like to project a vector or angle from a previous top or bottom, the first thing you should do is to float your decimal making your price either 3 or 4 digits as we have done in the previous example. The next step is to calculate the dimensions of our price box. Again, we do this with the square root function. As an example, by taking the major 1361.09 price low of the S&P500 index on May 24th, 2000 and going 180-degrees around the Square of Nine, we arrive at the price of 1435.87. That is to say that the square root of 1361.09 = 36.89 + 1 (180°) = 37.89, re-square = 1435.87. The difference between these prices is 1435.87 – 1361.09 = 74.78 points. This means that the 1 X 1 or 45° angle moves up at the rate of 74.78 points in 37 days time. The time element is simply the square root of the May 24th low price of 1361.09 (36.89 = 37 days), which comes out as June 30th. The other important Gann angles or vectors are the 2 X 1, 3 X 1, 4 X 1, 8 X 1, 1 X 2, 1 X 3, 1 X 4 and 1 X 8. The 2 X 1 angle will simply advance at double the rate of the 1 X 1 angle. So in this example, the 2 X 1 angle advances (74.78 x 2) 149.56 points in 37 days. The 1 X 2 angle would move up at ½ the rate of the 1 X 1 angle or 37.39 points in 37 days, etc. If you will take the time to investigate this technique, you will see immediately how accurate this forecasting technique really is. It is also important to note that some markets will work better as a 3-digit number and others will work better as a 4-digit number (most work better as 3-digits). The choice however, will become obvious with a little research on your behalf. If you do not have

Gann's angle course, I would suggest getting a copy from the Sacred Science Institute at 1-800-756-6141 or www.sacredscience.com. The Gann angle course will give you more insight into the interpretation of his vectors or angles.



The above chart illustrates how well the S&P 500 index (as a 4-digit number) follows 180-degree root increments (adding to the root and re-square) and how to draw Gann angles from this basic technique. The Highest price on the graph just slightly penetrated the 360-degree cycle of price from the May 24th low price. The decline following the Highest high price at 1517.32 on July 17th, 2000 fell 240-degrees or (1.333 as a square root increment) where the market found support. The square root of the high is 38.952 so our time period is now two days longer or 39 days from this top. Adding 39 days to July 17th, gives August 25, 2000, which is also the Anniversary date of the 1999 top. You should note that July 17th was the Anniversary of the 1998, 1997 and 1996 tops.

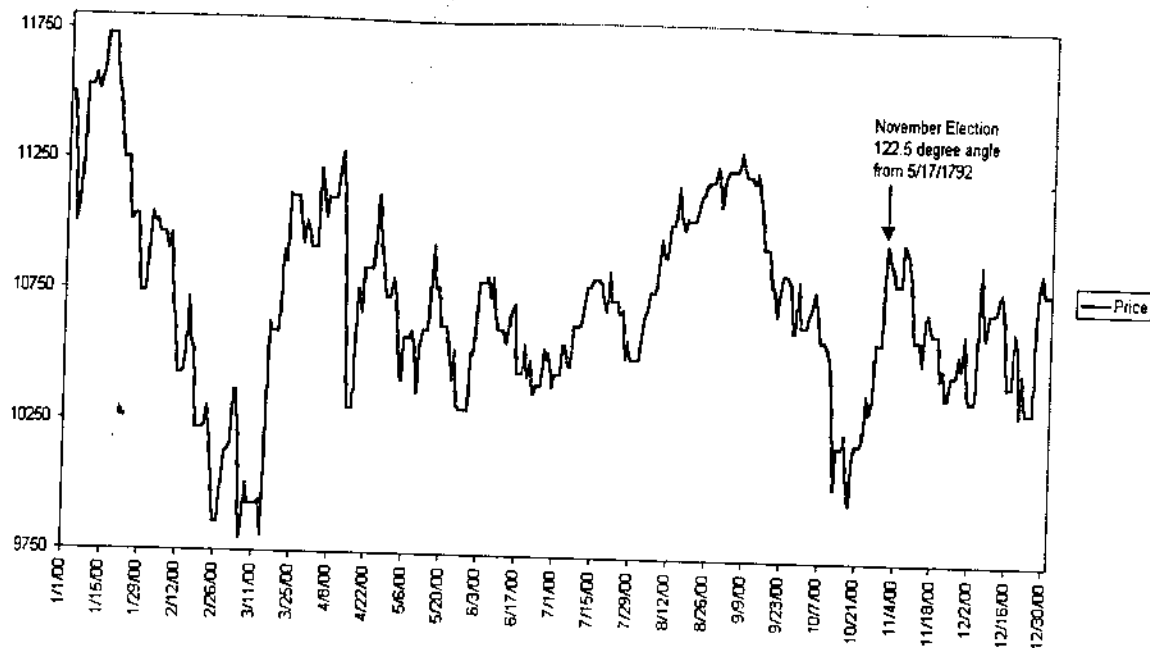
If you look at your Square of Nine chart, you will see that the odd square of numbers (1, 9, 25, 49, etc.) line up on opposite side of the even squares (4, 16, 36, 64, etc.). This relationship is shown on the Square of Nine as the diagonal of the square and is therefore equal to a 45° angle. This is how Gann graphically illustrates the chart. The “odd squares” and “even squares” line up on a 45° angle diagonally through the main center “1”. You can also prove this with the Pythagorean theorem, which states that the sum of the squares of the sides of a right triangle is equal to the square of the hypotenuse, i.e. the diagonal. In the S&P 500 example, we advanced 74.78 points in 37 calendar days. This was equal to 26 trading days of 6½ hours each session (9:30 AM to 4:00 PM). Therefore the total trading hours = (6.5 x 26) 169 hours. The Square root of $(169^2 + 74.78^2)$ equals 184.80, which is approximately 5 digits past a perfect 180. This means that the low on June 30th would have been perfectly balanced at 11:00 AM or 164 trading hours from May 24th [Square root of $(164^2 + 74.78^2) = 180$]. The lightly dashed horizontal



lines are 1/8th lines that were calculated by dividing the full 360° range by 8.

Square of Nine Time Techniques
A Different Look at History

The following information is based on my unique interpretation of the work of Carl Futia. The technique is to determine the exact "Time" angles where extreme tops and bottoms have occurred relative to a first trade date or "Birthday". You can also use the most recent "Bear Market" low, which is August 12, 1982. Examples of the technique are as follows: The first trade date for the New York Stock Exchange is May 17th, 1792. The Sept 3rd, 1929 top occurred 50,146 days from May 17th, 1792. The number 50,146 is on the 122.5° angle of cycle #112 on the Square of Nine. The top of the Stock Market (Dow Jones Industrial Average) on December 2nd, 1968 is 64,481 days from May 17th, 1792. The number 64,481 is also on the 122.25° angle of cycle #127, on the Square of Nine. The Silver Panic low in the Stock Market occurred on March 27th, 1980, which is 68,614 days from May 17th, 1792. This hit on an angle of 124.35° and was within +4 days from hitting the 122.5° time angle of cycle #131. More recently, the November 3rd, 2000 top before the presidential election debacle, was 76,139 days from May 17th, 1792. This number is also on the 122.5° time angle of cycle #138. If you continue measuring calendar days from May 17th, 1792, the angle of 122.5° will not be hit again until November 14th, 2003, which is 77,247 days from the birth date of the New York Stock Exchange. This technique should be done with all the significant highs and lows for any market under analysis. You should also calculate the time angles in Months and Weeks, from your beginning point, per W.D. Gann's instructions.



I personally prefer to look at the amount of degrees of longitude traveled by the Sun and planets as a Square of Nine number. For example: The Declaration of Independence was signed on July 4th, 1776. President Abraham Lincoln was killed on April 14th, 1865. Heliocentric Saturn moved 1,086.09° of longitude from July 4th, 1776. The number 1086.09 is on the 306.8° time angle of cycle #16. President James Garfield was shot on July 2nd, 1881. Heliocentric Saturn moved a total of 1273.75° from July 4th 1776. This number falls on the 76.8° time angle of cycle #18. Taking the difference between these two angles, we get $306.8 - 76.8 = 230^\circ$ separated by 2 complete cycles (cycle 18 minus cycle 16 = 2). William McKinley was shot and killed on September 6th 1901. Heliocentric Saturn moved a total of 1524.16° from July 4th, 1776. The number 1524.16 is on the 322.40° angle of cycle # 19. John F. Kennedy was shot and killed on November 22nd, 1963. Heliocentric Saturn has moved 2282.11° from July 4th, 1776. This number is on the 92.08° angle of cycle #24. The difference between these two events is $322.40 - 92.08 = 230.32^\circ$, separated by 5 cycles (24 - 19 = 5). As you can see, 230° degrees on the Square of Nine relate both pairs of events, when using Saturn as the

timekeeper. Franklin Delano Roosevelt died of a massive cerebral hemorrhage on April 12th, 1945. Heliocentric Saturn moved a total of 2060.38° longitude from July 4th, 1776. This number is on a time angle of 24.22° of cycle #23, on the Square of Nine. Ronald Reagan's failed assassination attempt by John Hinckley occurred on March 30th, 1981. Heliocentric Saturn had moved 2505.9° from July 4th, 1776. This is on an angle of 143.44° of cycle #25. The angular difference between the death of F.D.R and the assassination attempt of Reagan is $143.44^\circ - 24.22^\circ = 119.22^\circ$, almost a perfect trine or 120°. In cycle number #25, every 34' minutes, 36" seconds is equal to 1° on the Square of Nine, so this is an extremely close trine. Now lets look at the planet Uranus as a timekeeper. The War of 1812 occurred on June 15th, 1812. Heliocentric Uranus moved a total of 164.62° from the signing of the Declaration of Independence. This number is on the angle of 282.15° of cycle #6, on the Square of Nine chart. Robert F. Kennedy was shot and killed by Sirhan Sirhan on June 5th, 1968. Heliocentric Uranus has moved a total of 831.02° from July 4th, 1776. This number is also on the angle of 282.92° of cycle #14. Ronald Reagan was shot on March 30th, 1981. Heliocentric Uranus has moved 890.31°. This number is on the angle of 102.93° on the Square of Nine, of cycle #15, in near exact opposition to the assassination of Robert Kennedy, i.e. $282.92 \text{ minus } 102.93 = 179.99^\circ$. The Oklahoma City Bombing (Timothy McVeigh) occurred on April 19th, 1995. Heliocentric Uranus has moved 950.26° from July 4th, 1776. This number falls on the 282.78° angle of cycle #15. This event was in opposition to the assassination attempt of Ronald Reagan and conjunct the War of 1812 and the assassination of Robert Kennedy. A financial panic known as "Black Friday" occurred on September 24th 1869, when Fisk and Gould tried to corner the gold market. Heliocentric Uranus moved a total of 401.43°.

This number is on the angle of 136.9° of cycle #10. President James Garfield was shot on July 2nd, 1881 as previously mentioned. Uranus moved a total of 456.13° from July 4th, 1776. This number is on an angle of 16.9° of cycle #11. The two events are 120° apart or trine, i.e. $136.9^\circ - 16.9^\circ = 120^\circ$. The Korean War started on June 25th, 1950. Heliocentric Uranus moved 747.98° . This number is on an angle of 16° of cycle #14. President Richard Nixon resigned on August 9th, 1972 as a result of the Watergate scandal. Uranus moved a total of 850.72° from July 4th, 1776. This number is on an angle of 346.24° of cycle #14. The two events are what astrologers call inconjunct or 150° apart. The World Trade Center was bombed by terrorists on February 28, 1993. Heliocentric Uranus was 941.5° of longitude from July 4th, 1776. The number 941.5 is on an angle of 256.5° , of cycle # 15. This event is 90° or square to the resignation of Richard Nixon. The space shuttle Challenger exploded on January 28th, 1986. Heliocentric Uranus moved a total of 911.62° from July 4th, 1776. This number is on an angle of 166.86° , of cycle #15. This event is 90° or square to the World Trade Center bombing and 180° (opposition) from the resignation of President Nixon. It is interesting to see how major events in the United States seem to have a strong correlation with this timekeeper.

Every United States President (except Ronald Regan), that was elected in the year of a conjunction of Jupiter & Saturn has died in office. Most of these years end in a zero. George W. Bush was elected president in the year of a Jupiter/Saturn conjunction, in the year 2000, which ends in a zero. Heliocentric Uranus will hit the angle of 16.8° on the Square of Nine, when it has traveled 982.97° from July 4th, 1776 hitting the 16.8° angle of cycle # 16. This will happen on June 20th, 2003. This is the same angle that President James Garfield was shot on in the year 1881. Other U.S events that have occurred in the

month of June are: Assassination of Robert Kennedy 6/5/1968, The Watergate scandal first hit the news on 6/17/1972, The Korean War on 6/25/1950 to name a few. By the way, the Korean War was on an angle of 16° in cycle #14. This angle will happen again in cycle #16 when Uranus is 982.68° degrees longitude from July 4th, 1776. This works out to be approximately May 25th, 2003. Earlier, I showed that the deaths of Abraham Lincoln and James Garfield occurred 230° apart after 2 cycles using Saturn as the timekeeper. Then we observed the same 230° relationship with John F. Kennedy and William McKinley after 5 cycles. These events happened in pairs. Franklin Delano Roosevelt died in office on April 12th, 1945 on the time angle of 24.22° of cycle #23. This event does not have a matching pair as of yet. The difference in cycles between the Lincoln/Garfield pair and the Kennedy/McKinley pair suggests that our next relationship might occur after 3 complete cycles. In other words, 5 cycles – 2 cycles = 3 cycles, which may be our missing cycle if these cyclical events are also following a Fibonacci sequence. If the event maintains the same 230° relationship plus the additional 3 cycles from the death of F.D.R., then we would expect the next event to occur on August 18th, 2003. This date would put heliocentric Saturn 2773.80° of longitude from the signing of the Declaration of Independence, which is on the 254.22° time angle ($24.22^\circ + 230^\circ$) of cycle #26, which is also 3 complete cycles from the death of Franklin Delano Roosevelt.

