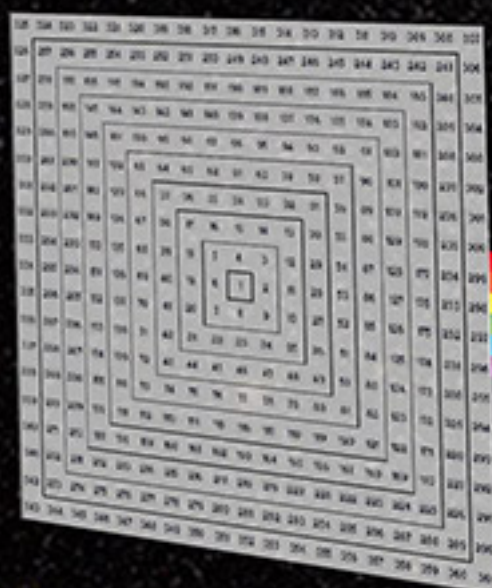


How the Square of 9 Works in Trading



JEFF COOPER'S
HIT AND RUN
TRADING

Table of Contents

- 4. About Jeff Cooper
- 5. The Light Bulb...
- 6. What Is the Square of 9?
- 10. Finding Moves on the Square of 9
- 14. Time and Price
- 17. Measuring Trends in GDXJ
- 19. Applying the Square of 9
- 23. Finding Major Turns with the Square of 9
- 27. Mastering Time/Price Relationships
- 31. Using the Square for Smaller Turning Points
- 34: Time and Price Examples
- 49. Square of 9 with IPOs
- 52. Using the Square with Low-Priced Stocks
- 55. Conclusion

“Bull markets are easy to make money in, however, in a bear can you make \$56,715 or 22.4% in 12 months? Using my Sq of 9 Wheel & the methods Jeff Cooper taught me has allowed me to get within \$200k of my 401k retirement goal in 2022. This year I'm already up 6.2k!”

- Matt Maciejewski

About Jeff Cooper



Jeff Cooper began his trading career at Drexel Burnham in 1981. In 1986, Cooper went out on his own, choosing to trade exclusively for himself.

After establishing a successful career as a private trader, he went on to write two best-selling books: *Hit and Run Trading: The Short-Term Traders' Bible* and *Hit and Run Trading 2: Capturing Explosive Short-Term Moves in Stocks*.

Today, Jeff trades from his home in Malibu, California, and authors [Hit and Run Trading](#) for hundreds of professional traders, portfolio managers, and individual investors across the globe.

Jeff has studied W.D. Gann's Square of 9 Wheel for decades. And it's become a cornerstone of Jeff's arsenal of unconventional trading weapons.

And in this eBook, you'll learn all about it. So turn the page and start learning!

The Light Bulb...

“Gann can compound money faster than any man I have ever met.”

-Richard D. Wyckoff

The Square of 9 or Square of 9 Wheel is one of the most mysterious and popular market tools of legendary trader W.D. Gann, a financial advisor and trader in the stock and commodity markets during the first half of the 20th century.

My introduction to Gann’s methods started with a series of lectures in the late 1980’s given by a professor of physics at USC who had an avid interest in the markets.

I was inspired to learn how to use the Square of 9 by this course where I first was introduced to Gann’s concept that markets were proportional and symmetrical – geometrical as opposed to random.

It was during my research for a course I created called *Unlocking the Profits of the New Swing Chart Method*, where I analyzed every major swing in the **SPX** from 1941, that a light bulb really went on. I could see the synchronicity between time and price that repeated over and over again.

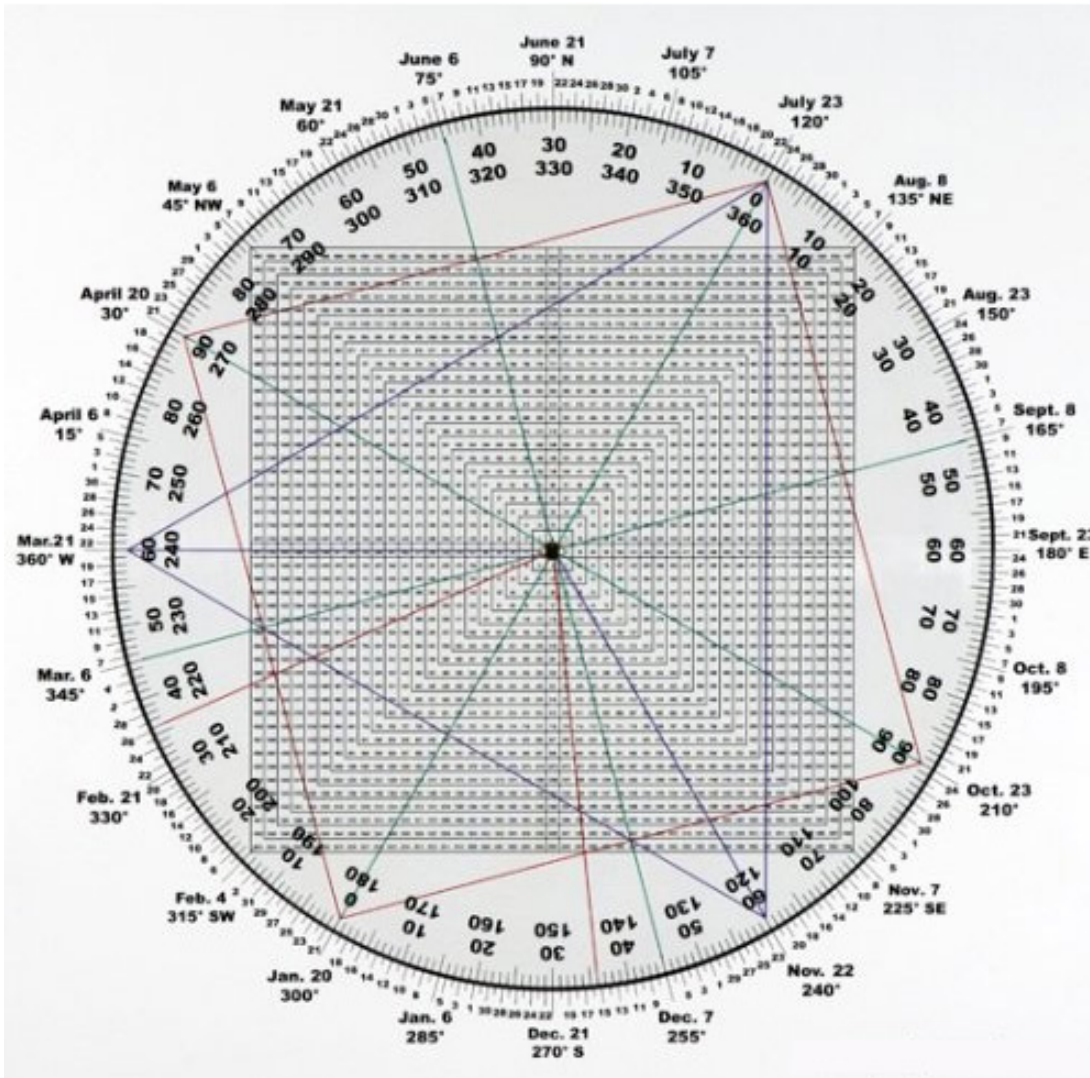
I could see unequivocally how time and price balanced out or squared-out creating a change in trend that the Square of 9 could pinpoint.

What is the Square of 9?

The Square of 9 is a spiral of numbers starting with the number one in the center. The numbers spiral around the center in a clockwise manner to the number 9, which completes the first cycle or square of numbers around the center. Hence, it is called the Square of 9.

307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325				
306	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	326				
305	240	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	258	327				
304	239	182	183	184	135	136	137	138	139	140	141	142	143	144	145	198	259	328				
303	238	181	132	91	92	93	94	95	96	97	98	99	100	101	146	199	260	329				
302	237	180	131	90	87	88	89	90	61	62	63	64	65	102	147	200	261	330				
301	236	179	130	89	86	87	88	89	32	33	34	35	36	37	66	103	148	201	262	331		
300	235	178	129	88	85	86	87	88	13	14	15	16	17	38	67	104	149	202	263	332		
299	234	177	128	87	84	85	86	87	4	5	6	7	8	39	68	105	150	203	264	333		
298	233	176	127	86	83	84	85	86	1	2	3	4	5	6	19	40	69	106	151	204	265	334
297	232	175	126	85	82	83	84	85	8	9	10	11	12	20	41	70	107	152	205	266	335	
296	231	174	125	84	81	82	83	84	24	23	22	21	20	42	71	108	153	206	267	336		
295	230	173	124	83	80	81	82	83	48	47	46	45	44	43	72	109	154	207	268	337		
294	229	172	123	82	79	80	79	78	77	76	75	74	73	72	110	155	208	269	338			
293	228	171	122	81	80	119	118	117	116	115	114	113	112	111	156	209	270	339				
292	227	170	169	168	167	166	165	164	163	162	161	160	159	158	157	210	271	340				
291	226	225	224	223	222	221	220	219	218	217	216	215	214	213	212	211	272	341				
290	289	288	287	286	285	284	283	282	281	280	279	278	277	276	275	274	273	342				
361	360	359	358	357	356	355	354	353	352	351	350	349	348	347	346	345	344	343				

Circumscribed around this spiral number grid are the dates of the year

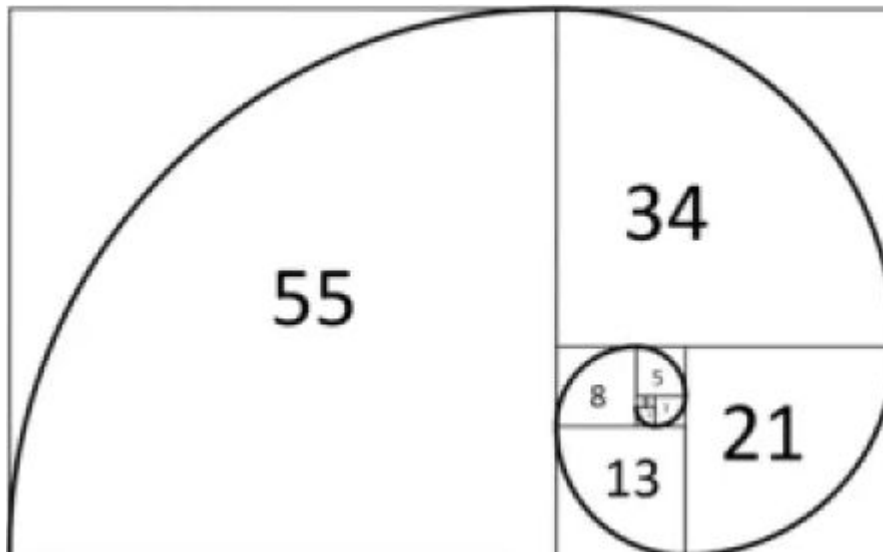


The true origin of the Square of 9 is unknown, but we know for certain is that Gann used the Square of 9 and considered it very valuable.