If we look at Neptune as a timekeeper, we find that the Civil War occurred when Neptune was 185.05° from the signing of the Declaration of Independence. This number is on the time angle of 58.17° of cycle #7. The United States entered World War II on April 6th, 1917. Heliocentric Neptune is now 309.69° from July 4th, 1776. This number is also on the time angle of 58.45° of cycle #9. Both events occurred on the 58° time angle

of odd numbered cycles. The United States entered World War II on December 7th, 1941 after the Japanese bombed Pearl Harbor. This event has Neptune 363.67° from July 4th, 1776. The number 363.67 is on the time angle of 328.35° of cycle #9. If you take the difference between the 58° angle and the 328° angle, you get 270°, which means World War II is square to World War I in terms of the United States involvement. The Korean War has Neptune 382.2° from July 4th, 1776. This number is on the time angle of 50.4° of cycle #10. The Vietnam War has Neptune 422.29° from July 4th, 1776. This is on the time angle of 230.8° of cycle #10. These two "Military Actions", i.e. Congress never formally declared war, are separated by 180° on the Square of Nine ($230.8 - 50.4 = 180.4$).

If we calculate, the current position of Neptune on March of 2001, we find that the planet is 492.27° from July 4th, 1776. This number is on an angle of 164.7° of cycle #11. The next number on the Square of Nine that will have a geometric relationship to both the Korean War and Vietnam War is 185.40°. This number is 135° to the Korean War and 45° to the Vietnam War. This time angle will be hit when Neptune is 497.32° from July 4th, 1776. This happens on about June 29th, 2003. If you will re-read the section on Uranus, you will see that Uranus hits the 16.8° time angle on June 20th, 2003! This should be an important time period in U.S. History. I should also point out that Neptune was on the 0° cardinal time angle of cycle #10, when Franklin Delano Roosevelt died. Neptune was on the 181° (J.F.K opposite F.D.R) cardinal time angle of cycle #10, when John F. Kennedy was shot and killed. Neptune will hit this same 180° to 181° time location of cycle #11 between November 21st and December 31st, 2002.

I do not want to give you the idea that I'm forecasting the death of President George W. Bush or another war, but I do want you to see that these numbers and dates are related by the mathematics and cycle theory of the Square of Nine. I also wanted you to see that the Square of Nine has other applications than just trying to trade the stock and commodities markets. Gann's cycle theory is that history repeats! He says "Human nature does not change and that is the reason history repeats in the various cycles of time". Gann said that his forecasts were based on a Master Time Factor and a mathematical interpretation of the return of cycles. I also would like you to know that I did all this research in just a two day period. So once you become comfortable with the techniques, you will be able to work relatively fast. You will be rewarded for your efforts. www.Thehistorychannel.com is a good site for historical events.

Analyzing Markets

When analyzing markets, always use the first trade date and the dates that extreme lows were reached, such as the all time low closing price of the security. Also examine each Bull Market campaign from the most recent Bear Market low from which the up trend originated. Treating that date as a new beginning. Measure the time periods in number of days, weeks, months or planetary longitude and find where these numbers are located on the Square of Nine. This process is called interpolation. Then look for repeating angles, such as the 122.5° angle in the New York Stock Exchange as measured by calendar days. Next, look for geometric relationships, such as the Opposition 180° , Square (90° & 270°) and Trine (120° & 240°) points to the time angles. Once this is done, you can determine what time angles are important in predicting future turning

dates. The following rules outline the process and theory for making future predictions with the Square of Nine as a time calculator.

Nine Rules for the Square of Nine

- (1) Determine the exact time angles of high and low closing prices through interpolation. Measure time in Calendar days, weeks, months or planetary longitude.
- (2) One should expect future price highs to occur on the same time angle as past price highs. One should expect future price lows to occur on the same time angle as past price lows.
- (3) When using rule #2, the cycle number immediately preceding the current cycle has the most weight. For example, if you are currently in cycle #24 on the Square of Nine, then look to see what happened in cycle #23 when applying rule #2. You must always know what cycle you are currently in!
- (4) If you use the date of an extreme low closing price as your beginning point, then the 0° time angle will tend to give you future lows. In other words, if you take all the numbers that are on the 0° angle of the Square of Nine and add these values as time periods to your beginning date, you will be calculating dates in the future that will also tend to be lows. If you use an extreme high as your beginning point, reverse these rules.
- (5) If you use the date of an extreme low closing price as your beginning point, then the 180° time angle will tend to give you future highs. In other words, if you take all the numbers that are on the 180° angle of the Square of Nine and add these values as time periods to your beginning date, you will be

calculating dates in the future that will tend to be highs. If you use a high as your beginning point, reverse these rules.

- (6) If you use the date of an extreme low closing price as your beginning point, the “soft angles” will also typically come out as lows. The “soft angles” are the 60°, 120°, 240°, 300° time angles. The “hard angles” will typically come out as highs. The “hard angles” are 45°, 90°, 135°, 180°, 225°, 270°, 315° time angles of the Square of Nine. The exception to the “hard angle” rule is the 270° time angle. This time angle will typically come out as a low if your beginning point was also a low. For future reference, “hard angles” are harmonics of 45° and “soft angles” are harmonics of 60°. If you use a high as your beginning point, reverse these rules.
- (7) If a calculated future date inverts, then you should invert the rest of the remaining future series of dates. That is to say, if a predicted high date turned out to be the date of a low instead of the anticipated high, you should expect the remaining series to be subject to the same inversion. The remaining future dates that you originally calculated as highs will now be lows. The remaining future dates that you originally calculated as lows will now be highs.
- (8) Because highs and lows frequently come out on the same time angles as previous highs and lows, up-trends & downtrends tend to be the same in between the same time angles. For example, if there was an up-trend in the previous cycle preceding our current cycle between the 0° and 45° time angles, then we would anticipate or project an up cycle in between these same two angles for the current cycle. As mentioned in rule #7, if the cycle inverts,

we would invert the remaining series. This rule (#7) applies to projecting up-trends and downtrends in between angles as well.

(9) Always maintain the daily chart from the most recent Bear Market Low.

Always maintain the Daily, Weekly and Monthly charts from the first trade date. The all time low may also be useful and worth maintaining for your particular market. As shown earlier in the U.S. history examples, I prefer to use and maintain planetary longitudes as my time periods from the natal point.

A good site for free market data is www.grainmarketresearch.com.

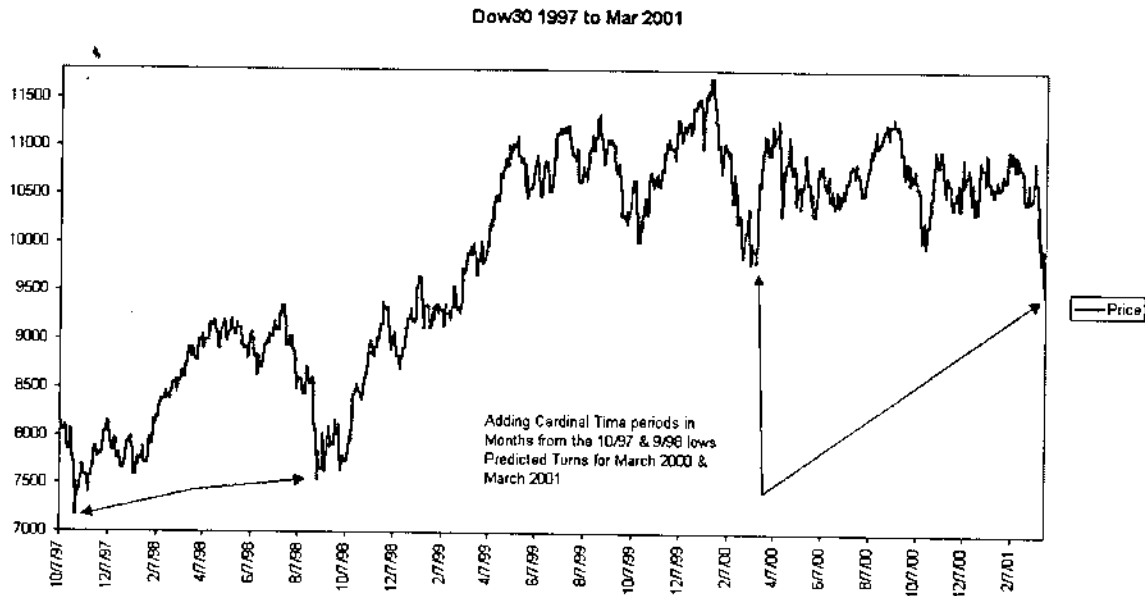
Periodic Number Cycles

Another purpose that the Square of Nine served was for mathematical sequence. Gann had always said that he based his calculations on cycle theory and mathematical sequences. On page 75 of Tunnel Thru the Air, Gann says, "My calculations are based on the cycle theory and on mathematical sequences. History repeats itself. That is what I have always contended, --that in order to know and predict the future of anything you only have to look up what has happened in the past and get a correct base or starting point. My authority for stating that the future is but a repetition of the past is found in the Bible".

By creating these Master Charts, Gann could look at periodic numerical sequences or number cycles on these geometric shapes to see if market turning points had any mathematical relationship in Time or Price. Unlike ordinary cycles that are fixed in terms of size or length, periodic number cycles have a geometric growth that takes up successively larger units of time or price in each new ring or cycle.

Another time technique that is based on Carl Futia's work utilizes this very concept, i.e., using the time angles of the Square of Nine as a periodic number cycle. What you do is simply take the cardinal numbers, i.e. the numbers on the "+", and add these values to the dates of previous market tops and bottoms. Use these time periods as days, weeks, months, years or planetary longitude. What you do is build and maintain a list of dates of previous market turns and simply add the periodic time units that fall on the cardinal cross of the Square of Nine Chart (0° , 90° , 180° , 270°). Because tops and bottoms tend to come out on the same time angles as previous tops and bottoms, you should select pairs of tops and pairs of bottoms for this technique. For example, let's take two recent lows in the stock market, October 23, 1997 and September 1, 1998. On the Square of 9, we would add the number series of 2, 11, 28, 53, 86, 127, 176, 233, 298 weeks for the 0° angle from each of these two dates to see if they had a common time period. Then we would do the same thing for the 90-degree, 180-degree and 270-degree angles (cardinal angles only). So we would run the series of 4, 15, 34, 61, 96, 139, 190, 249, 316 weeks, 6, 19, 40, 69, 106, 151, 204, 265, 334 weeks, and finally 8, 23, 46, 77, 116, 163, 218, 281, 352 weeks from both lows and circle all the time periods they have in common. Then, we would do this same procedure with months and circle all the months they have in common. Then do the days, etc. These common dates that we circled would be time periods that would require us to be on the lookout for reversals of trend. Using weeks, the only common time periods are the week of February 20th, 1999 and May 25th 2012. Using months, the only common time periods are September 1999, **March 2000**, **March 2001** and August 2013. Microsoft Excel can do these types of date calculations very quickly. You will be pleasantly surprised at the amount of accurate market turning

dates that can be predicted if you will simply add the “+” cardinal numbers as days, weeks and months to past “major” turning points and circle all the time periods they have in common.



One more time technique we could utilize with our two dates is based upon the square root relationships that were presented near the beginning of this document. What we would do is measure the difference in time between the two dates 10/23/97 and 9/1/98. We could do this in days, weeks, months, or planetary longitude. If we look at days, we calculate that these two lows are 313 calendar days apart. If we take the square root of 313 and add 2 to the root and then re-square the sum, we will get the next number on the same time angle of the Square of Nine. This works out to be 387.76 days. Now we just add this to our 1st date 10/23/97 and we get 11/14/98 as a future turning date that will most likely be some kind of low. We can keep adding increments of “2” to the square root of 313 and re-square to find other dates that are on the same time angle. As an example, if we add 4 to the square root of 313 and then re-square the sum, we get 470.53

as the next number of calendar days to add to October 23rd, 1997. This date works out to be February 5th, 1999. Microsoft Excel can also handle these calculations very easily. If you continue this process you will find that the extreme low reached on October 18th, 1999, comes out within 4 days, on the same time angle by simply working the cycles out from the 313-calendar day number that separated the original lows of 10/23/97 and 9/1/98.

Price as a Time Period

Another technique is to use the price itself as a geometric time progression. What you are doing is finding time periods that are on the same angle of the Square of Nine chart that the high or low price occurred on. For example the major low for the Dow Jones Industrial Average, July 8th, 1932 was \$41.70. If you look at the Square of Nine table included with this course (or on the Square of 9 itself) you will see that the number 41.7 is on the 205½ -degree angle. Looking at the Square of Nine we can calculate the other numbers that are on this exact same angle. These numbers can represent hours, days, weeks, months, years, or even planetary degrees traveled. However, it is important to be exact. Remember, to determine the next number on the same angle you simply take the square root of the number (the Sqr. Root of 41.7 = 6.457) add two (6.457 + 2 = 8.457) then re-square the number (8.457 squared = 71.53. To determine the previous number you would have subtracted 2 from the root then re-squared the result. Therefore, if we add 41.7 years to the year 1932 we get the year 1974, and this particular year also had a Major market low similar to 1932. The next number 71.53 + 1932 would yield the year 2003, and 2003 is also a cardinal number on the chart. This year may also be a significant low in the market, just like 1932 and 1974. When converting a price to a time, it is an absolute necessity to have at least two time confirmations from the Square of Nine from

different Major Tops or Major Bottoms. It is not my intention, nor was it Gann's to do all the work for you! To truly learn and master these techniques you must do the work yourself. I am only trying to remove much of the confusion that surrounds Gann's writing style and techniques. Another example is the top price of 386 September 3rd, 1929. Obviously, if we add 386 years to 1929, we come up with a date that is much too far into the future to be of any use. Therefore, we will calculate smaller numbers that are on the same angle of the Square of Nine as the number 386. The square root of 386 is 19.646. This root number minus 12, which is 6 cycles or numbers in towards the center on the same geometric angle = 7.646. If we square this number we get 58.47 years. $1929 + 58.47 =$ the year 1987, which also had a 1929 style crash. If we went 7 cycles in we get: Square Root of 386 = 19.646 - 14 = 5.6468, re-squared = 31.88. If we add 31.88 years to 1929, we get the year 1960, which was a year in which the Dow Jones Industrials declined over 16%. If we go in 8 cycles, we get $19.646 - 16 = 3.6468$, re-squared = 13.30. If we add 13.3 to the year 1929, we get the year 1942, which was a major bottom in the Stock Market near the tail end of "The Great Depression". This was the year that the United States entered World War II. The Stock Market averages rose significantly from the period 1942 to 1974. Remember, you should examine other market highs & lows in the same manor to find more than a single hit for your target period. To narrow down your target date, you would use this same technique with smaller time periods such as months, weeks and days. As you use smaller increments of time, the significance of the turning point can also be decreased. In other words, the turning points are defined as "major" based upon the time scale you are using. Major turning points on a weekly chart might not even show up on a monthly or yearly chart, but they are important when using

weeks to narrow down your target date. The same logic is applicable to days or even hours, i.e. the turning point or swing should be a "Major" swing high or low relative to the time period your chart covers. From this information, it should be obvious to you that the square root of a major high or low price is in sync with a rhythm in time. For example, on August 25th, 1987 the Dow topped at 2746 before the October 87 crash. Converting this to a three digit number 274.6 and calculating the square root we get 16.57. If we add this period as years we get $1987 + 16.57 = 2003$ again for a second hit in this particular year. This is also the same year we found in the earlier analysis of United States History. Do not underestimate the value of this concept, i.e. that price is also a longitude or a time measure.

Price Levels for Support & Resistance

Another technique is to calculate price levels for support and resistance off of these periodic number tables. The strongest support or resistance is always on the same or opposite angle. The next levels in significance are the squares or 90-degree angles. For example: November Beans recently made a low of \$411, which is on the 180-degree angle of the Square of 9. Therefore, all the numbers on this angle and the zero angle (which is $180 + 180 = 360$ or back to zero) are important levels for support and resistance. These prices are: 334, 411, 496, 589 for the 180° -angle and also 298, 371, 452, and 541 for the zero angle. Just simply locate your price on the "Master Chart" and find what angle it is on and look at all the numbers that are on the same or opposite angle. For large numbers like the Dow Jones, simply move the decimal point and convert the price to a three or four-digit number.

Another technique is to divide the price by the minimum fluctuation to convert the price to ticks. For example, the 411 price we just looked at for beans could also be $\$411 / 0.25$ (or multiplied by 4) = 1644 and this number is on a completely different angle. The first opposition to this number is 1726 divided by 4 = \$431. The first conjunction above 1644 is 1810 divided by 4 = \$452.50. You may want to experiment with this idea.

Another price technique is to take all the cardinal and corner numbers and multiply them by the minimum fluctuation of the market you are trading. By doing this, you can see what numbers would appear on the important angles of the Square of Nine if you started with the minimum fluctuation as the center number and also grew the square by this same number. You can also use the all time low price as the center and multiple it by the cardinal and corner numbers. For example: the July 1932 Dow Jones Low was 41.70. If we multiply this by 281, a cardinal number, we get 11,717.70, which is very close to the extreme price high of 11,750 reached on January 14th 2000. The difference is only 32 points. We can also put the extreme high in the center and subtract the cardinal and corner multiples of extreme low of 41.70. For example: If we take the cardinal number 53 and multiply it by the extreme low of 41.7, we get 2,210.10. If we subtract this amount from 11,750, we get 9,539.9 as a possible support number if the Dow breaks 10,000, which I believe could happen in March 2001. This date is the periodic time cycle date we calculated using calendar months in the section covering periodic time cycles, but we will have to wait and see. Obviously, you can also add and subtract the cardinal and corner numbers just as they are without multiplying them by an extreme low. By the way, in all the quotes where Gann discusses a forecast he always says that it was based

upon a Master Time Factor. He always describes it a singular thing, which is probably a process. The master time factor is not a particular cycle as many Gann students have been lead to believe. For example, many have thought that the Master Time Factor was the 60-year cycle. However, Gann said that his 1929 forecasts was based upon his discovery of the Great Cycle, which is the 60-year cycle according to Gann's "Forecasting Course", and a Master Time Factor. This shows that they are not one in the same. If you go through all the Gann material (Books, Courses and Advertisements) you will find that the only other time he uses the words time factor is in his Master Charts Course when he describes the Square of Nine. In the Soybean letter, Gann says: "The square of '1' is 1 and '1' is the sun". The only other place where Gann puts the number 1 in "1" is his description of the Square of Nine and Hexagon Charts. In this same letter, Gann tells the recipient to calculate the longitude average of the 8 planets that revolve around the Sun. If "1" is the Sun and its surrounded by 8 planets (excluding Earth) then isn't this a very similar description to the way Gann describes the Square of Nine? I will leave the rest of this investigation alone.

Converting Astronomical Longitude to Price.

The secret to converting zodiacal longitude into price levels is always based upon the minimum fluctuation of the security, commodity, currency, etc. Many of today's software programs use techniques that convert the current planetary longitudes into price levels. For example, if the planet Saturn is at 23° 21' Taurus, the straight longitude conversion is \$53.35 because Taurus starts at 30° of the zodiacal circle. W.D. Gann illustrates this technique in the Coffee Letter. Other techniques are based upon

Gann's "Master Charts". Specifically, the Square of Nine, Square of 4, The Hexagon Chart, and the Circle Chart. W.D. Gann gives an example of converting current planetary longitudes to price via a "Master Chart" in the Soybean letter. As an example, Gann wrote to a private student in his Personal Soybean Letter: Dec. 2, 1953, May Soybeans high $31\frac{1}{4}$. This equaled $18^{\circ} 45'$ in Pisces, close square of 90° degrees of Jupiter, 135° degrees to Saturn and 180° degrees of the averages, and 120° -degrees of Uranus. 300 price equals 30° -degrees Virgo. 302 equals 30° -degrees Libra. 304 equals 30° -degrees Scorpio". These are obviously not straight longitude conversions of price because $\$31\frac{1}{4}$ price in pure longitude would be 11-degrees 15' minutes Aquarius. However, on Gann's circle chart, which is based on the Earth's 24-hour rotation on it's axis $\$31\frac{1}{4}$ is at $18^{\circ} 45'$ Pisces.

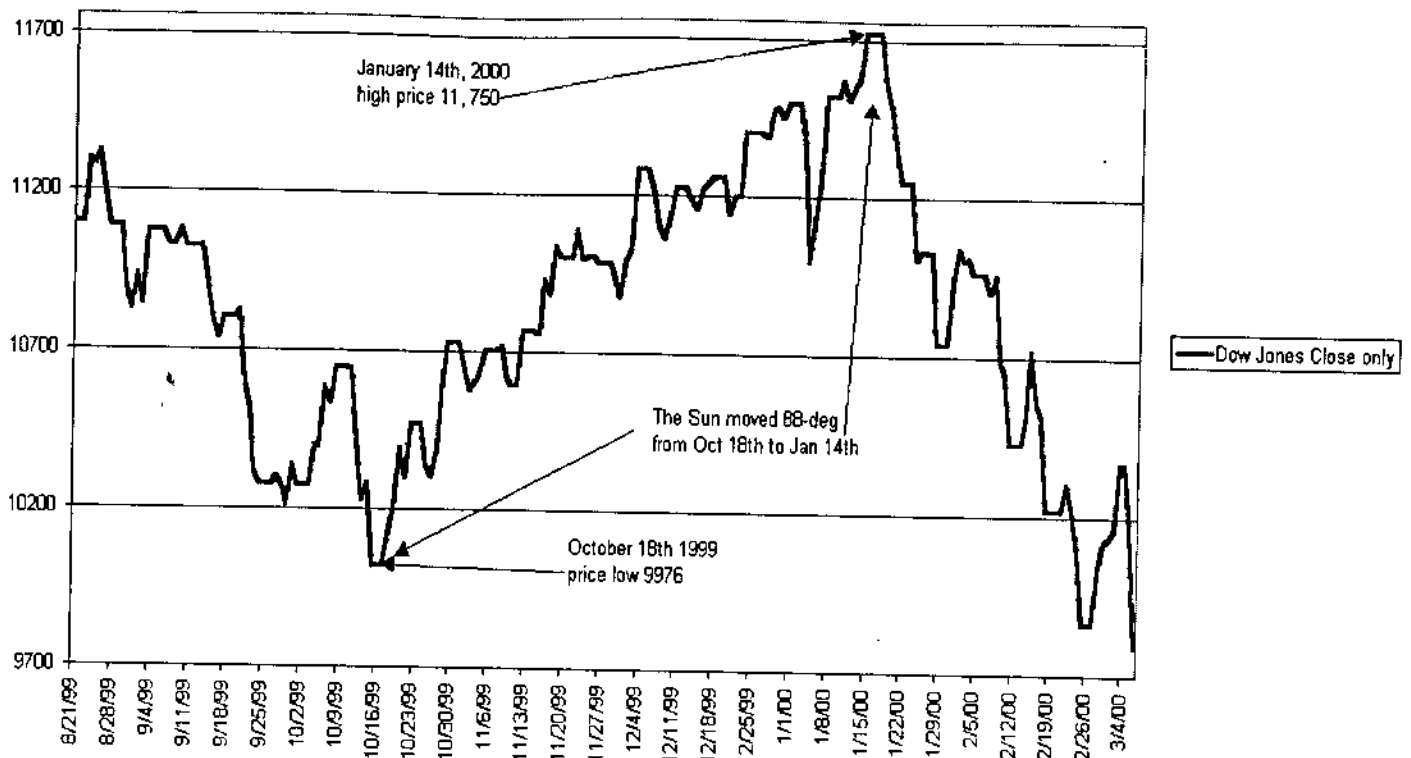
Just as an exercise, on the Square of 4, $\$311$ would be about 20-degrees Capricorn, on the Square of Nine, $\$311$ would be 0-degrees Gemini and on the Hexagon, $\$311$ would be 5-degrees Sagittarius. Gann used these geometric shapes to relate price to the positions of the planets in zodiac longitude.

Earlier, when we were going over the Square of Nine, I discussed the square root relationships of this Master Chart. If you take the square root of the (January 14, 2000) Dow Jones Industrial Average 11,750 high you get 108.39, which equals $18^{\circ}23'$ Cancer in exact opposition to Heliocentric Mercury at 18° Capricorn. If you take the square root of the October 18th, 1999 low of 9976 you get 99.87 ($9^{\circ}52'$ Cancer). The difference between these square roots equals 8.52, i.e. $108.39 - 99.87 = 8.52$. From 10/18/99 to 1/13/00, Helio-Jupiter moved 7.94 and Helio-Saturn moved 3.14 (Pi). Applying the

Pythagorean theorem we get Square root of $(7.94^2 + 3.14^2)$. This is equal to 8.53, very close to our root difference of 8.52. On 1/14/00, this number will be 8.62. The difference between 8.62 and 8.52 equals 0.10, which also would equal 18° on the Square of Nine as a root increment.

Heliocentric Mercury moved exactly 360° from October 18th, 1999 to January 14th, 2000 (18° Capricorn to 18° Capricorn). If you add 8.62 to the square root of the low, then re-square, you get 11,772.23 as a price. Remember, increments of 2 added or subtracted to the square root of a price and then re-squared is equal to 360-degrees on the Square of Nine. So if we look at our number 8.52, we can see that price jumped 4 complete rings out on the Square of Nine because 8 divided by 2 is 4. The fractional remainder of 0.52 tells us that price went an additional 94-degrees on the Square of 9's rings because 0.50 added or subtracted from a root equals 90-degrees on the Square of 9. The remaining balance of 0.02 would equal approximately 4-degrees ($180^\circ * 0.02 = 3.6^\circ$). As we advance day (1°) by day (1°) from our low date, doesn't it make sense that the relationship for price resistance might have some mathematical relationship to time on the Square of Nine? In other words, if we were 45° (longitude time) away from 10/18/99 wouldn't you want to know what prices have a 45° relationship on the Square of Nine to the 9976 low price? How would you do it? Simple, you would do it with square root relationships! 45° is calculated by adding or subtracting 0.25 to the square root of the price and then re-square the result. If we do this with the price low of 9976, we would take the root of 9976, which is 99.87 and add 0.25. This is equal to 100.12. Now we re-square this and get 10,026. The other numbers on this same angle can be calculated by adding or subtracting 2 from the square root and then re-square. $100.12 + 2 = 102.12$ re-

squared = 10,430.52. **Get the idea?** The next number on the same angle would be 104.12 squared = 10,843.04 etc. These numbers would be carefully observed on December 2nd, 1999 because this date is 45 solar degrees from the low that occurred on 10/18/99. If you were looking for all the 88° price relationships on the Square of 9, when you were 88° (solar longitude) away from the 10/18/99 low date in price, you would have been looking for the market to hit the following numbers on January 14th, 2000: 10,479.37, 10,892.85, 11,314.32, **11,743.80**, 12,181.27, etc! The actual high was 11,750. This is almost a perfect price-time balance. The numbers were calculated as follows: Because adding 2 to a root is equal to 360° on the Square of 9, then dividing any number by 180 (half the circle) will tell us what our longitude is equal to as a square root ratio. We need to know what 88° equals as a square root increment. This can be calculated as $88^\circ / 180 = 0.48888$. Adding increments of 2 to this number will give us all the numbers on the Square of 9 that are on the same angle. So we would add 2.48888 to the square root of our 9976 low and then re-square. This gives us $99.8799 + 2.48888 = 102.3688$. Re-squared equals 10,479.37, as shown above. The other numbers came from adding 4.4888, 6.4888, 8.4888 and 10.4888 to the root of the low price, then re-square the sum. You can also calculate the numbers that would be on the opposite side of the wheel on this particular date by adding 1.4888, 3.4888, 5.4888, 7.4888, etc. because adding or subtracting 1 to the root number (then re-square) is equal to 180-degrees on the Square of 9. This technique is very useful if you have a cycle hitting on the day you are calculating. In other words, if you are expecting the market to change trend because a time cycle is due, the price calculation will be much more impressive and effective!