The concept behind the Square of 9 is that growth is not linear. Rather, it occurs in a spiral fashion.

Many traders are familiar with the use of the Fibonacci sequence of numbers as a way to measure market moves.

A Fibonacci spiral is, in effect, a series of quarter-circles (90 degrees) drawn inside an array of SQUARES representing the Golden Mean.



Notice the Fibonacci spiral itself forms a number 9, resembling the natural vortex shape of a nautilus and the Milky Way.

So this is the basis for the concept of the Principle of Squares and the idea that growth occurs in an expanding spiral as opposed to a linear fashion.

This is clearly depicted in the chart of a strongly trending market as it pulls back before resuming its underlying trend.

The Square of 9 is very important because nine digits are used to measure everything. We cannot go beyond 9 without starting to repeat and using 0.

Gann believed the market was geometric, not happenstance. He said, “We use three figures in geometry: the circle, the square, and the triangle.

We get the square and the 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 methods revolved around measuring the natural divisions of the year — particularly the 90, 180, and 270 ‘natural’ divisions of the 360 degree year.

The term ‘degrees’ is used by Gann interchangeably with ‘days’ (or when specified with weeks, months, or years as in 90 weeks, months, or years) — an extension of the concept that time is geometric in nature.

A year is a 360 degree movement of the Earth around the Sun and is measured by a similar (though not exact) number of ‘days’.

A single day represents slightly less than a single degree (.9856) — but close enough for our purpose.

The primary divisions of a circle are the 90 and 180 degrees, which equate to the primary divisions of a year — 90 degree seasons and 180 degrees between opposing solstices and/or equinoxes.

Finding Moves on the Square of 9

The term 'square' is used by Gann in many ways.

Squaring means time and/or price have balanced out or squared out, which we will explain later.

Square-outs also refer to the Principle of Squares or square roots.

Legendary money manager John Templeton, one of the most successful investors ever, stated, *"The fluctuation of share prices is roughly proportional to the square root of the price."*

Here is how the Square of 9 becomes a calculator to measure these fluctuations.

As we noted above, the number 9 ends the first cycle on the Square of 9 Wheel.

If you want to determine the next full price cycle of 360 degrees or one full square higher, you take the square root of 9, which is 3, and add 2, getting 5, and then re-square, which gives 25.

Hence, on the Square of 9, the number 25 is directly above the number 9. It is one cycle of 360 degrees or 1 square higher.

Let's use **GDXJ** in the last year (2018-2019) as an example.

GDXJ struck a low of 26 in late September 2018 and turned up.



Based on the number 26, what are the price objectives using the Square of 9 Wheel?

The square root of 26 is 5.10.

Let's find a 180 degree move:

A) Take the square root of 26, which is 5.10

B) Add 1 to get 6.10

C) Re-square 6.10, getting 37.21.

To find a 90 degree move, we take 5.10 and add .50 and re-square, getting 31.36.

A 360 degree price projection is determined by adding 2 to the square root of the low, then re-squaring ($5.10 + 2 = 7.10$ with 7.10 squared giving 50.40).

This gives a potential target of 50.40 IF it is determined that an impulsive change in trend is in playing out following the low.

Based on the powerful impulsive nature of GDXJ's move off its May 2018 low, a 360 degree minimum move (ultimately) is the logical expectation.

However, we don't know WHEN that projection will be satisfied.

Consequently, we want to also look at the behavior at the 90, 180, and 270 degree projections in order to gauge the move.

If you can't measure a trend, you can't manage risk.

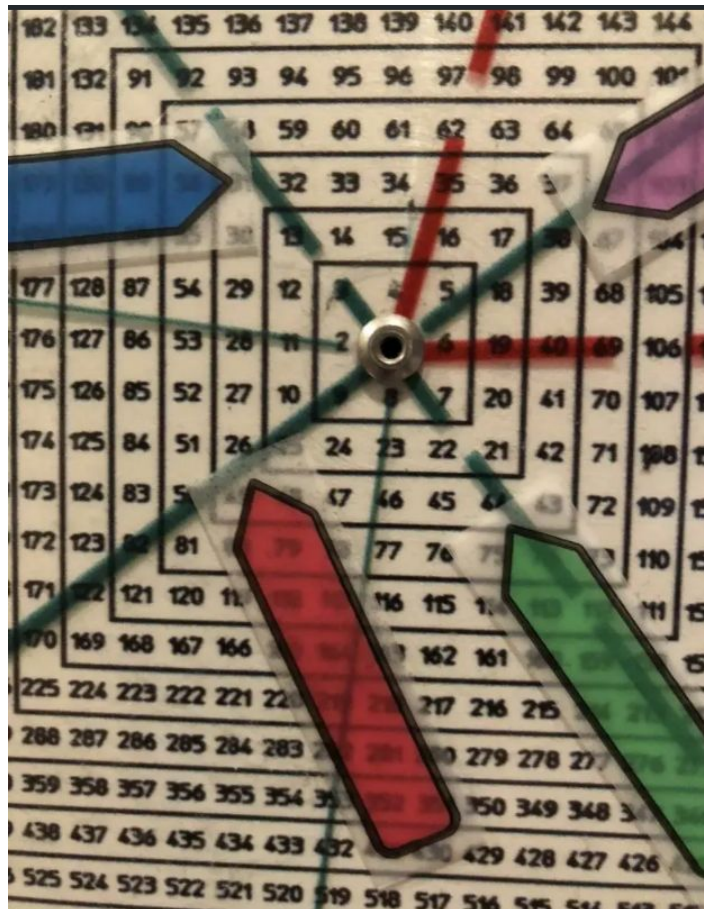
Looking at how this is represented on a physical Square of 9 Wheel shows these relationships immediately.

The first projection is 90 degrees up to 32.

180 degrees up is 38.

270 degrees up (3 squares of 90 degrees) is 44.

A full 360 degree price cycle up is 50.40, which is just above 26 on the number grid.



On the daily GDXJ above, we can see how things played out.

GDXJ cleared 32 but topped at 35, shy of the 37/38 projection.

Time and Price

There must be something else going on.

There is.

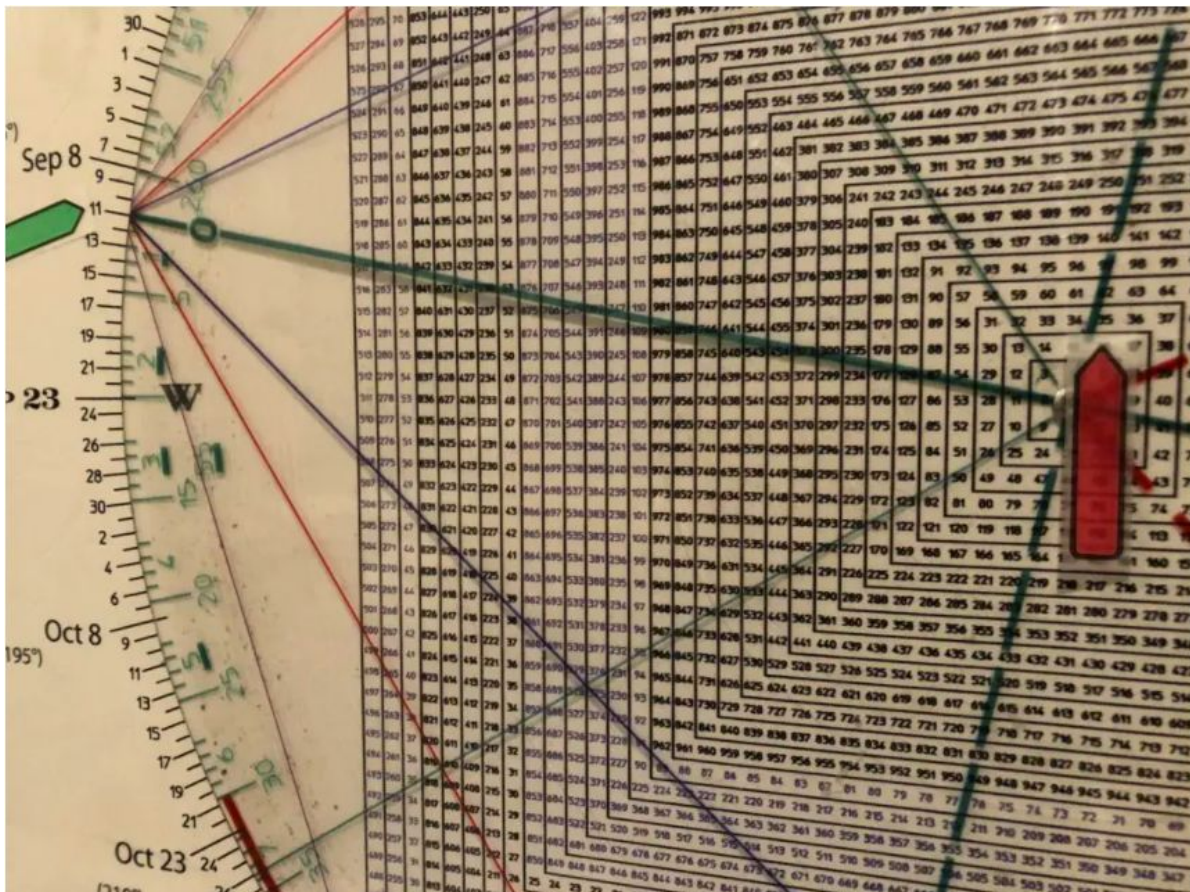
It is the correlation between time and price.