If I were going to use this technique with a stock, I would have first converted the price to $1/8^{\text{th}}$ increments because the majority of stocks trade in $1/8^{\text{th}}$ increments. For example: If a stock had a major top on March 24th, 2000 at a price of \$119 $\frac{1}{2}$, the first thing I would do is convert this number to $1/8^{\text{th}}$ s. The way to do this is to either divide the price by 0.125 or to multiply by 8. This would change the price to 956; i.e. there are 956 " $1/8^{\text{th}}$ s" in the price of \$119 $\frac{1}{2}$. The next step is to determine how many degrees of longitude the Sun has moved from the date of the top price. Let's say that we are currently trading the date February 28th, 2001. From March 24th, 2000 to February 28th, 2001 the Sun has moved 335.81°. Next, we need to convert this number (335.81) into a square root relationship for the rest of the calculations. We already know that numbers 360° on the Square of Nine is the result of adding 2 to the square root and that numbers 180° are the result of adding 1 to the square root. Therefore, 335.81° will be a number that is greater than 1 but less than 2. The way we find out what the number is as a square

root increment is to divide it by 180° . In this case, 335.81° divided by $180^\circ = 1.8656$ is our square root increment on the Square of Nine. So we now know that 1.8656 is equal to 335.81° . Getting back to our original problem of finding the prices that are also 335.81° from March 24th, 2000, we need to subtract 1.8656 from the square root of the price and then re-square the number. So we take the square root of 956 (8 times $\$119\frac{1}{2}$), which equals 30.919. Because we are working from the high price, we subtract 1.8656 from 30.919 and re-square the result. This is $30.919 - 1.8656 = 29.0536$, re-squared = 844.11. Now just divide by 8 to convert it back to dollars. $844.11 / 8 = \$105\frac{1}{2}$. This price is 335.81° away from the price of $\$119\frac{1}{2}$ on the day that the Sun is also 335.81° away from the date of the high. If you want to calculate the other prices on this exact same angle, you would take the original number of 1.8656 and add increments of 2, which would yield 3.8656, 5.8656, 7.8656, 9.8656, etc. These numbers would be subtracted from 30.919 (Sqr. root of 956) and re-squared. All of these numbers will come out on the same angle. They are just one ring in towards the "main center" on the Square of Nine. For example: $30.919 - 3.8656 = 27.0536$ re-squared = 731.89 divided by 8 = $\$91.48$. This number is also 335.81° away from $\$119\frac{1}{2}$ on the day that the Sun is also 335.81° away from the date of the high. If the price of the stock were trading near this $\$91.48$ price range, we would also want to know the Square, Triangle and Opposition points to this number per the Gann emblem. These can be calculated by adding and subtracting 0.5 to the root for the 90° Square aspect. Adding and subtracting 1.5 to the root for the 270° Square aspect. Adding and subtracting 1 to the root for the Opposition aspect. Adding and subtracting 0.666 to the root for the 120° Trine aspect. Adding and subtracting 1.333 to the root for the 240° Trine aspect. Taking our price $\$91.48$ price as $1/8^{\text{th}}$, which

equaled 731.89 we get the following calculations using the square root of 731.89, which = 27.0536:

Square Aspects: $27.0536 + 0.5 = 27.5536$ re-square = $759.200 / 8 = \$94.90$
 $27.0536 - 0.5 = 26.5536$ re-square = $705.09 / 8 = \$88.13$
 $27.0536 + 1.5 = 28.5536$ re-square = $815.308 / 8 = \$101.91$
 $27.0536 - 1.5 = 25.5536$ re-square = $652.986 / 8 = \$81.623$

Opposition Aspects: $27.0536 + 1 = 28.0536$ re-square = $787 / 8 = \$98.375$
 $27.0536 - 1 = 26.0536$ re-square = $678.79 / 8 = \$84.848$

Trine Aspects $27.0536 + 0.666 = 27.7196$ re-square = $768.37 / 8 = \$96.04$
 $27.0536 - 0.666 = 26.3876$ re-square = $696.305 / 8 = \$87.04$
 $27.0536 + 1.333 = 28.3866$ re-square = $805.80 / 8 = \$100.72$
 $27.0536 - 1.333 = 25.7206$ re-square = $661.549 / 8 = \$82.69$

These prices are all aspects of our \$91.48 price, which has an exact degree relationship to the longitude movement of the Sun from our high date of March 24th, 2000. Therefore, these prices are also aspecting the Sun on February 28th, 2001. The most important price is \$91.48 followed by the opposition prices, then the squares and finally the trines. As stated previously, this technique works best on a cyclical turning date.

Another Astronomical Technique

Earlier, I showed a technique of using the longitude movement single planet (Saturn) from a birth date a.k.a. natal date. Obviously, this can be done with each planet to determine if there are any time angle relationships and I would recommend this type of analysis, which I illustrated in the U.S. History examples. Another technique is to run all of the planets simultaneously from the natal date as if they all started in the main center. This is interesting, because over time, the faster planets get slowed down by the

geometric growth of the Square of Nine. In other words, in the first ring, there is only one cell for every 45° of longitude. But in cycle 100, there are 100 cells for every 45° of longitude. An example of this technique is as follows: From the natal date of the New York Stock Exchange, which is May 17th, 1792 to the market top on September 3rd, 1929 the heliocentric planets have traveled the longitude amounts listed below:

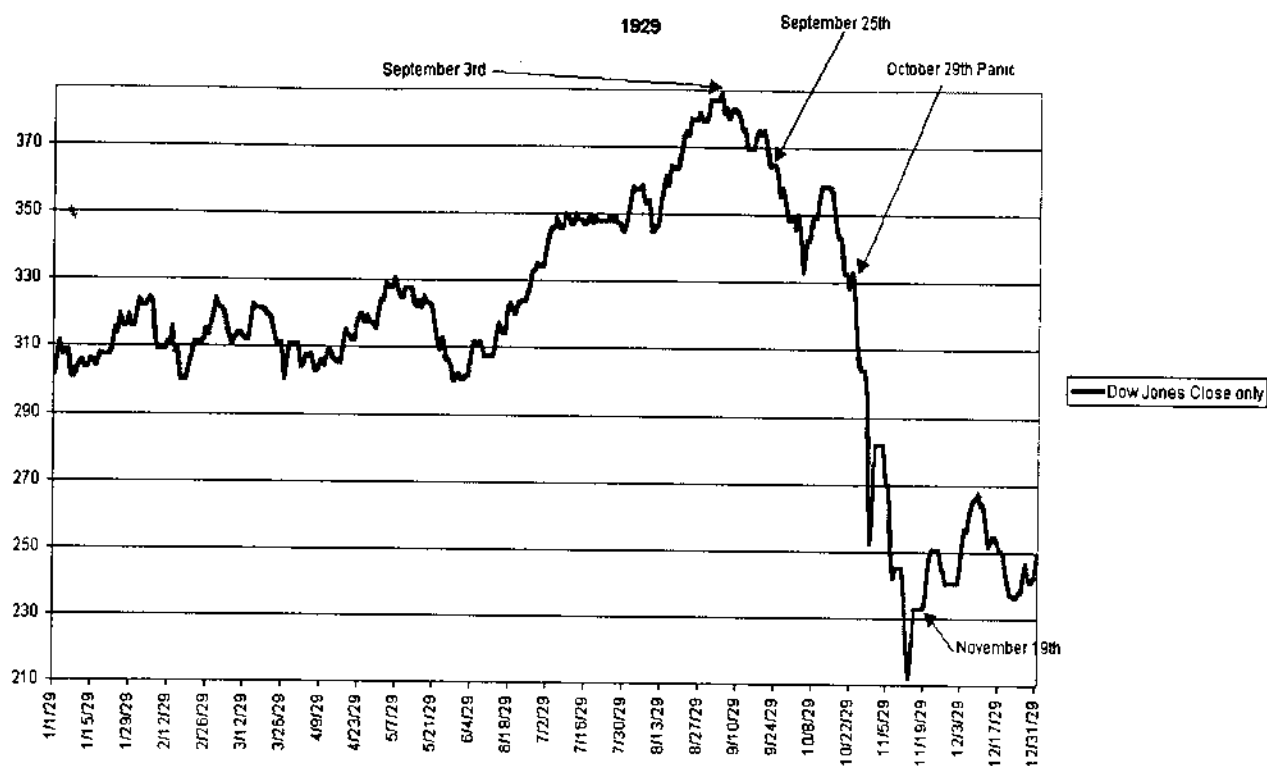
Sun/Earth	49,423.30° = 191° angle of cycle # 111, which equals 11° Libra
Mercury	205,211.72° = 315.54° angle of cycle # 226, which equals 15°32' Aquarius
Venus	80,342.27° = 35.26° angle of cycle # 142, which equals 5°15' Taurus
Mars	26,280.31° = 155° angle of cycle # 81, which equals 5° Virgo
Jupiter	4,174.26° = 243.64° angle of cycle # 32, which equals 3°38' Sagittarius
Saturn	1,686.34° = 327° angle of cycle # 20, which equals 27° Aquarius
Uranus	590.87° = 187° angle of cycle #12, which equals 7° Libra
Neptune	302.54° = 22.7° angle of cycle #9, which equals 22°42' Aries
Pluto	145.43° = 138.22° angle of cycle #6, which equals 18° Leo

This would give the following astrological aspects. Sun 135° to Saturn, Venus trine Mars, Jupiter Square Mars, Pluto 105° Jupiter and Mercury 72° to Jupiter.

How long will it take for Mercury to conjunct Saturn on the Square of Nine? Mercury and Saturn are separated by a longitude of 11.46° on the Square of Nine. Mercury is in cycle #226, which means that it will take 5.02° of longitude movement to equal 1° on the Square of 9, i.e. $226/45 = 5.02$. We need a total of 11.46° Square of Nine degrees, so we multiply 5.02° by 11.46 and get 57.55°. Add 57.55° to Mercury's longitude of 11°27' Sagittarius on September 3rd, 1929 and you get 10°16' Aquarius, which occurs on September 23rd, 1929. Now, Saturn has moved an additional 0.59° from September 3rd to the 23rd. Saturn is in cycle #20, which means that every 0.44° of

longitude is equal 1° on the Square of Nine for Saturn, i.e. $20/45 = 0.444^\circ$. So if we divide 0.59 by 0.444, we get 1.327° as the extra amount Saturn gained on the Square of Nine up to this point. This means that Mercury needs another 6.66° ($1.327 * 5.02$) to be exactly conjunct Saturn on the Square of Nine, which would be September 25th, 1929.

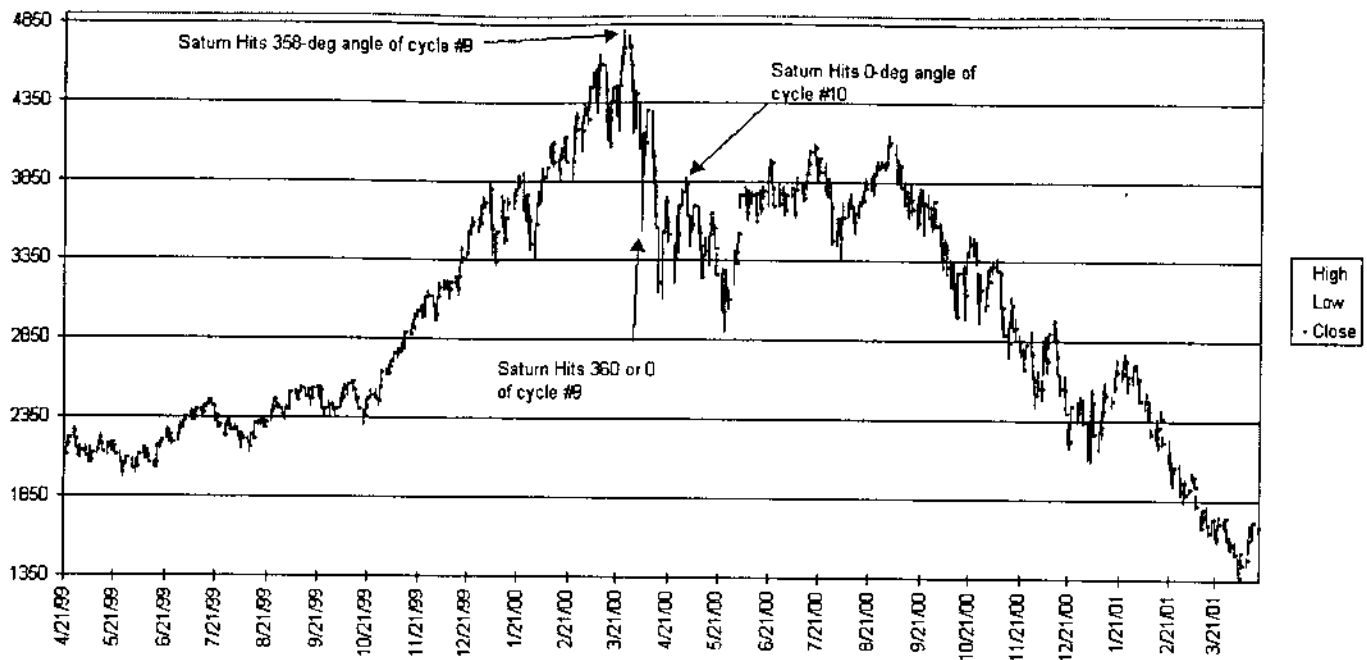
Saturn's location on September 3rd, 1929 was on the angle of 327° , measured from the founding of the New York Stock Exchange. Saturn will soon hit a natural 15° angle of the Square of Nine, i.e. the 330° time angle. Saturn is 3° Square of Nine degrees from the 330° angle of cycle number 20. Because Saturn is in cycle # 20, this means we need to multiply the 3° by 0.444, which equals 1.33° . This added to Saturn's longitude of $29^\circ 30'$ Sagittarius on September 3rd, 1929 gives $0^\circ 50'$ Capricorn on October 18th, 1929 as the exact date of Saturn hitting the 330° angle of the Square of Nine measured from May 17th, 1792. If you measure this event from the signing of the Declaration of Independence, you will find that the September 3rd, 1929 extreme high has Saturn on the time angle of 358° of cycle #21. On the day of the crash, Saturn has moved 1870.26° longitude. This number comes out on the 0° cardinal time angle on the Square of Nine in cycle #21 on the exact day of the Panic, October 29th, 1929. Now it is important to note that we are in a transition period between cycles #21 & 22 at this point in Saturn's longitude of 1870.26° from July 4th, 1776. In other words, this number also comes out on the 358° of cycle #22. Because the Square of Nine gives us periodic number cycles, the same 0° angle of cycle #22 gets hit when Saturn is 1871° from July 4th, 1776. This occurred on November 19th, 1929.



You should always note when Saturn lands on any 15° angle of the Square of Nine chart, as it was when the 1929 crash hit.