I've never seen any traders use the Square of 9 Wheel the way I do – marrying time and price.

While it is meaningful to look at price and time independently in their 90 degree movements, in my experience, it is the marrying of TIME & PRICE that often pinpoints turns.

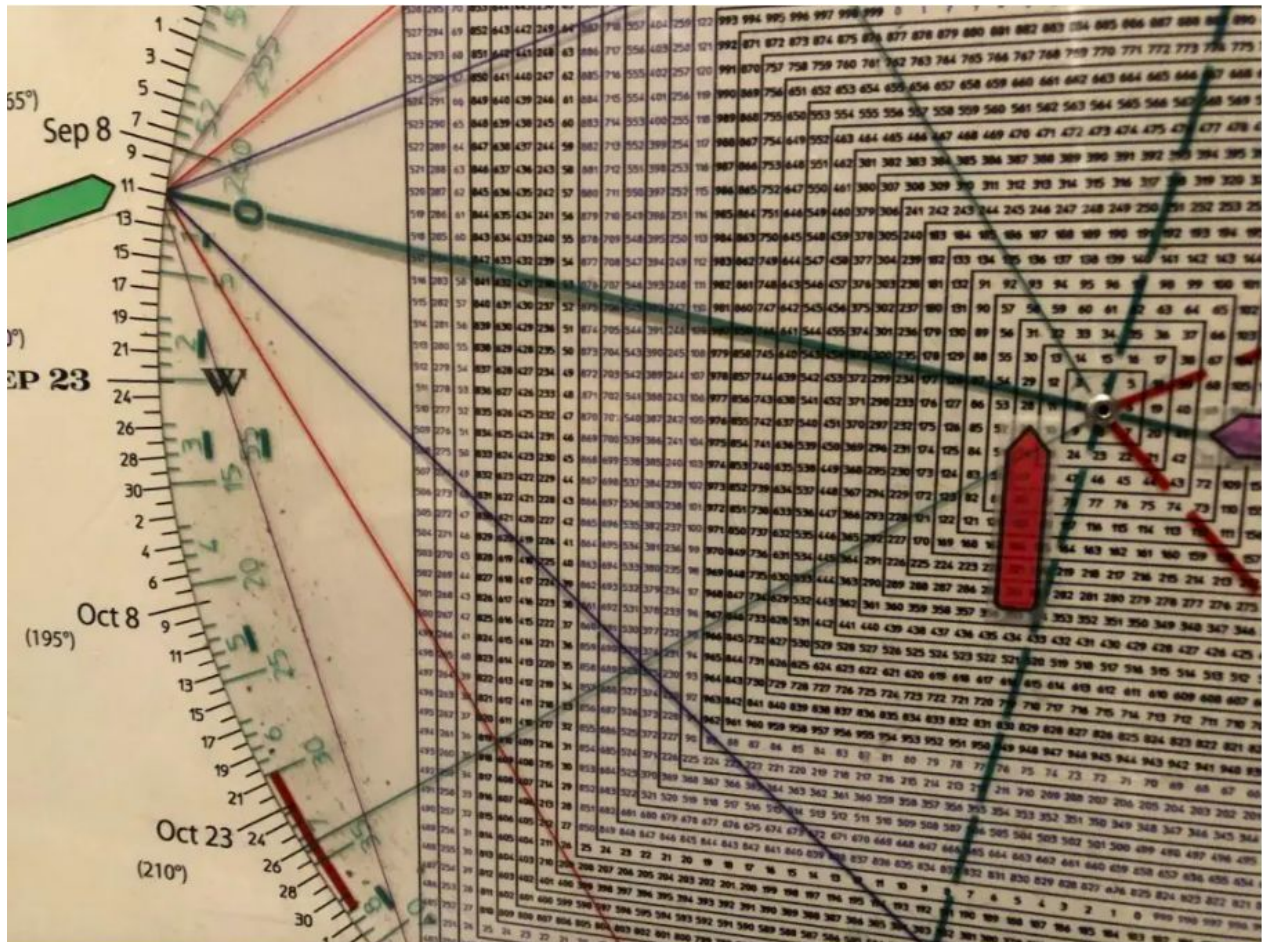
In the example of GDJX, the date of the September 11, 2018 low is 90 degrees square the 35 price high.

September 11 is square 35.



The next pullback struck a low of 28, which vectors/aligns with September 11 for a balance-out or time/price square-out.

Opposite September 11 is a price of 41.



However, GDXJ hit 43.10 on August 7 and has been correcting ever since.

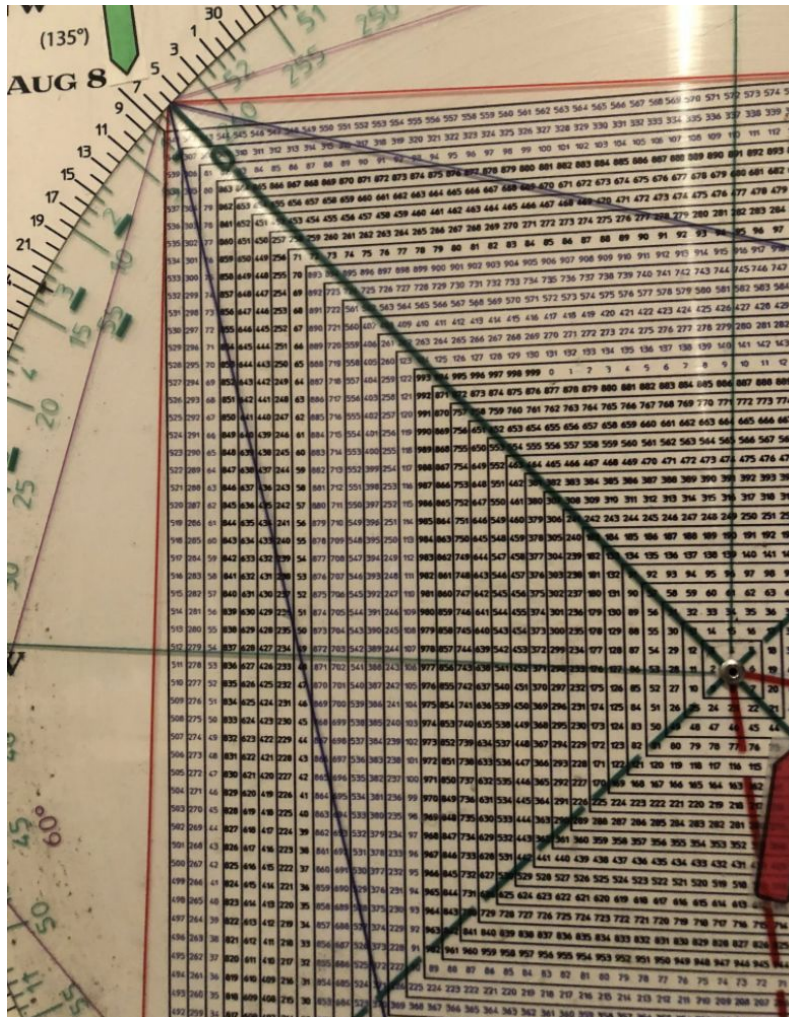
Why did GDXJ eclipse the theoretical resistance of 41?

Was there something 'off' on the Wheel?

Did not clearing 41 signal a price projection to the 50.40 region?

The answer is that August 7 is 180 degrees straight across and opposite 43, the high on August 7.

So there was a time/price square-out at the August high.



Green arrow is Aug 7

Red arrow is 43

You can see how important TIME is in determining turning points and defining the trend.

While the vast majority of market participants use PRICE exclusively, as Gann stated, *"Time is the most important factor in determining market movements."*

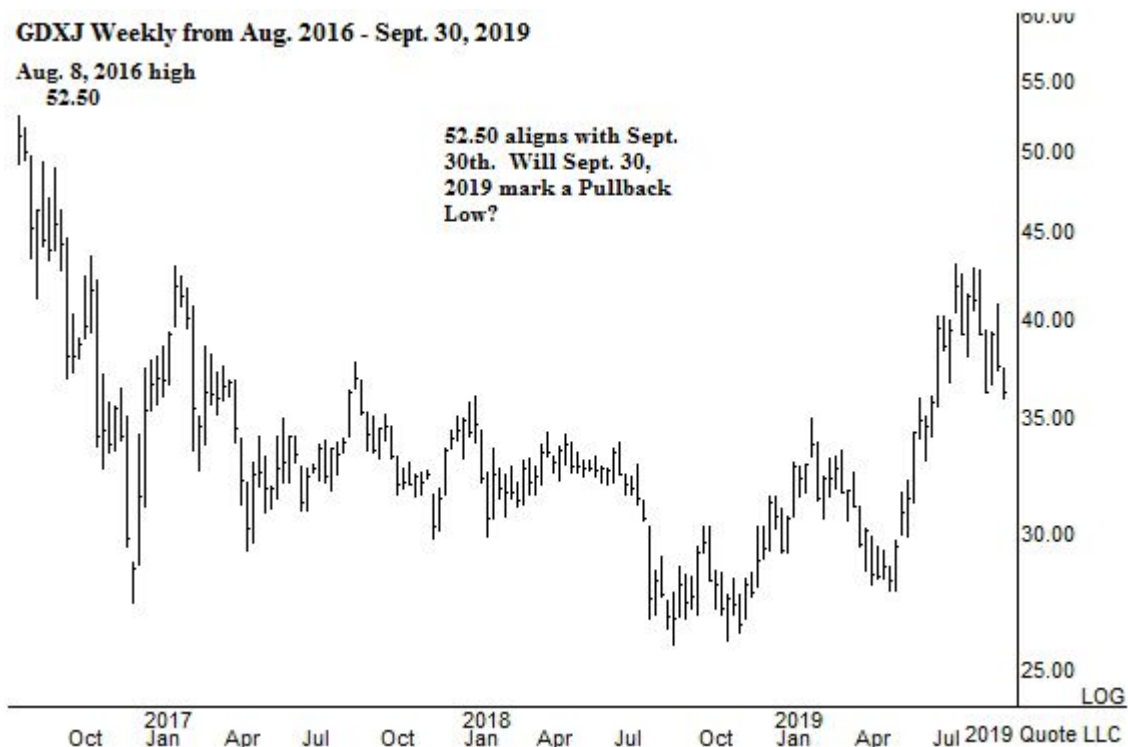
It must also be said that while we are looking at geometric relationships, the essential technique of the Square of 9 Wheel is as much art as science; the analysis of the market being more of a Picasso than a Rembrandt.

Measuring Trends in GDXJ

Additionally, in measuring the market, we must always look from below and from above.

In other words, we must consider the low at which a trend started, as well as the prior major swing high.

There are always multiple time and price relationships working out concurrently. In the example of GDXJ, you want to measure from the primary low of 26, the secondary low of 28 (May 22, 2019), as well as from the the prior major swing high, which in the case of GDXJ was 52.50 on the WEEK of August 8, 2016.

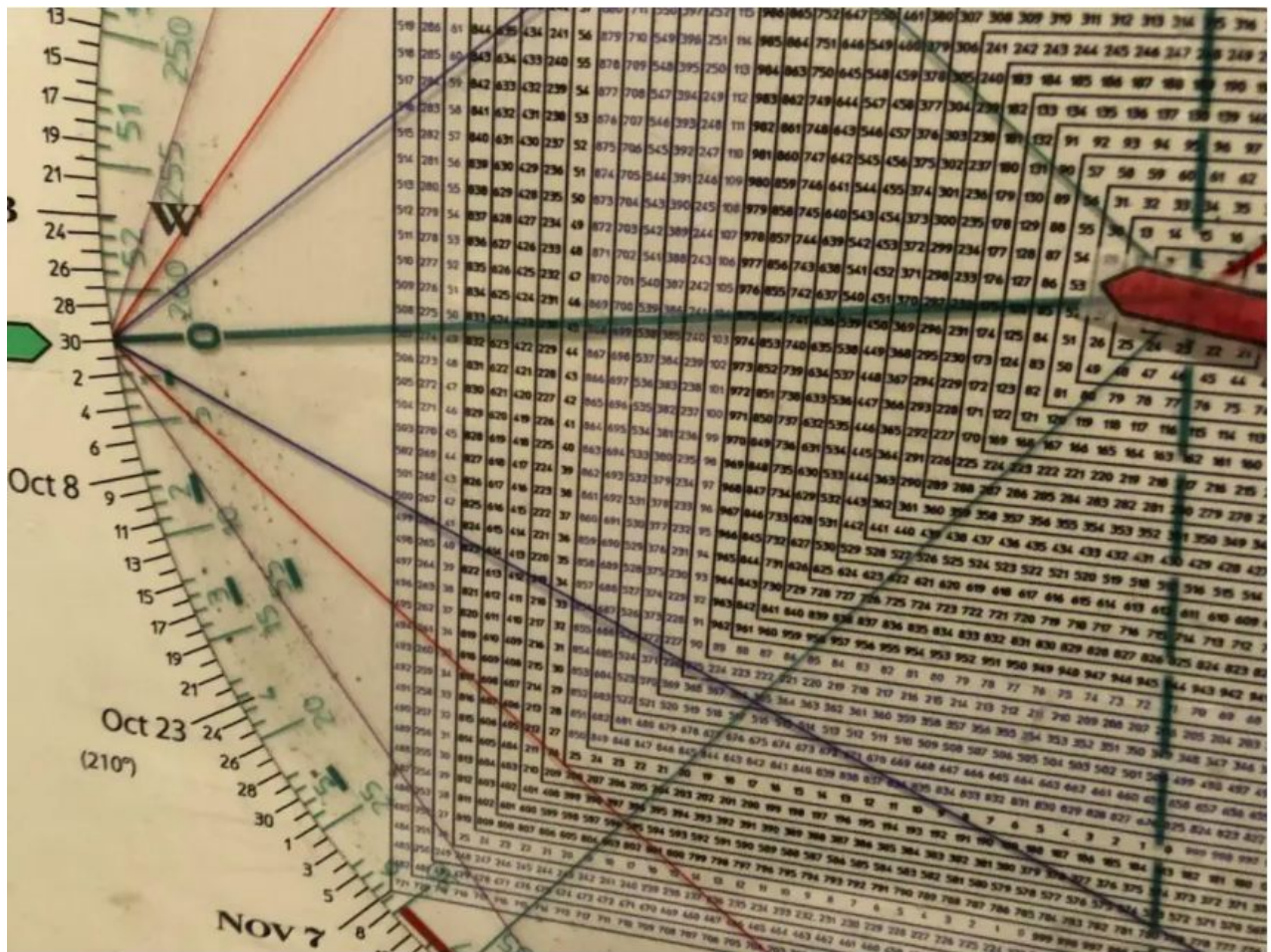


It is fascinating that the week of the 2016 top ties to the date of the high for the move so far in 2019 on August 7.

Checking a Square of 9 shows that 52.50 "points" to September 30.

GDXJ was in a sharp pullback since August 7 until September 30, 2019.

Is it possible GDXJ struck an important low on September 30?



Green arrow points to Sept 30

Red arrow points to 52.50

Applying the Square of 9

The answer to reconciling what seems to be the enigma of the Square of 9 is actually very simple.

Every day, I take the 'zero' point on the clear overlay that spins around the Wheel, allowing it to act as a dynamic calculator, and put 'zero' on that day.

Doing so on August 7 would have revealed that GDXJ may be striking a high at 43. As shown above on August 7, GDXJ let a signal bar reversal day underscore the notion of a time/price square-out — 'proving' the idea of a turning point.

Let's look at a big picture example of the major 2007 October bull market high on the **SPX**.

On October 11, 2007, the SPX topped at 1576.

Below is a weekly SPX showing the October 11, 2007 top at 1576 and the March 6, 2009 low at 666.

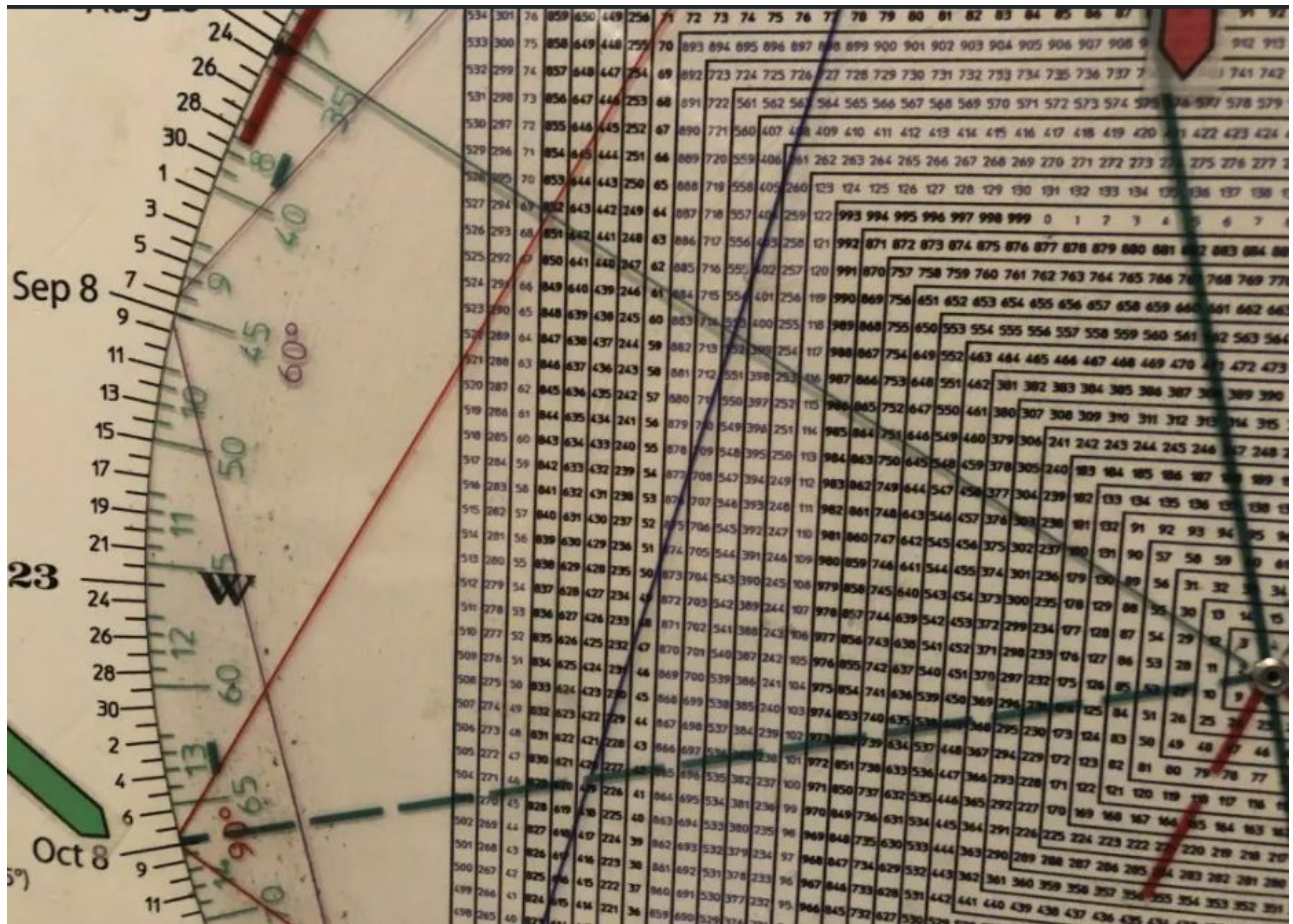


On the Square of 9, the number 1576 is 90 degrees square October 8.