If you will take the time to examine other major turning points in the Stock Market, I think you will be surprised! For example, the Stock & Bond Market tops of February 2nd, 1994 occurred just prior to Fed Chairman, Alan Greenspan raising interest rates. This created one of the worst Bear Markets in the entire history of the United States Treasury Bonds and also lead to a 10% drop in the Stock Market. This event has Saturn on the 45° time angle of the Square of Nine. The Asian Panic on October 22nd, 1997 that caused a large one-day drop in U.S. Stock prices has Saturn on the 120° time angle of the Square of Nine. The July 18th, 1998 top has Saturn on the time angle of 135° , from which the majority of stock indexes declined 18% or more. The December 12th, 1974

extreme low has Saturn on the 358° time angle of cycle #24, same as the extreme high September 3rd, 1929 in cycle #21. The 1929 crash occurred when Saturn hit the 360° time angle of cycle #21, then the market put in a major low on November 14th, 1929 when Saturn hit the 0° time angle of cycle #22 (remember the transition point between cycles 21 & 22?). The extreme low of July 8th, 1932 has Saturn on the 60° time angle. All of these market turns were measured from the signing of the Declaration of Independence. I would encourage you to do this type of research! I would also examine time periods from the start of the New York Stock Exchange on May 17th, 1792 and also the beginning of the NASDAQ market of February 8th, 1970. For example, the March 23, 2000 top in the NASDAQ has heliocentric Saturn 369.55° from the birth date of February 8th, 1970. The number 369.55 is on the time angle of 358° of cycle #9, the same time cycle angle as the extreme top September 3rd, 1929 followed by the crash. Remember that the extreme low on December 12th, 1974 also comes out on the 358° time angle. For the NASDAQ, this is also a transition point between cycle 9 to cycle 10 (just like 1929). This means that Saturn will hit the 0° cardinal angle twice in a relatively short period of time. The first date will be April 5th, 2000, when Saturn is 370° from February 8th, 1970 hitting the 360° angle of cycle #9. The second date will be May 2nd, 2000, when Saturn is 371° from 2/8/70. This is the 0° -time angle of cycle #10. As of March 2001, the NASDAQ has declined over 60% from the date it hit the 358° time angle.



Why did I choose Saturn? Because Gann regularly describes his “Time Factor” as moving 1° per month. This is the average speed of Heliocentric Saturn and is the reason why I use it! Read Gann’s description of the Hexagon chart, which is included in the appendix. This chart may have actually been custom made for Saturn, as Saturn moves 60° in 5 years, which is how Gann describes the Hexagon chart. In another quote, Gann says, “The Master Time Cycle which I have used to forecast every important boom and depression or panic for more than 30 years, will in my opinion accurately forecast the next panic”. You should note that the planet Saturn takes about 30 years to orbit the Sun. This may have been a clue. Saturn is also associated with the word depression.

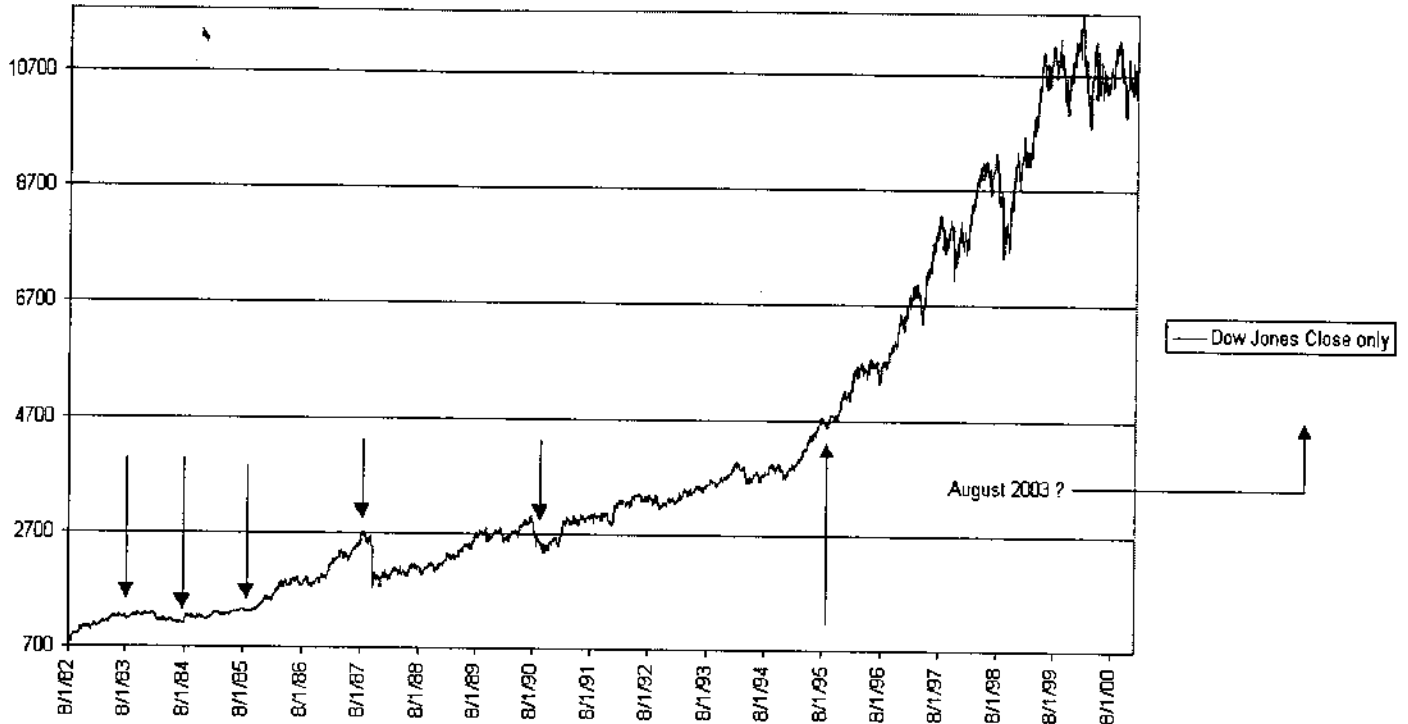
Fibonacci Ratios

My friend, Michael S. Jenkins uses Fibonacci ratios as square root increments. He primarily uses 0.236, 0.382, 0.50 and 0.618. For example, he will take the square root of a price, add or subtract 0.382, and re-square the result. Just as we have been doing all

along except he uses Fibonacci ratios. If you multiply these ratios by 180° , you get 42.48° , 68.76° , 90° and 111.24° , which would be the time required for solar longitude to balance these root increments. For those of you who are unfamiliar with Fibonacci, we give this simple explanation. The original Fibonacci sequence results from taking the number "1" and adding it to itself, producing the number "2". Next you would add "2" to "1" and produce the number "3". Adding the two previous numbers together creates each new number. The next number would be $2+3 = 5$. Then $5+3 = 8$, then $5+8 = 13$, etc. The basic sequence looks like this: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, etc. As these numbers progress, the ratio between each number approaches a ratio of 1.618. For example $610/377 = 1.618$ or $144/89 = 1.618$. If you take the inverse, you get 0.618, i.e. $377/610 = 0.618$. If you skip one number you get 2.618. For example $610/233 = 2.618$. The inverse is 0.382. $233/610 = 0.382$. These are just a few of the interesting mathematical properties that the Fibonacci numbers have. Actually, the Fibonacci ratios are the result of an additive series of any two numbers. In other words, you can pick any two numbers and add them together to produce a third number. If you add the third number to the second number, you create a fourth number. If you add the fourth number to the third, you create a fifth and so on. This series will approach the same ratio of 1.618 as well as the other ratios shown. You can do this with any two numbers as you beginning pair. If you add the traditional Fibonacci series as years to the August 1982 low, you get: **1983** ($1982 + 1$), **1984** ($1982 + 2$), **1985** ($1982 + 3$), **1987** ($1982 + 5$),

1990 (1982 + 8), 1995 (1982 +13), 2003 (1982 + 21). I would suggest that you examine the stock markets behavior in these years. We will have to wait for 2003.

Dow Jones Close only



Conclusion

This concludes my basic work on the Square of Nine. I think you will agree that it is somewhat different from the other materials available on this topic. This is not intended to be trading advice. I'm only presenting techniques for the Square of Nine that I have found very useful in making an analysis of particular markets. Gann said to prove all things to yourself and hold on to that which is good. I would suggest the same. If you put in the time to study and do research, you will be rewarded.

Sincerely Yours,

Daniel T. Ferrera

GANN'S PYRAMID, THE SQUARE OF NINE

Question: How do I use the Square of 9 to trade intraday?

Answer: You use it the same way that you do on the daily level. The smaller is to the larger as the larger is related to the next larger and so on. Or as above, so below. If you look at the Square of 9, you will see that Gann took the time to put clock time around the calculator as well. If you look at where he has March 21st, you will see that he also wrote 6:00 AM. On the opposite side of the Square, where he has September 22nd, you will find 6:00 PM. This quickly tells you that the 12 hours is equal to 180° of longitude. 45° = 3 hours, 90° = 6 hours, 120° = 8 hours, etc. Now, you can use the calendar technique discussed on pages 19-22. Also, since you are using the outer wheel as hours the inner numbers can also be used to calculate hours or intraday time resistance. In other words, you can use the cardinal overlap technique on pages 44-45, where the cardinal numbers represent hours. In fact, because this works with days, weeks and months, you can use this technique with any bar size, whether it is 1-minute bars, 15-minute bars, etc.

When we look at the mathematical relationship of the calendar numbers to the Inner Square of 9 numbers, we have a pretty nice 1 to 1 relationship. The Earth goes around the Sun in 360° completing the calendar and each number inside represents a day. When you look at the hours (6:00 AM to 6:00 AM), you do not have this same relationship. You now have 24 hours = 360°. If you balance this out, you get 4-minutes of time = 1°. The calculation is as follows. First we convert 24 hours to minutes. There are 60 minutes in 1 hour, so we multiply 24 x 60 and get 1440. Now we divide 1440 by 360 and we get 4-minutes. This means that the Earth rotates approximately 1° on it's axis every 4-minutes of clock time. If you multiply all the inner numbers by "4", you can get the same basic time relationship that we originally had with days. Now you can keep a list of intraday highs and lows and see if they come out on some common time angle. Similar to the 123° time angle measured in days from 5/17/1792 illustrated on pages 33 & 34. All you have to do is measure the time distance between swing points in minutes and find this number on the Square of 9 Table, which starts on page 25 and convert it to an angle. Based on this conversion, you can now use the Nine rules on pages 40-42.

The technique on pages 30-32 can obviously be used intraday so I will not discuss it in detail. However, I would like to point out that the Gann angles that I drew going up from the lower left hand corner to the upper right corner should also be drawn coming down from the top left corner to the bottom right. Also, if you draw in the 45° angles from the ½ way point, you can see the "Circles of Conflict" that markets want to avoid. If you simply turn to page 31 with a pencil and ruler in hand, and draw a vertical line straight up from the May 24th low price to the dark dotted line (Square Root of the Low +2 line) and then also complete the dotted horizontal line from the low so that it is connected to the "2nd 37-days" vertical line, you will have a shape that looks like a big rectangle with 4 smaller rectangles inside of it. Now simply draw in the diagonals (45° lines) of these small rectangles corner to corner. The places where they intersect darken with a circle. Notice how the market avoids these areas!

I wrote this course to illustrate how flexible the Square of Nine truly is. My intention was to stimulate the creative side of my readers so that they would also be encouraged to experiment and test their own ideas themselves instead of being locked into someone else's opinion. Gann said to "Prove all Things and hold on to that which is good" and this is what I am also trying to encourage.

Sincerely, Daniel Ferrera

NATURAL SQUARES CALCULATOR

Because the Square of Nine is a "Natural Squares Calculator", and Gann himself said to watch the natural squares of numbers in both price and time, I give you the following future date to observe as a learning exercise.

Here are some natural squares of numbers (days, weeks & months) all hitting 7/12/01

1024 days from 9/22/98 top (this is the top in between the 8/31 & 10/2 double bottom)
1089 days from 7/19/98 top prior to the 1st 20% correction in 10yrs. Russian currency crisis.
1156 days from 5/13/98 top
1369 days from 10/12/97 top, top before the Asian currency mini crash
2704 days from 2/15/94 top
3969 days from 8/30/90 low
4624 days from 11/13/88 low
7056 days from 3/18/82 low
26,244 days from 9/4/1929 top (We are 72 years (1/2 the sqr. of 12) from 1929, i.e the 18-year cycle)

16 weeks from 3/22/01 low
144 weeks from 10/18/98 low Russian currency crisis and Long Term Capital bailout
169 weeks from 4/22/98 top this is where most indexes topped in 1998, i.e. Small Cap, Mid Cap, Transports, etc.
196 weeks from 10/12/97 top before the Asian currency mini crash
225 weeks from 3/20/97 top
576 weeks from 7/1990 top
1849 weeks from 2/1966 top (This one also matches that 18-year cycle)
3600 weeks from 7/1932 all time low

We are also 36 months from the 7/98 top, 81 months from the 10/94 low and 324 months from the 7/1974 top

Also 6^2 or 36 years back gives us the 18-year cycle again.

July 12th should be a Major Low! Also, this particular day has the potential of being a huge down day or mini crash. This is not trading advice, just a learning exercise for course owners.

There is also a Total Eclipse on 6/21/01. Take a look at the planetary aspects to the eclipse point on July 12th. I would also suggest, that you look at this in relation to the NASDAQ natal chart and the NYSE natal chart. Both give indications that July 12th & 13th are interesting days in relation to both the eclipse and the natal charts. To get you started, notice that on July 12th & 13th that the conjunction of Mercury and Jupiter take places on the Eclipse point of 0-Cancer.

Dan

Projecting Resistance Levels

Question:

Thanks for the S&P500 5/22/01 market example. It certainly is fascinating. But I am not clear about how the various cycle values to add are determined.

For example we have 1 and 1/2 cycles added to the 60 degrees in this example. I see where the 60 degrees came from but not the 1 and 1/2 cycles : "The sq root of 1081 = $32.878 + 3.333$ (1 and 1/2 cycles + 60-deg for the Sun) = $36.21^2 = 1311.28$ "On the next one the 26 degrees is again clear but the 3/4 of a cycle is not. Wouldn't 1 and 1/2 cycles be just as appropriate. "The root of 1207 = $34.742 + 1.644$ (3/4 of a cycle or 270-deg + 26-deg for the Sun) = $36.386^2 = 1323.94$ "

It seems that we are looking at aspects to the price using this equation. The degrees of the Sun for important aspects are converted to their root values and added to the root of the price. The result is then squared. We then look for multiple confirmations. But then how do account for the various odd aspects that were used like 26 degrees and 17 degrees ? How would they be determined ahead of time ?