The high close was on October 7.

Remember, the market is not a fine Swiss watch.

Gann always said to key off the weekly chart, i.e., the WEEK OF.



Red arrow is 576 (for 1576)

Green arrow is Oct 8

Confirming the idea of a square-out at the Oct 2007 high was the Key Reversal Day on October 11, 2007.

Here's how the bear market was calculated using the Principle of Squares.

The square root of 1576 is 39.7.

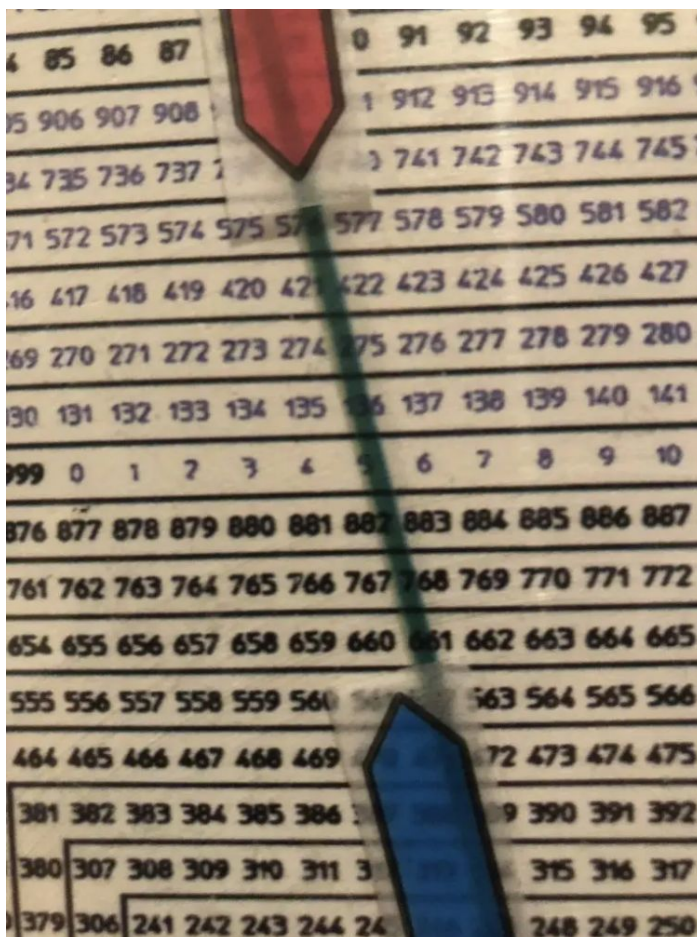
To determine 1 cycle of 360 degrees down in price, we subtract 2 from 39.70, giving 37.70, and re-square, getting 1421.

Notice that the pre-crash pivot high from May 2008 was 1425-1440.

The market crashed from this 1421 region.

W.D. Gann said 7 is the number of panic.

From 1576, the SPX tumbled SEVEN squares or cycles or 360 degrees.



Red arrow is 576 (for 1576)

Blue arrow is 660

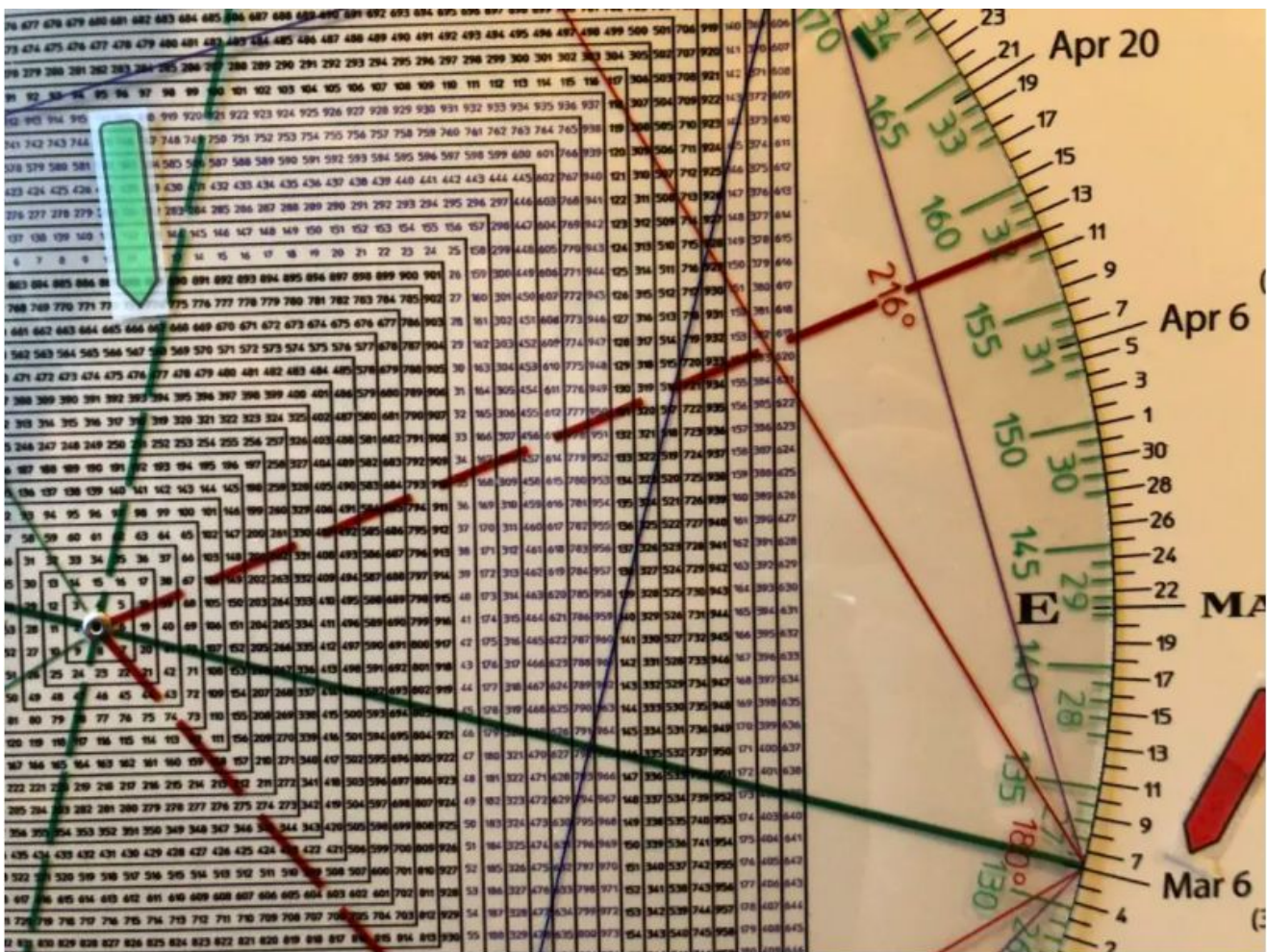
Here's how we get 7 cycles down.

We take the 38.70 square root of the high (1576) and subtract 14 (remember we need to use 2 units for each 360 degree move).

$$39.7 - 14 = 25.7$$

$$25.7 \text{ squared} = 660.49.$$

The bear market low on March 6, 2009 was 666.65.



Red arrow is March 6

Green arrow is 666/667

Finding Major Turns with the Square of 9

When looking for major turns using the Square of 9, it is good to have important confirmation.

As offered above, every day I look at the possible time/price relationships by putting “zero” on the current day.

Coming into early March in 2009, as you got to March 6, you would notice that 666/667 is 90 degrees square March 6 for a perfected square-out.

And near 7 cycles in price down from the top.

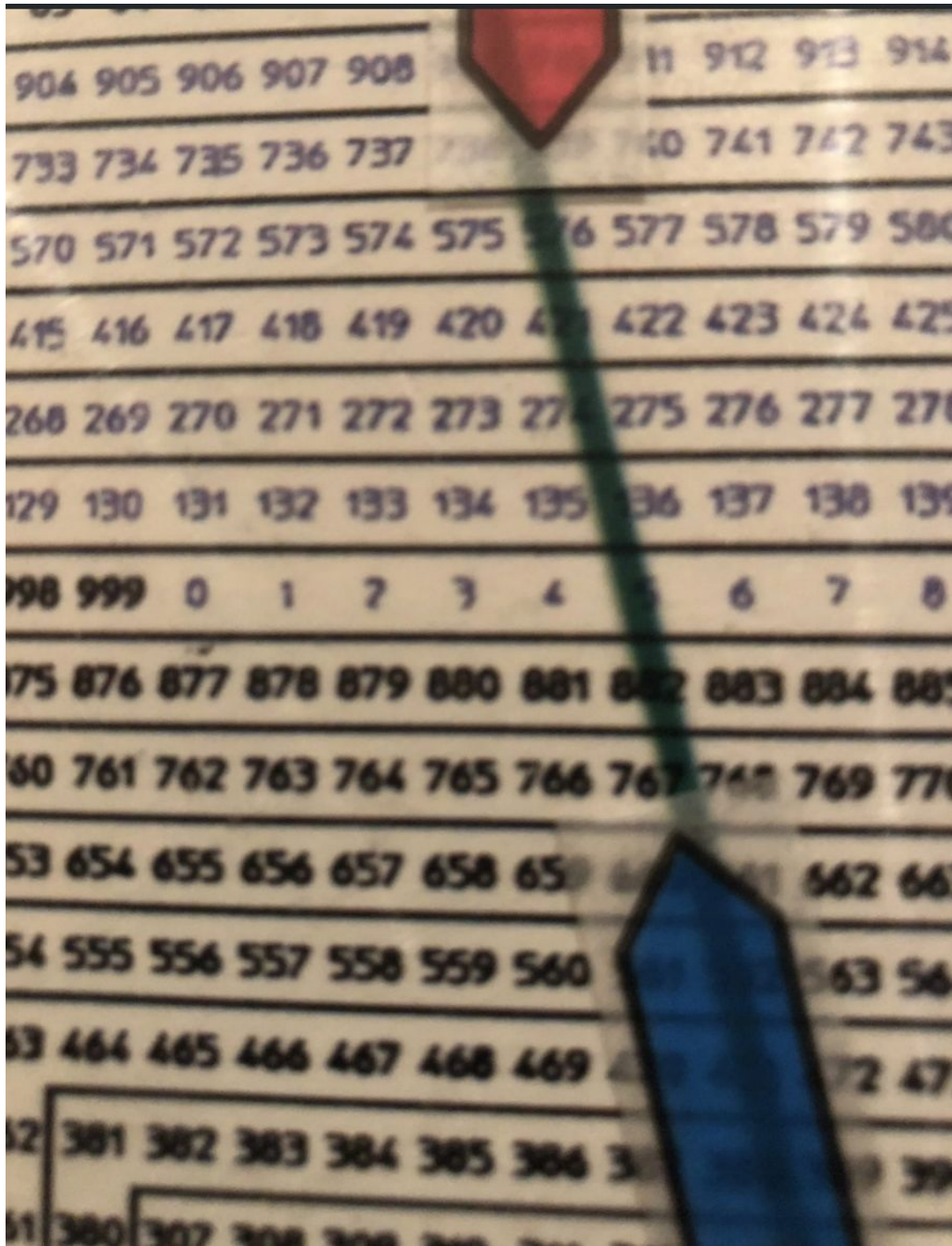
So, the March 2009 low was a square-out in the same manner as the October 2007 high with a 90 degree square-out.

The early October 2007 bull market top is square the price of the top.

The early March 2009 bear market bottom is square the price of the low.

Remarkably, the 1576 Oct 2007 top is 6 rungs or squares of 360 degrees up from the 768 bear market low.

That was also a time/price square-out as 768 is 90 degrees square early October.



Red arrow is 576 (for 1576)

Blue arrow is 768

It is one thing to ride a trend, but it is quite another to be long and be able to exit near a high, or be short and exit near a low.

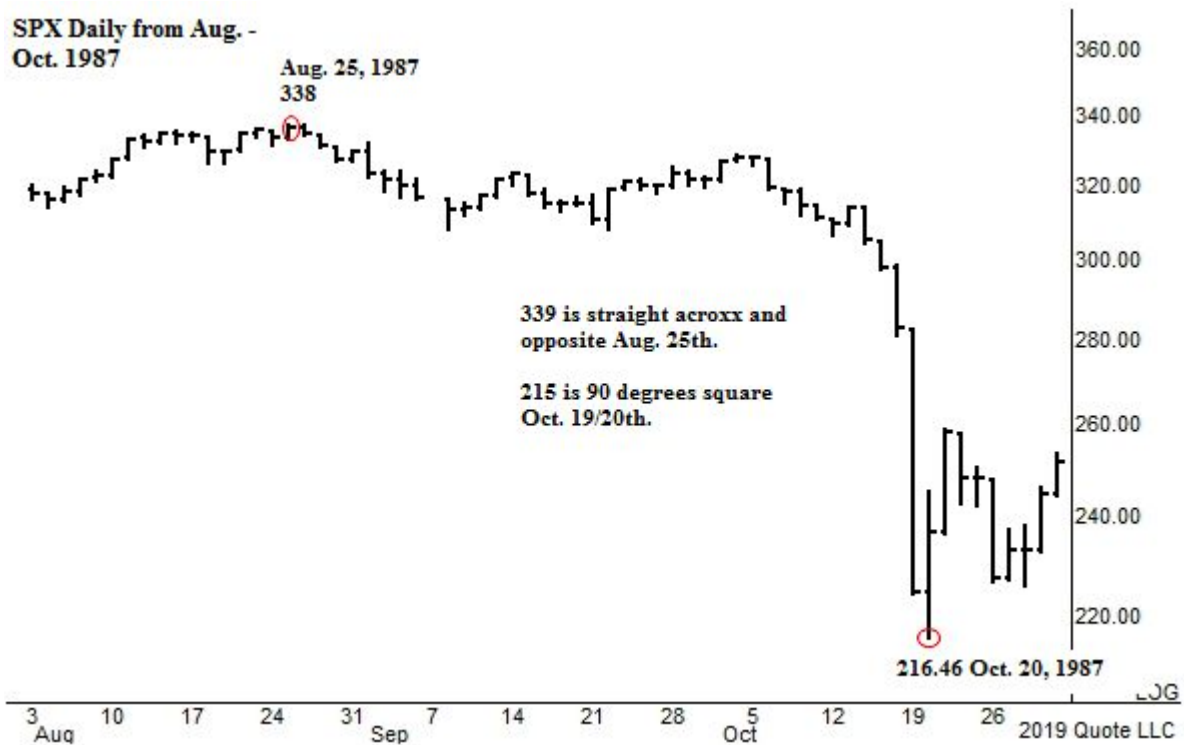
This is the unparalleled value of the Square of 9 Wheel.

As hedge fund wizard Paul Tudor Jones says, *"I believe the very best money is made at market turns. Everyone says you will get killed trying to pick tops and bottoms and you make all your money by playing the trend in the middle. Well, for twelve years I have been missing the meat in the middle, but I have made a lot of money at tops and bottoms."*

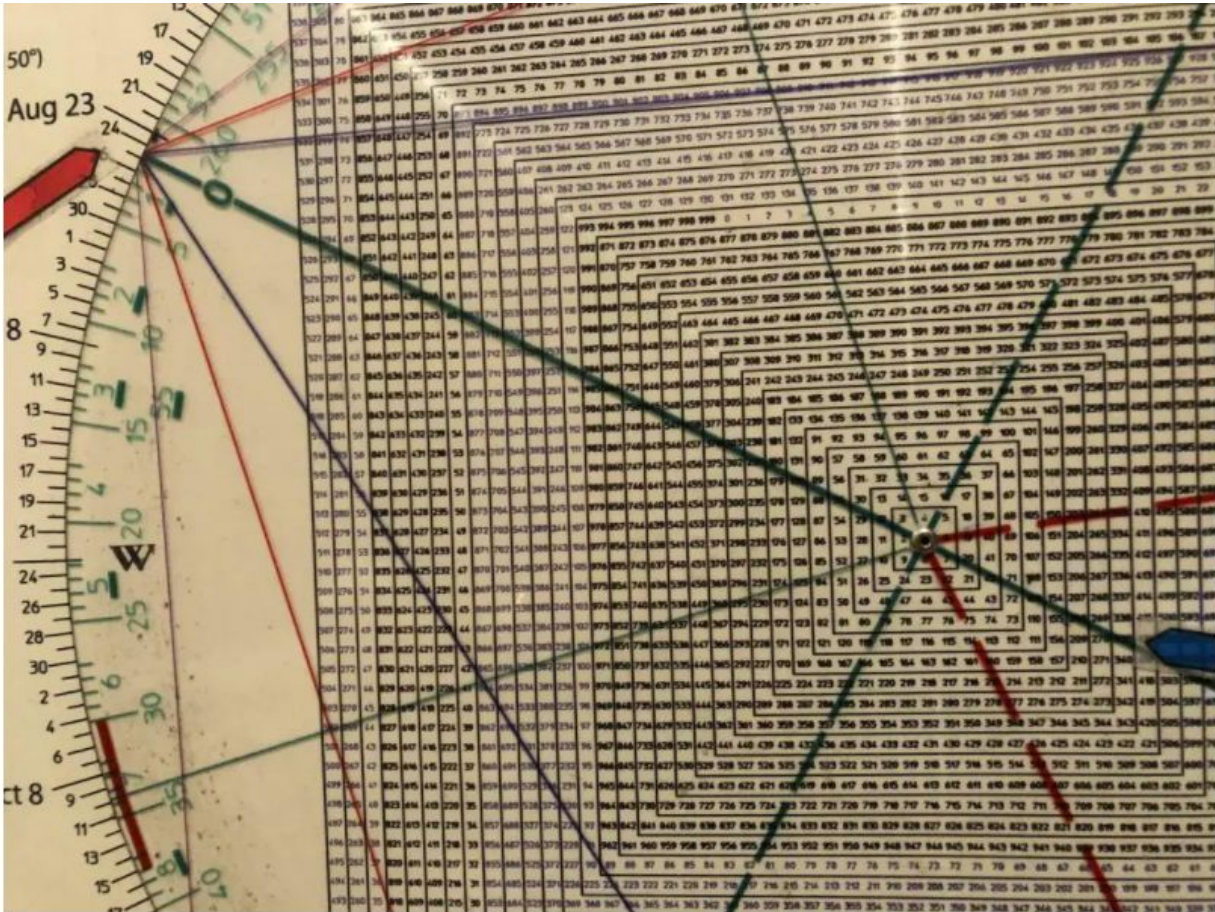
If there is a better tool than the Square of 9 for pinpointing major tops and bottoms or swing tops and bottoms, I have yet to discover it.