Perhaps the question is answered in your courses and I just need to study them. Please excuse me if that is true.

In any case if you have any more market examples please send them.

Sincerely,

Mike

Answer:

When you make projections to predict a resistance level, you should use lows and project up. If you are trying to calculate a support level, you use highs and project down. You are looking for price levels that are making negative aspects to the starting prices, i.e., 45-deg, 90-deg, 135-deg, 180-deg, etc. These aspects can be on any ring of the square. Harmonious aspects are allowed, such as 60-deg, 120-deg, 240-deg but I prefer negative aspects for the majority. As you get closer to a date that is projected to be a turn, you limit your calculations based upon the current price levels that are in place. When working with previous tops to project support, you also factor in the longitude traveled by the Sun since the time of the turn. That is where I was getting numbers like 17-deg, 26-deg etc. These numbers were generated because the Sun had moved this amount from a past turn that I was using. I just converted them to roots by dividing them by 180-deg and then I added them to the normal square root aspects. For example, I am expecting a major stock market low on July 12th, 2001 followed by a rally into September. What would I do to come up with a likely support

number for July 12th? In terms of the Square of Nine, I would do all of the following. Since I'm calculating support, I'm going to look at aspects to past highs. Here is a list for the S&P500:

3/24/00 1552.87 to July 12th 2001 the Sun moved 466-deg, which is 106 after rejecting the circle. $106/180 = 0.588$ as a root
 7/17/00 1517.32 to July 12th, the Sun moved 355-deg, which divided by 180 = 1.972 as a root
 9/1/00 1530.09 to July 12th, the Sun moved 311-deg, which gives 1.7277 as a root
 11/6/00 1438.46 to July 12th, the Sun moved 246-deg, which gives 1.366 as a root
 1/31/01 1383.37 to July 12th, the Sun moved 158.5-deg, which gives 0.88 as a root
 5/22/01 1315.93 to July 12th, the Sun moved 48.75-deg, which gives 0.2708 as a root.

Just taking straight aspects to these prices gives the following:

1167.09 is 135-deg to 1552.87
 1170.71 is 225-deg to 1517.32
 1164.73 is 180-deg to 1530.09
 1168.15 is 45-deg to 1438.46
 1169.86 is 180-deg to 1383.37
 1174.88 is 360-deg to 1315.93

The Average of these 6 is $(1167.09+1170.71+1164.73+1168.15+1169.86+1174.88)/6 = \underline{1169.24}$

Setting "zero" as July 12th on the outer calendar wheel gives 165 on the 180-deg, which is also 1165. 172.50 comes out on 225-deg, which is also 1172.50. 1166 comes out on 45-deg and 1180 comes out on a 90-deg angle. The average of all these gives $(1165+1172.5+1166+1180)/4 = \underline{1170.875}$ This already tells me that the low is likely to be between 1169.24 and 1170.88. Now I'll just calculate the aspects taking the solar movement into consideration.

What we are going to do here is converting all the prices from our highs based on the distance the Sun has traveled since the time of the top to our next date. I will do these in the same order as above.

3/24/00 1552.87 root = 39.406 - 0.588 (for Sun) = 38.818 re-square = 1506.837
 7/17/00 1517.32 root = 38.953 - 1.972 (for Sun) = 36.981 re-square = 1367.594
 9/1/00 1530.09 root = 39.116 - 1.7277 (for Sun) = 37.388 re-square = 1397.88
 11/6/00 1438.46 root = 37.927 - 1.366 (for Sun) = 36.561 re-square = 1336.70
 1/31/01 1383.37 root = 37.193 - 0.88 (for Sun) = 36.313 re-square = 1318.63
 5/22/01 1315.93 root = 36.275 - 0.2708 (for Sun) = 36.004 re-square = 1296.30

Now we just take straight aspects to these new prices which take the Sun into account and see what we get.

1178.33 is 270-deg to 1506.837

1172.67 is 225-deg to 1367.594

1165.84 is 135-deg to 1397.88

1160.49 is 270-deg to 1336.70

1177.43 is 360-deg to 1318.63

1173.34 is 45-deg to 1296.30

The Average of these 6 is $(1178.33+1172.67+1165.84+1160.49+1177.43+1173.34)/6$
 $=$ **1171.35**

If I was asked to make a projection for July 12th 2001, I would say that we are likely to find support at **1170.49**, which is the average of $(1169.24+1170.88+1171.35)/3$.

Also, looking at the last low to high swing we see that the S&P made a low at 1081 on 3/22/01 and a high of 1316 on 5/22/01/ The Range = 235 points. Divide by 8 gives 29.375 points per 8th. The 3/8ths support line comes out as $(3 \times 29.375 = 88.125 + 1081 =$ **1169.125**) This is a 5/8ths decline from the 1316 top. If we measure from the higher bottom on 4/4/01 at 1092, we get a range of $(1316 - 1092) = 224$, divide by 8 gives 28 points per 8th. The 3/8ths line comes out as $(3 \times 28 = 84 + 1092 =$ **1176**). The average support number of these two calculations comes out as $(1169.125 + 1176)/2 =$ **1172.56**, which is in line with our other calculations.

Using the angle projection technique from 4/4/01 (This is where the up-trend started), we get the following: The root of 1092 = 33.045. So we look for market turns every 33 days. July 12th is 99 days from April 4th ($3 \times 33 =$ **99**). The 1 X 1 angle would cross the price of $(\text{root of } 1092 = 33.045 + 3 = 36.045 \text{ re-square} = 1299.27)$ **1299.27**. We now have a range of $(1299.27 - 1092) 207.27$ points. Divide by 8 gives 25.909 per 8th. The 3/8ths angle support line crosses $(3 \times 25.909 = 77.727 + 1092 =$ **1169.73**). If you do not understand why I added 3 to the root it was because every 33 days, we move 180-deg in price on the Square of Nine because the root of 1092 = 33. July 12th is 99 days from April 4th, which is the 3rd cycle of 33 days or 540-deg on the Square of Nine, i.e. $(180+180+180 = 540)$. The 1X1 angle coming down from the 5/22/01 top would drop at the rate of 1.987 points per day (Root of 1316 = 36.276 minus 1 = 35.276, re-square = 1244.44. $1316 - 1244.44 = 71.55$ divided by 36-days = 1.987/day).

July 12th is 51 days from May 22nd. Multiplying $51 \times 1.987 = 101.36$. Therefore the 1 X 1 crosses $(1316 - 101.36) 1214.63$ on July 12th. The 60-deg angle would cross at 1180.88 (1.987 divided by $45 = 0.04415$ price/deg ratio multiplied by 60-deg = 2.649 points/day X 51 days = 135.116 pts subtracted from 1316 = 1180.88). This is a price angle that the market must regain to put it back in a more positive position. The 67.5 degree angle crosses at **1163.99** on July 12th. This would be the next support line

if 1170.84 does not hold because 1164.73 is 180-deg to 1530.09 and 1165.84 is 135-deg to 1397.88 (Sun adjusted price) so we have 3 hits in this price area.

The mean of Five Geocentric on 7/12/01 is 209.025 or 29-Libra

The mean of Six Geocentric on 7/12/01 is 216.77 or 6-deg 46-min Scorpio

The Geocentric Cycle of Eight avg. on 7/12/01 is 182.177 or 2-deg 11-min Libra.

If you place the zero line on these outer circle degrees, you get:

1167.96 is on the 315-deg angle from 29-Libra

1170.89 is on the 315-deg angle from 6-deg 46-min Scorpio

1174.82 is on the 0-deg angle from 2-deg 11-min Libra

Average of these 3 is $(1167.96 + 1170.89 + 1174.82)/3 = \underline{1171.22}$, which matches our other calculations.

The mean of Five Heliocentric on 7/12/01 is 207.198 or 27-deg 11-min Libra.

The mean of Six Heliocentric on 7/12/01 is 219.22 or 9-deg 13-min Scorpio.

The Heliocentric Cycle of Eight avg. on 7/12/01 is 253.10 or 13-deg 6-min Sagittarius.

If you place the zero line on these outer circle degrees, you get:

1167.27 is on the 315-deg angle from 27-deg 11-min Libra.

1171.82 is on the 315-deg angle from 9-deg 13-min Scorpio.

1167.62 is on the 270-deg angle from 13-deg 6-min Sagittarius.

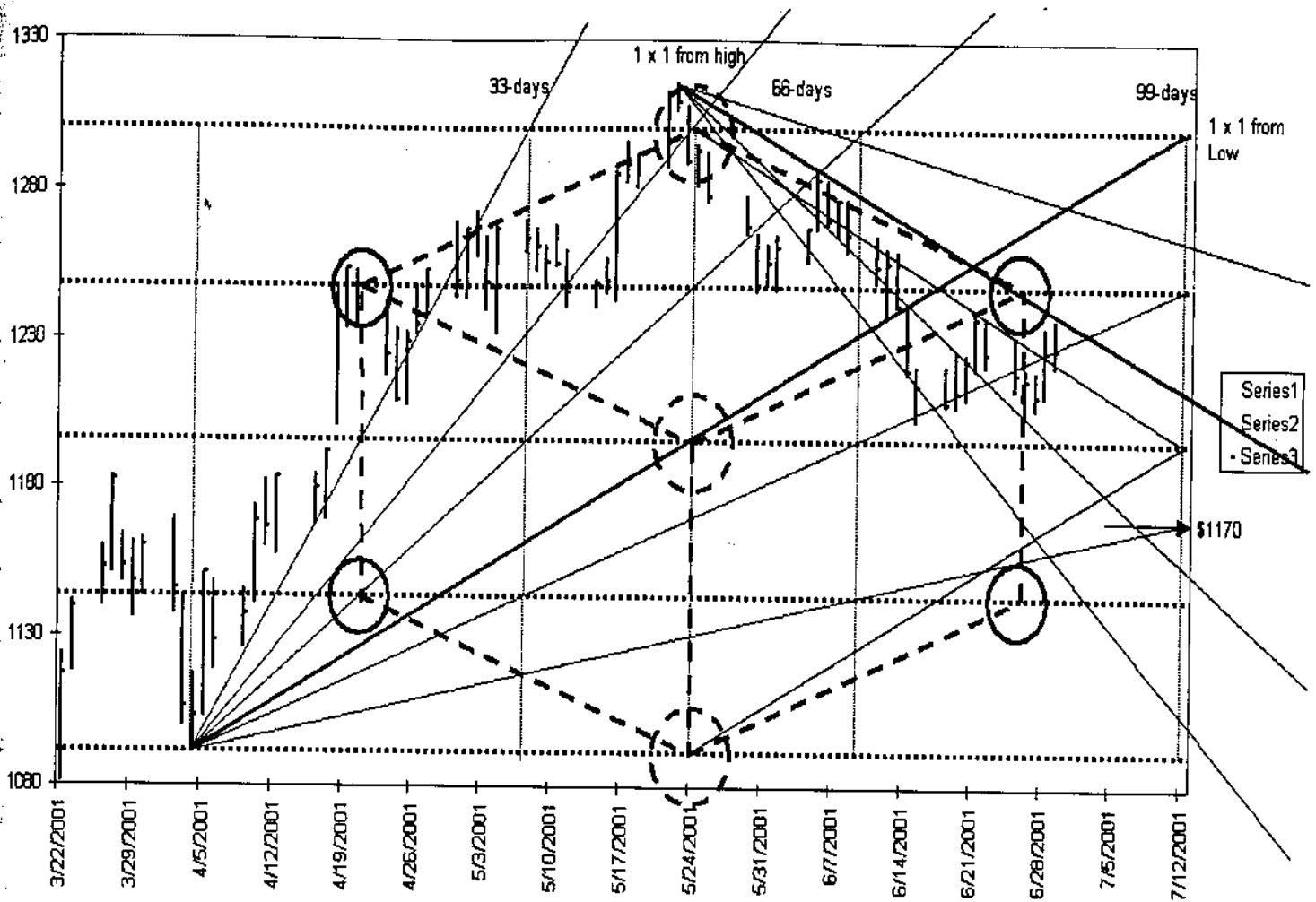
Average of these 3 is $(1167.27 + 1171.82 + 1167.62)/3 = \underline{1168.90}$, which again matches our other calculations. The average of these two $(1171.22 + 1168.90)/2 = \underline{1170.06}$, which supports the original calculations based on past highs.

I hope that this clears things up for you.

Sincerely,

Daniel

Here is a current S&P500 Example of the Angle Projection Technique on Page 30-32



Note that this market is below the 1x1 (dark blue) From the 4/4 low and also below the 1x1 (dark red) from the 5/22 top putting it in a weak position according to angles. The top on 5/22 occurred 270-deg in time or 49 days from 4/4, i.e 33-days - 180 so $\frac{1}{2}$ of 33 = 16.5 or 90-degrees. Added together gives 49.5 days = 270-degrees or Square. The market has met strong resistance at the 1x1 coming down from the 5/22 top. This angle is coming down at the rate of 1.987 points per day based on the square root of the top.

Dan.