Let's look at some intriguing historic time and price harmonics revealed by Square of 9.

The high before the 1987 crash was August 25 at 338 **SPX**.



339 is 180 degrees opposite August 25 for a time/price square-out that nailed the summer blow-off top in 1987.



Red arrow is Aug 25

Blue arrow is 339

The low of the crash occurred the day after Black Monday, on Tuesday, October 20, at 216.46 SPX.

Notice how 215 is 90 degrees square October 19.

Even in the midst of the turmoil, the geometry of the Square of 9 held sway.

Mastering Time/Price Relationships

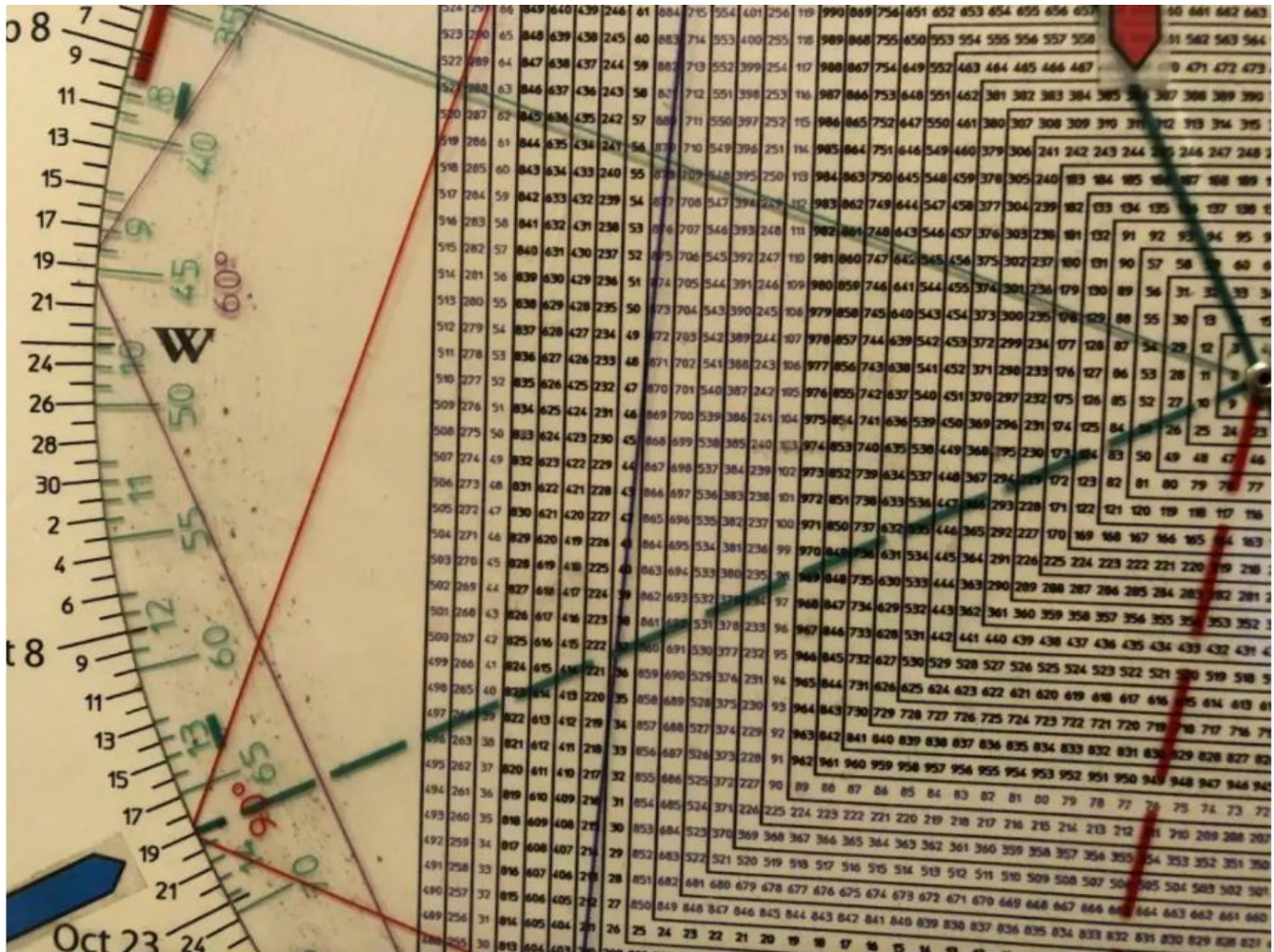
Once you work with the Square of 9, you will be amazed by the spectacular time/price relationships it unlocks.

For example, the **DJIA** high in 1929 prior to the crash was 386.

It is well known that the pattern in 1987 mirrored the pattern in 1929.

What most market participants would be surprised to learn is that 386 is 90 degrees square October 19, the crash day in 1987.

In other words, the high day in 1929 points to/vibrates off Black Monday in 1987.



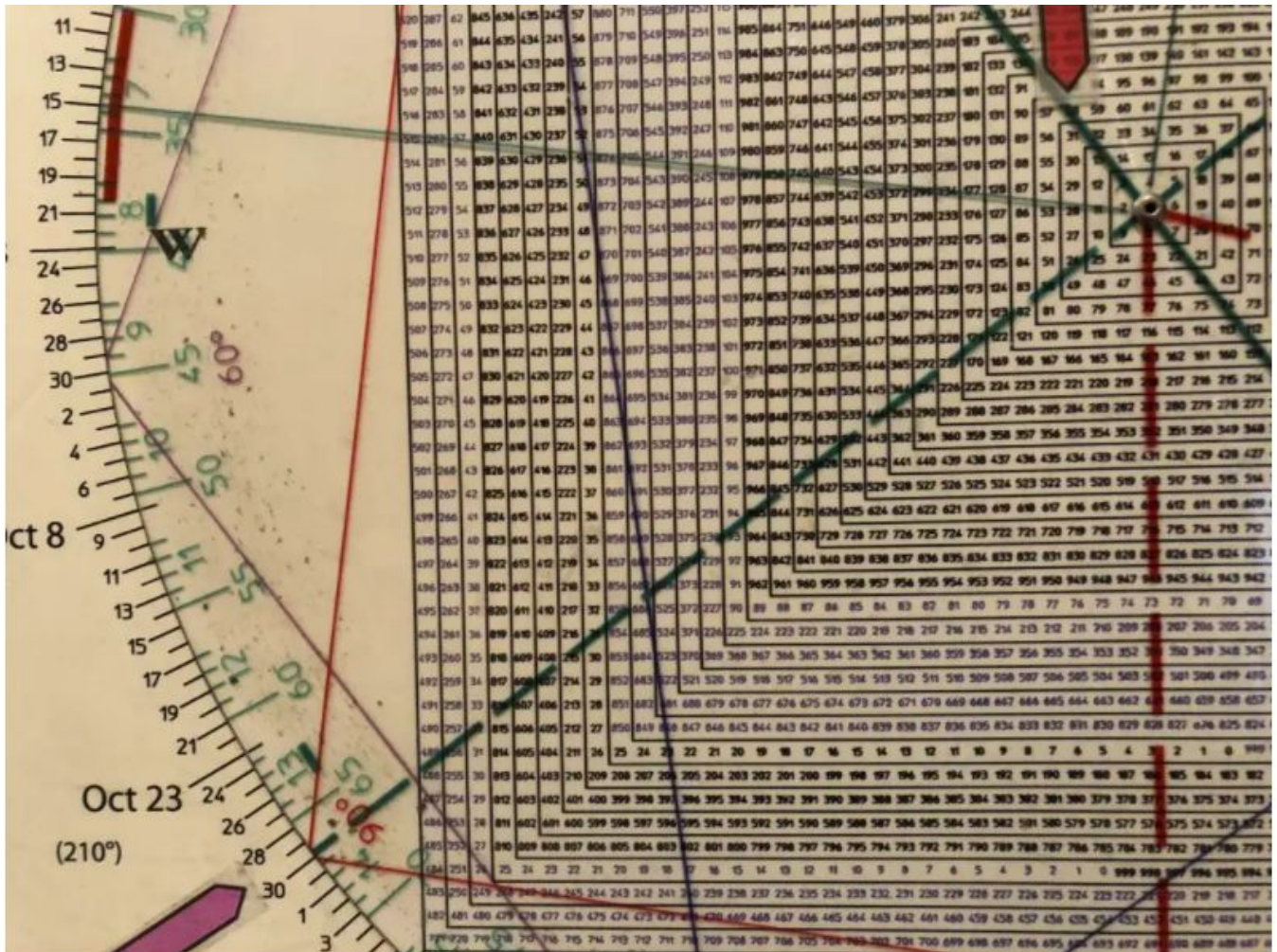
Red arrow is 386

Blue arrow is October 19

It was 58 years between the 1929 crash and the 1987 crash.

Black Tuesday in 1929 was October 29.

Checking a Square of 9 shows that 58 is 90 degrees square October 29.