710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750									
751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800

Master Price & Time Chart
 for
 Cotton, Coffee, Cocoa, Nois,
 and Grains

MASTER CHART
MAY SOY BEANS
PRICE & TIME

443	442	441	440	439	438	437	436	435	434	433	432	431	430	429	428	427	426	425	424
368	367	366	365	364	363	362	361	360	359	358	357	356	355	354	353	352	351	350	423
369	300	299	298	297	296	295	294	293	292	291	290	289	288	287	286	285	284	349	422
370	301	240	239	238	237	236	235	234	233	232	231	230	229	228	227	226	283	348	421
371	302	241	188	187	186	185	184	183	182	181	180	179	178	177	176	225	282	347	420
372	303	242	189	144	143	142	141	140	139	138	137	136	135	134	175	224	281	346	419
373	304	243	190	145	108	107	106	105	104	103	102	101	100	133	174	223	280	345	418
374	305	244	191	146	109	80	79	78	77	76	75	74	99	132	173	222	279	344	417
375	306	245	192	147	110	81	60	59	58	57	56	73	98	131	172	221	278	343	416
376	307	246	193	148	111	82	61	48	47	46	55	72	97	130	171	220	277	342	415
377	308	247	194	149	112	83	62	49	44	45	54	71	96	129	170	219	276	341	414
378	309	248	195	150	113	84	63	50	51	52	53	70	95	128	169	218	275	340	413
379	310	249	196	151	114	85	64	65	66	67	68	69	94	127	168	217	274	339	412
380	311	250	197	152	115	86	87	88	89	90	91	92	93	126	167	216	273	338	411
381	310	251	198	153	116	117	118	119	120	121	122	123	124	125	166	215	272	337	410
382	313	252	199	154	155	156	157	158	159	160	161	162	163	164	165	214	271	336	409
383	314	253	200	201	202	203	204	205	206	207	208	209	210	211	212	213	270	335	408
384	315	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	334	407
385	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	406
386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405

EVEN SQUARES FOR COTTON & EGGS

Time and Price

North
500

6570	6510	6480	6450	6420	6390	6360	6330	6300	6270	6240	6210	6180	6150	6120
6600	6540	6510	6480	6450	6420	6390	6360	6330	6300	6270	6240	6210	6180	6150
6630	6570	6540	6510	6480	6450	6420	6390	6360	6330	6300	6270	6240	6210	6180
6660	6600	6570	6540	6510	6480	6450	6420	6390	6360	6330	6300	6270	6240	6210
6690	6630	6600	6570	6540	6510	6480	6450	6420	6390	6360	6330	6300	6270	6240
6720	6660	6630	6600	6570	6540	6510	6480	6450	6420	6390	6360	6330	6300	6270
6750	6690	6660	6630	6600	6570	6540	6510	6480	6450	6420	6390	6360	6330	6300
6780	6720	6690	6660	6630	6600	6570	6540	6510	6480	6450	6420	6390	6360	6330
6810	6750	6720	6690	6660	6630	6600	6570	6540	6510	6480	6450	6420	6390	6360
6840	6780	6750	6720	6690	6660	6630	6600	6570	6540	6510	6480	6450	6420	6390
6870	6810	6780	6750	6720	6690	6660	6630	6600	6570	6540	6510	6480	6450	6420
6900	6840	6810	6780	6750	6720	6690	6660	6630	6600	6570	6540	6510	6480	6450
6930	6870	6840	6810	6780	6750	6720	6690	6660	6630	6600	6570	6540	6510	6480
6960	6900	6870	6840	6810	6780	6750	6720	6690	6660	6630	6600	6570	6540	6510
6990	6930	6900	6870	6840	6810	6780	6750	6720	6690	6660	6630	6600	6570	6540
7020	6960	6930	6900	6870	6840	6810	6780	6750	6720	6690	6660	6630	6600	6570

NE 1/8

3/16

5/16

135 1/2

DEC 28 - 1920
 DEC 28 1948 = 336 Months
 APR 28 1949 = 4
 1948-1949 = 3 1/2
 1949 = 3 1/2
 DEC 28 - 1920 - High 60¢
 MAY 2, 1949 = 1921 weeks
 Square 2538 = 444
 " " 39 = 571
 " " 40 = 600
 From 1.38 to 33
 44 = 19 1/4 Weeks
 1/2 = 58 1/2
 19 1/2 = 192 1/2
 1.38 MAY 13 - 1949 = 1980 1/2
 1940 = 4 X 360
 MAY 30, 1949 = 45 Weeks
 in New 300 cycle.

1/8

1/6

0° EAST
360°

5/16

SE 3/8

13/16

1/8

1/6

5/8

1/6

1/6

1/6

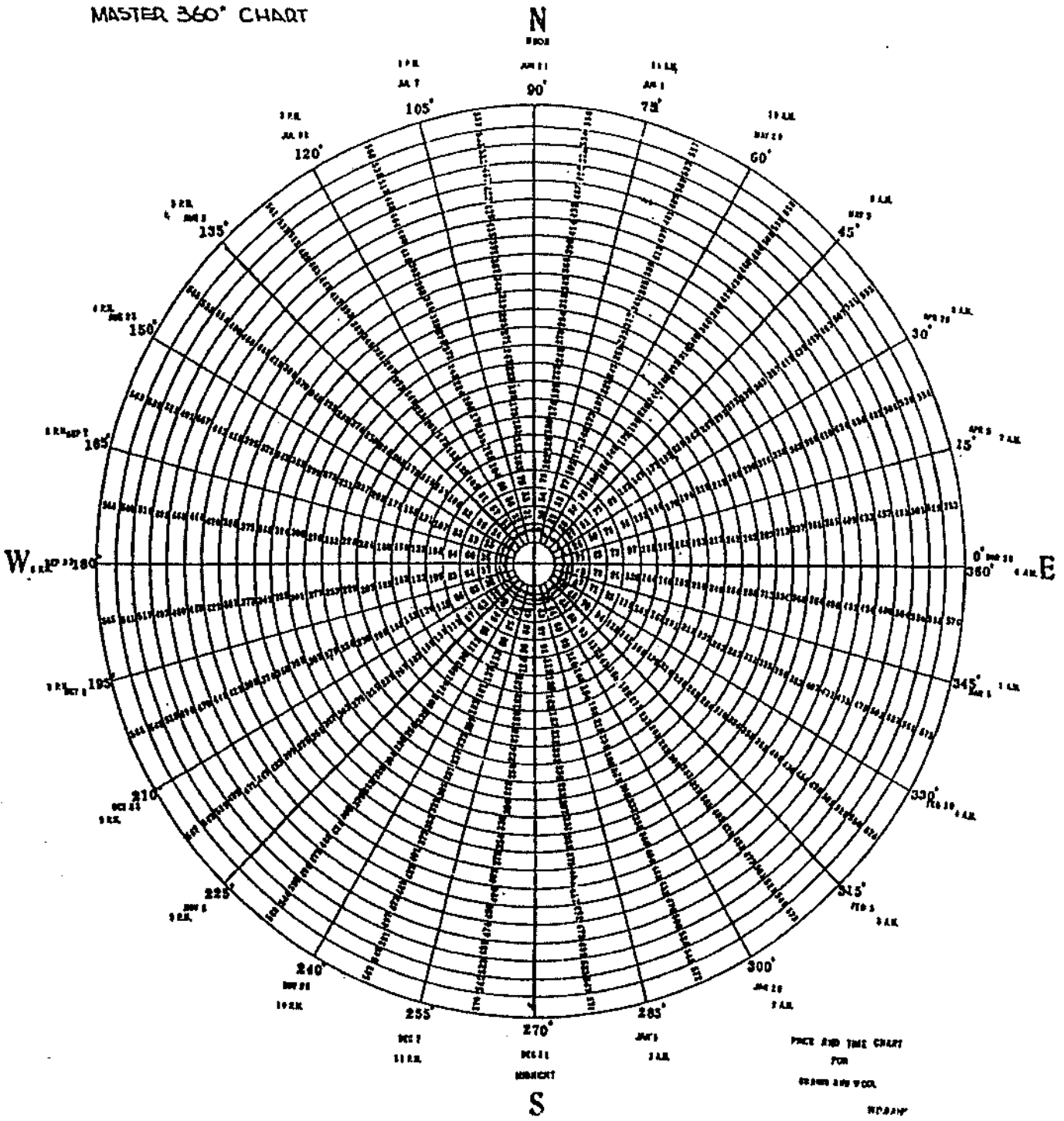
1/6

1/6

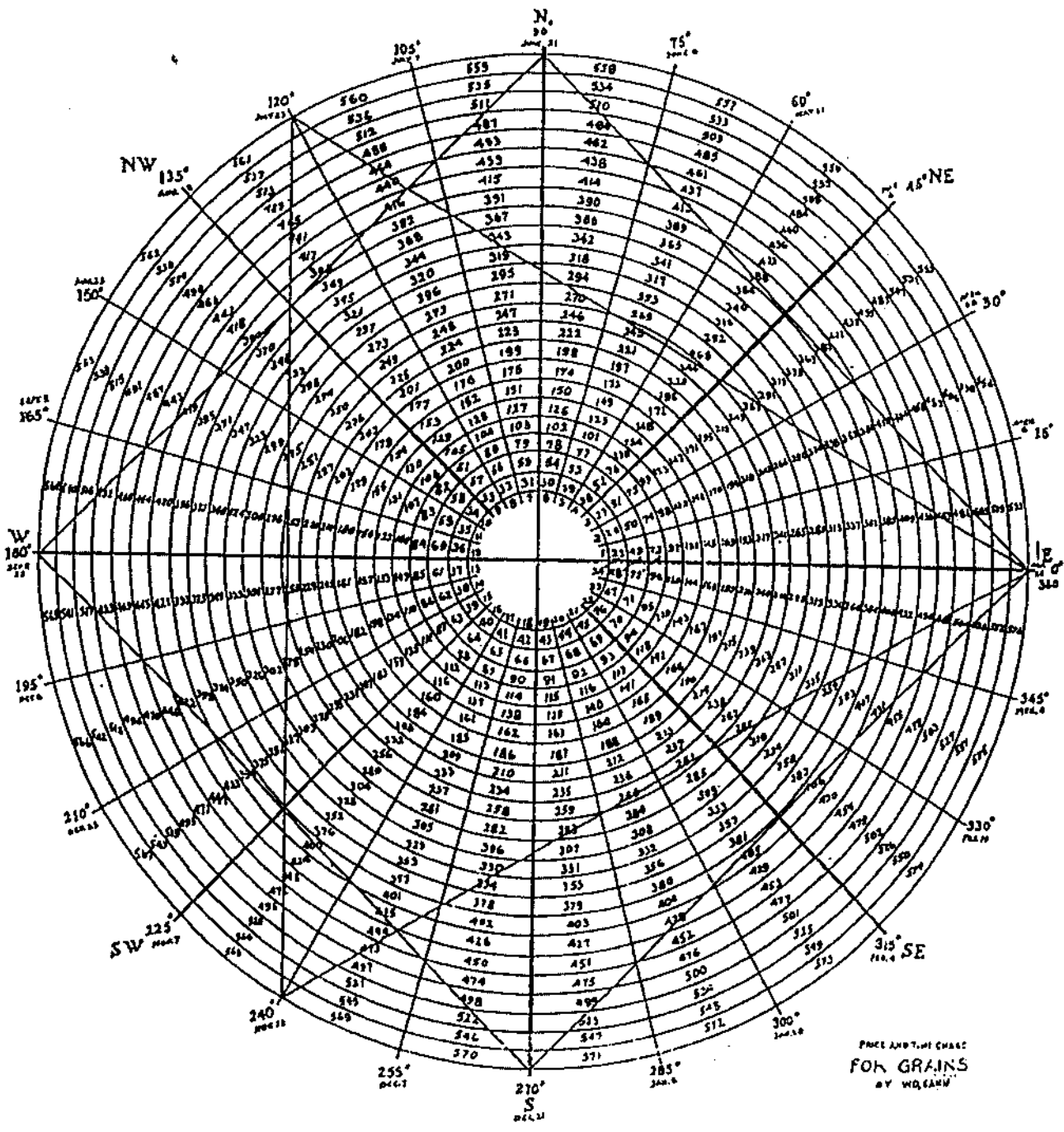
1/6

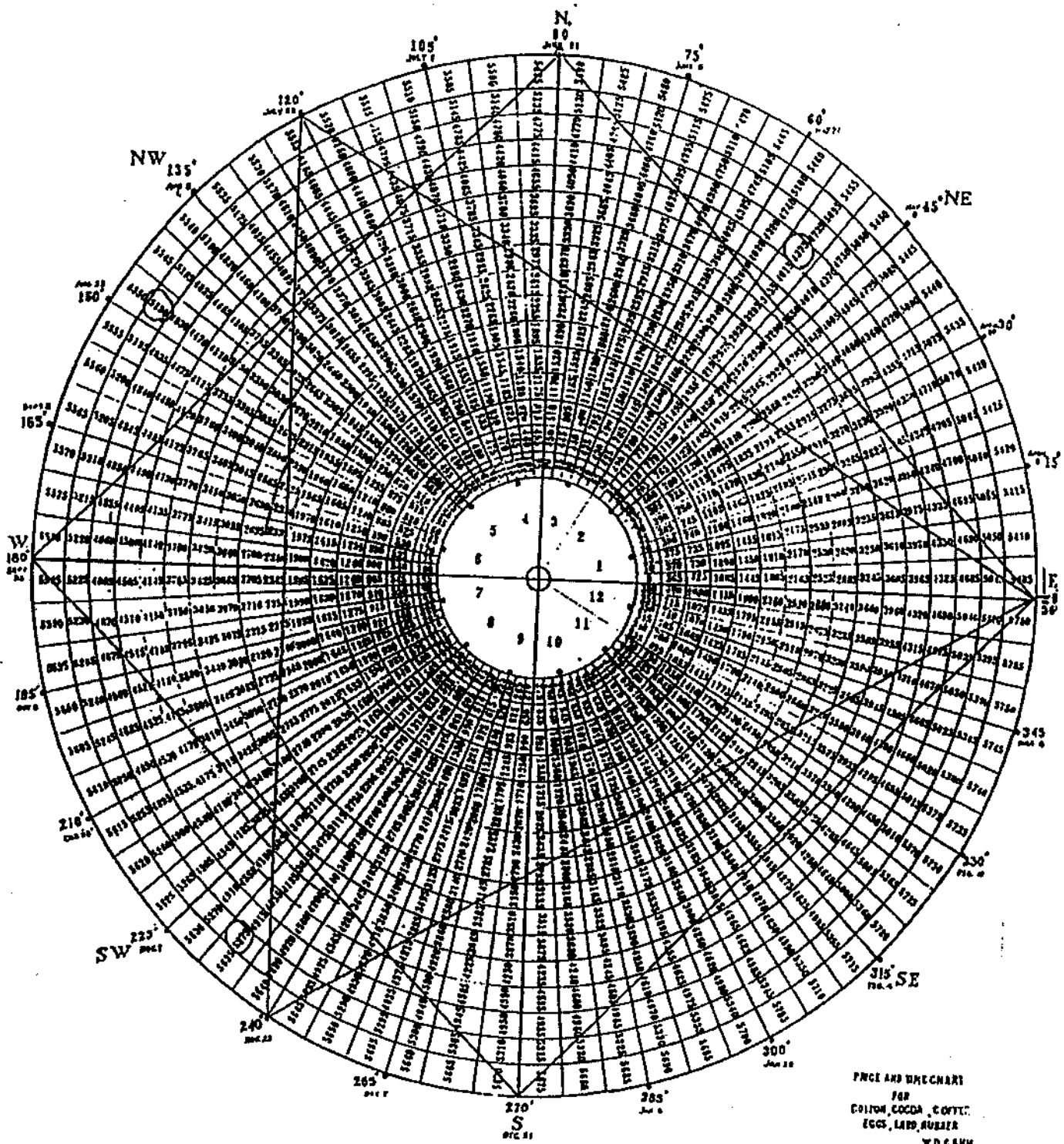
1/6

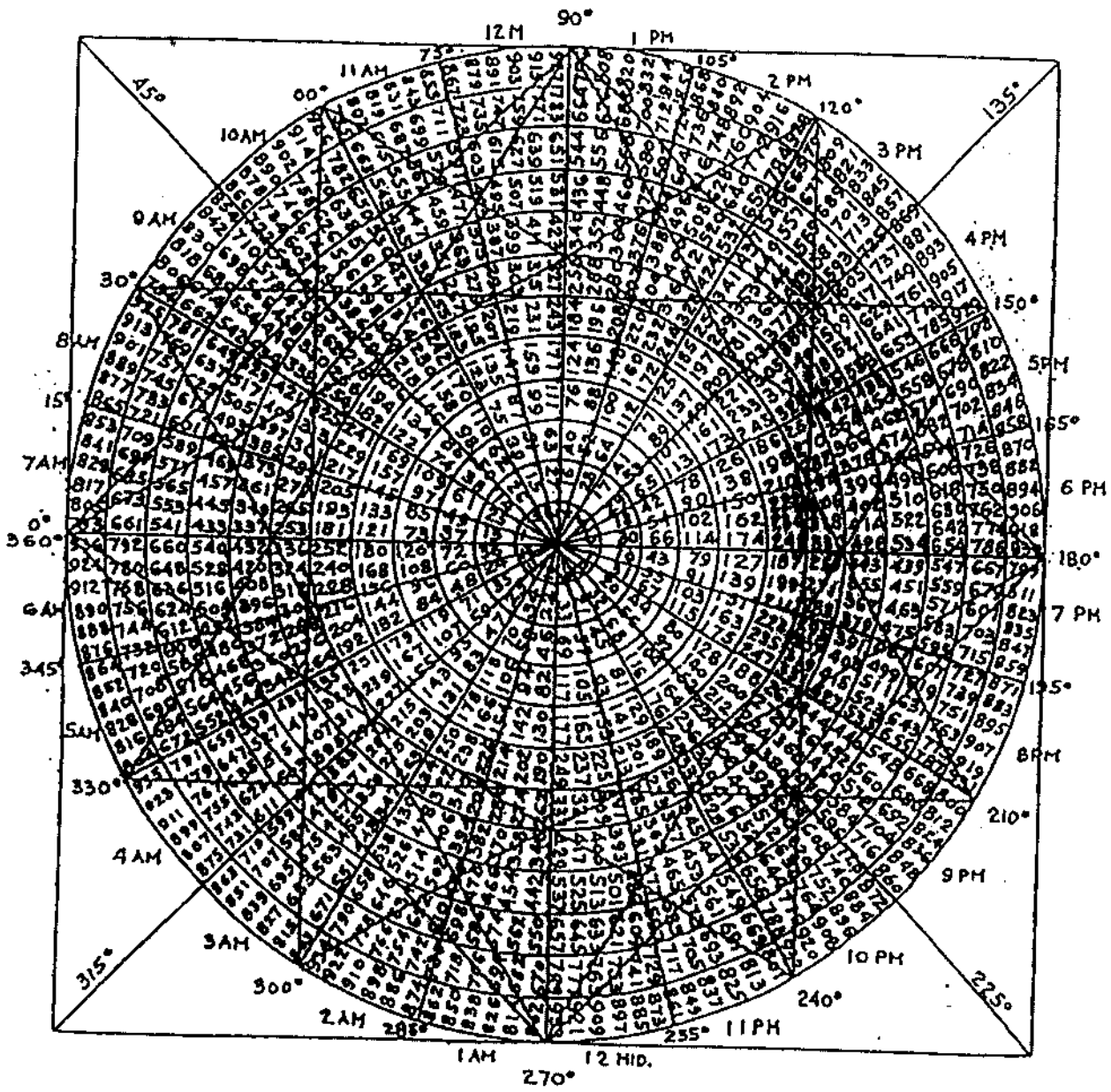
MASTER 360° CHART

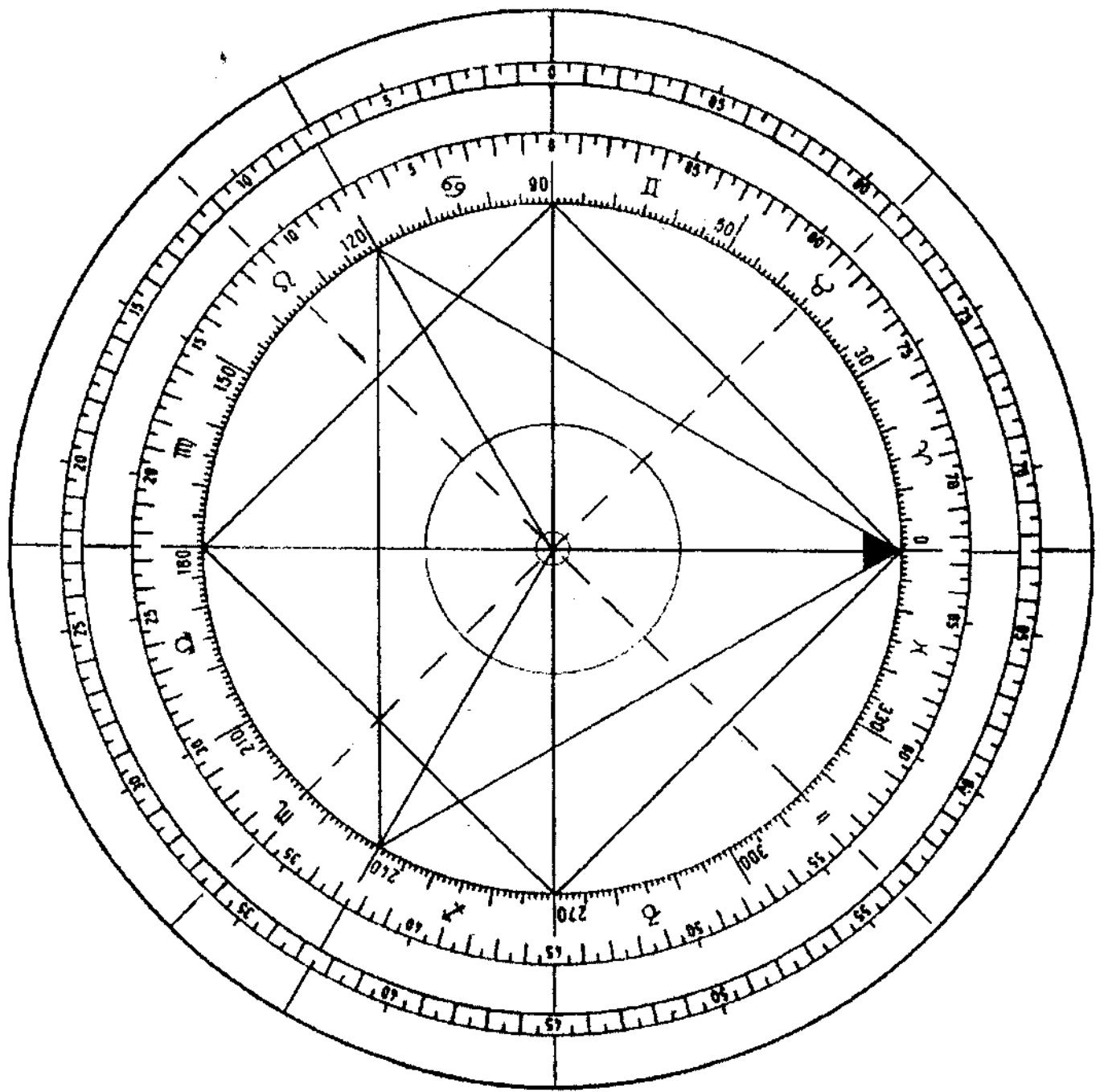


PRICE AND TIME CHART
FOR
WOOL









		MAY 21 MONDAY 6:15										JUNE 11 MONDAY 6:00										JULY 11 MONDAY 6:15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		MAY 21 MONDAY 6:15										JUNE 11 MONDAY 6:00										JULY 11 MONDAY 6:15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		MAY 21 MONDAY 6:15										JUNE 11 MONDAY 6:00										JULY 11 MONDAY 6:15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
992	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	1026																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
991	870	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	902	1027																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
990	869	750	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	1488	1489	1490	1491	1492	1493	1494	1495	1496	1497	1498	1499	1500	1501	1502	1503	1504	1505	1506	1507	1508	1509	1510	1511	1512	1513	1514	1515	1516	1517	1518	1519	1520	1521	1522	1523	1524	1525	1526	1527	1528	1529	1530	1531	1532	1533	1534	1535	1536	1537	1538	1539	1540	1541	1542	1543	1544	1545	1546	1547	1548	1549	1550	1551	1552	1553	1554	1555	1556	1557	1558	1559	1560	1561	1562	1563	1564	1565	1566	1567	1568	1569	1570	1571	1572	1573	1574	1575	1576	1577	1578	1579	1580	1581	1582	1583	1584	1585	1586	1587	1588	1589	1590	1591	1592	1593	1594	1595	1596	1597	1598	1599	1600	1601	1602	1603	1604	1605	1606	1607	1608	1609	1610	1611	1612	1613	1614	1615	1616	1617	1618	1619	1620	1621	1622	1623	1624	1625	1626	1627	1628	1629	1630	1631	1632	1633	1634	1635	1636	1637	1638	1639	1640	1641	1642	1643	1644	1645	1646	1647	1648	1649	1650	1651	1652	1653	1654	1655	1656	1657	1658	1659	1660	1661	1662	1663	1664	1665	1666	1667	1668	1669	1670	1671	1672	1673	1674	1675	1676	1677	1678	1679	1680	1681	1682	1683	1684	1685	1686	1687	1688	1689	1690	1691	1692	1693	1694	1695	1696	1697	1698	1699	1700	1701	1702	1703	1704	1705	1706	1707	1708	1709	1710	1711	1712	1713	1714	1715	1716	1717	1718	1719	1720	1721	1722	1723	1724	1725	1726	1727	1728	1729	1730	1731	1732	1733	1734	1735	1736	1737	1738	1739	1740	1741	1742	1743	1744	1745	1746	1747	1748	1749	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759	1760	1761	1762	1763	1764	1765	1766	1767	1768	1769	1770	1771	1772	1773	1774	1775	1776	1777	1778	1779	1780	1781	1782	1783	1784	1785	1786	1787	1788	1789	1790	1791	1792	1793	1794	1795	1796	1797	1798	1799	1800	1801	1802	1803	1804	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819	1820	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910

RECOMMENDED SUPPLEMENTARY READING LIST
THE GANN'S PYRAMID, SQUARE OF NINE ESSENTIALS
BY DANIEL T. FERRERA

The following titles relate to the contents of the Square of Nine Essentials Course. These titles present background theories from science and metaphysics which relate specifically to the Square of Nine, its origins and uses as a calculator. Most of these books are available through the Sacred Science Institute:

- ❖ ***The Complete Collected Writings Of W. D. Gann Volumes I-V. William Delbert Gann 1909 – 1955.*** Anyone who desires to understand the ideas of W. D. Gann should not be without his complete writings, particularly the stock and commodity courses, wherein all of the basis for his techniques and theories is presented with the greatest elaboration. This set, published by the Sacred Science Institute, is the most complete and best organized collection of Gann's writings from which much of the work in this course was derived, and is recommended as the most useful collection of Gann's writings.
- ❖ ***Magic Squares & Cubes. W. S. Andrews. 1917.*** The most complete collection of writings on every aspect of Magic Squares and Cubes by over a Dozen Excellent Authors. Fundamental for understanding the Logic behind Magical Numerical and Geometric Representational Calculators and Gann's Squares.
- ❖ ***The Temple Of Man: Apet Of The South of Luxor. R. A. Schwaller de Lubicz. Translated From The French By Robert & Deborah Lawlor. 1999.*** This masterpiece, besides containing the most developed presentation of esoteric mathematics and geometry useful for market study, includes a section on the Square of Nine as derived from India and connected with the Temple of Luxor.
- ❖ ***An Important Question In Metrology. Charles Totten. 1884.*** A very important work on metrology (the sacred science of measure) with a particularly important appendix on the 5x5 square (the basis of Gann's square of nine) as the basis of the great pyramid & as a template for squaring the circle.
- ❖ ***The Intrinsic Harmony Of Number, Parts I-IV. Part I The Magic Squares of Benjamin Franklin. Part II The Magic Squares Of The Fifth & Seventh Orders. Part III Magic Squares of The Orders Three-Six-Nine & Twelve. Part IV The Auxiliary Square. Clarence C. Marker. 1940-41.*** A very original and detailed work on number squares and their mathematical significance.
- ❖ ***The Cosmological Freemasonry of Frank Higgins. The Cross Of The Magi, An Unveiling of The Greatest Of All Ancient Mysteries. A.U.M. "The Lost Word". The Beginning Of Masoary, Forty Papers On the Hidden Mysteries Of Ancient Freemasonry. Frank C. Higgins. 1912-16.*** These writings are amongst the best geometrical, mathematical, & arithmetical unveilings of the secret Freemasonic cosmological science including the use of mathematical squares as calculators.
- ❖ ***Science Based Upon Symmetry. Chakravorty. 1974.*** An interesting work on how the 5 x 5 square works as a mathematical calculator to solve many forms of mathematical and scientific problems.
- ❖ ***The Hindu Temple, 2 Volumes. Stella Kramrisch. 1976.*** An excellent work on the symbolism of Hindu Temple architecture, giving us one of the oldest examples of the Square of Nine with its symbolism and meaning. An essential work!
- ❖ ***The Book Of Magic Squares, 3 Volumes. Jain. 2001.*** An excellent presentation of magic squares, their properties, meanings, how to create them and use them as number calculators.
- ❖ ***The Cosmological Freemasonry of Frank Higgins. 1912-16.*** This important work contains many excellent keys to geometric and numerical calculators used in Gann work.
- ❖ ***Io Unveiled. Bozena Brydlova. 1922.*** Very important work on number theory, not to be missed!