Red arrow is 58

Purple arrow is Oct 29

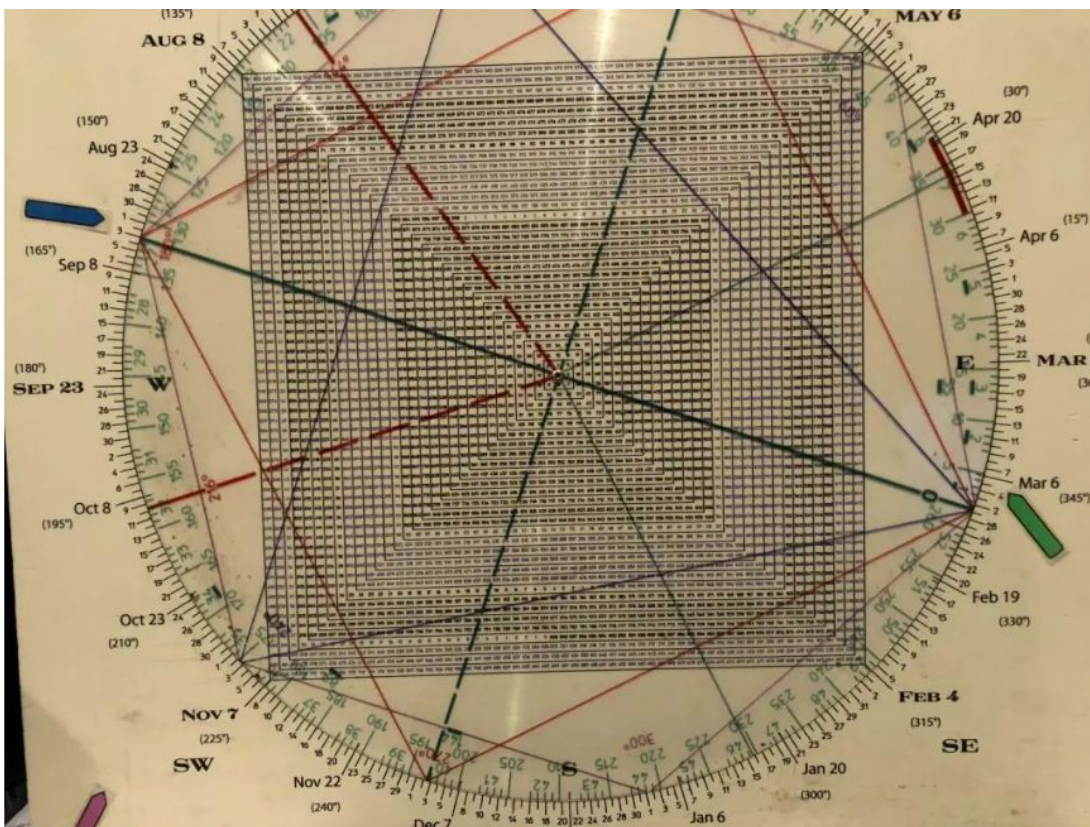
So, 58 years from the October 1929 crash, another crash was triggered in October. Think about this: the Great Financial Crisis in 2008-2009 was considered the worst crisis since the Great Depression.

The low of the GFC occurred in the first week of March.

The high prior to the Great Depression occurred in the first week of September.

The first week of March is 180 degrees straight across and opposite the first week of September.

So, the date of the high prior to the worst turndown in U.S. history is opposite the date of the low of the 2nd worst turndown.

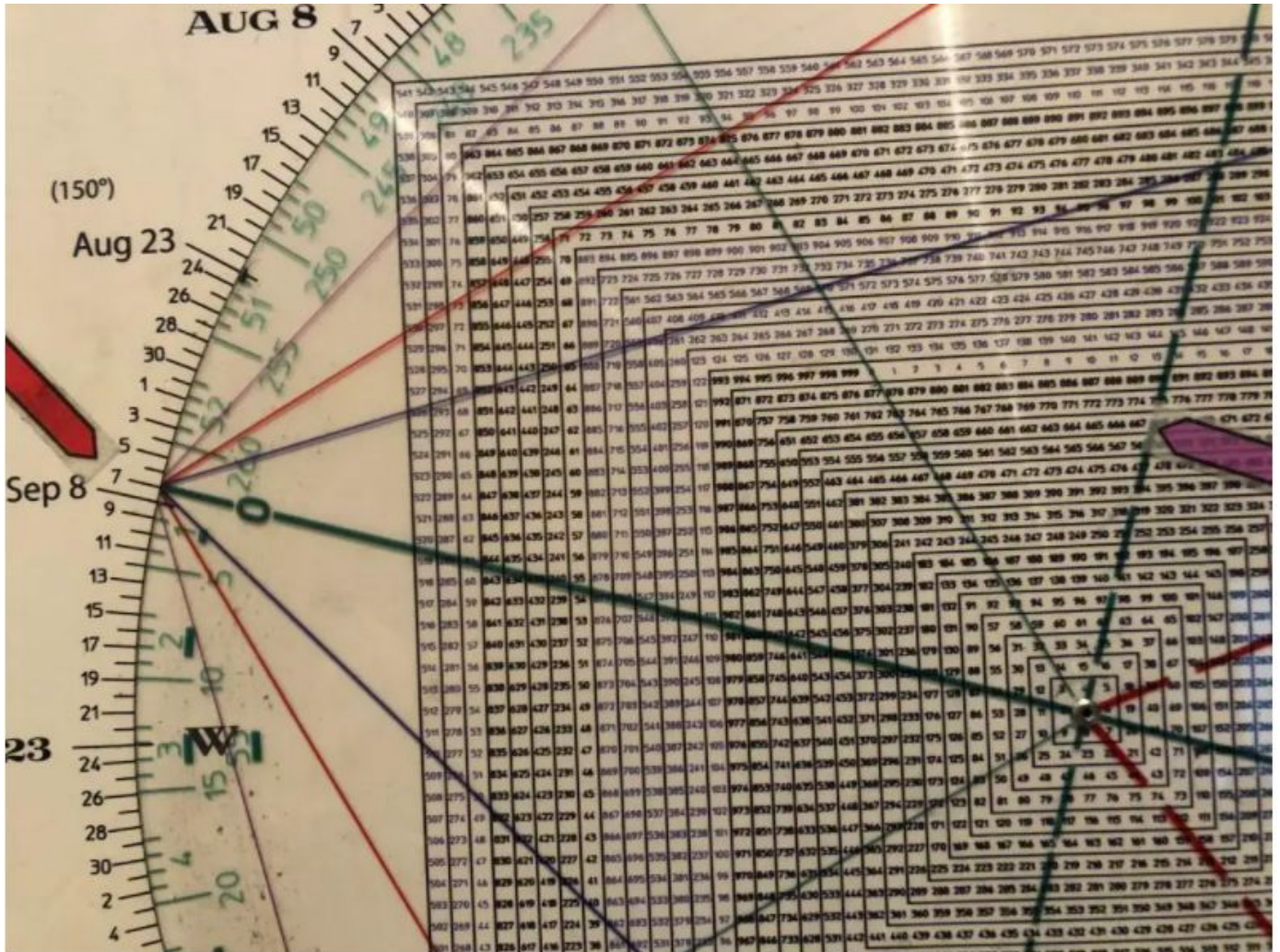


Green arrow is 1st week of March
Blue arrow is 1st week of September

Additionally, the SPX high in 1929 was September 7.

September 7 is square 667 (the low in 2009) and opposite March 6 (the date of the '09 low).

So the date of the high in 1929 is square the price of the low in 2009.



Red arrow is September 7

Purple arrow is 667

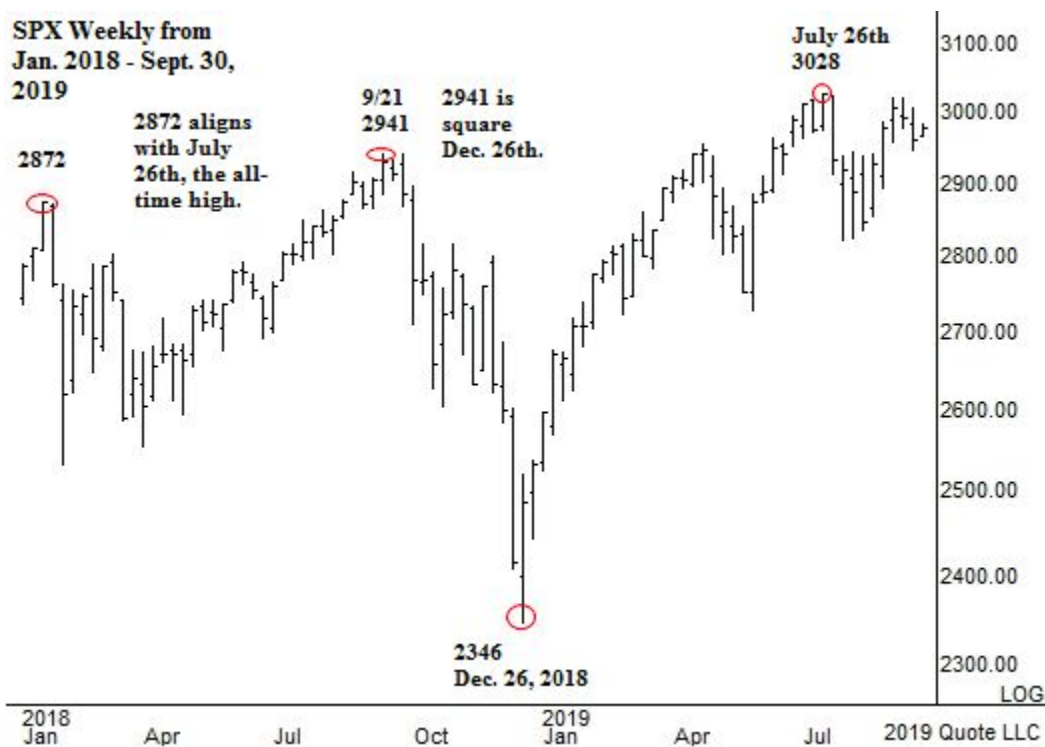
Using the Square for Smaller Turning Points

If the Square of 9 Wheel can reflect the time/price harmonics of two of the biggest turning points of the last 100 years, certainly it can decipher turning points on a less dramatic scale.

Let's look at the market in 2019.

The SPX struck a momentum high in late January 2018 at 2872.

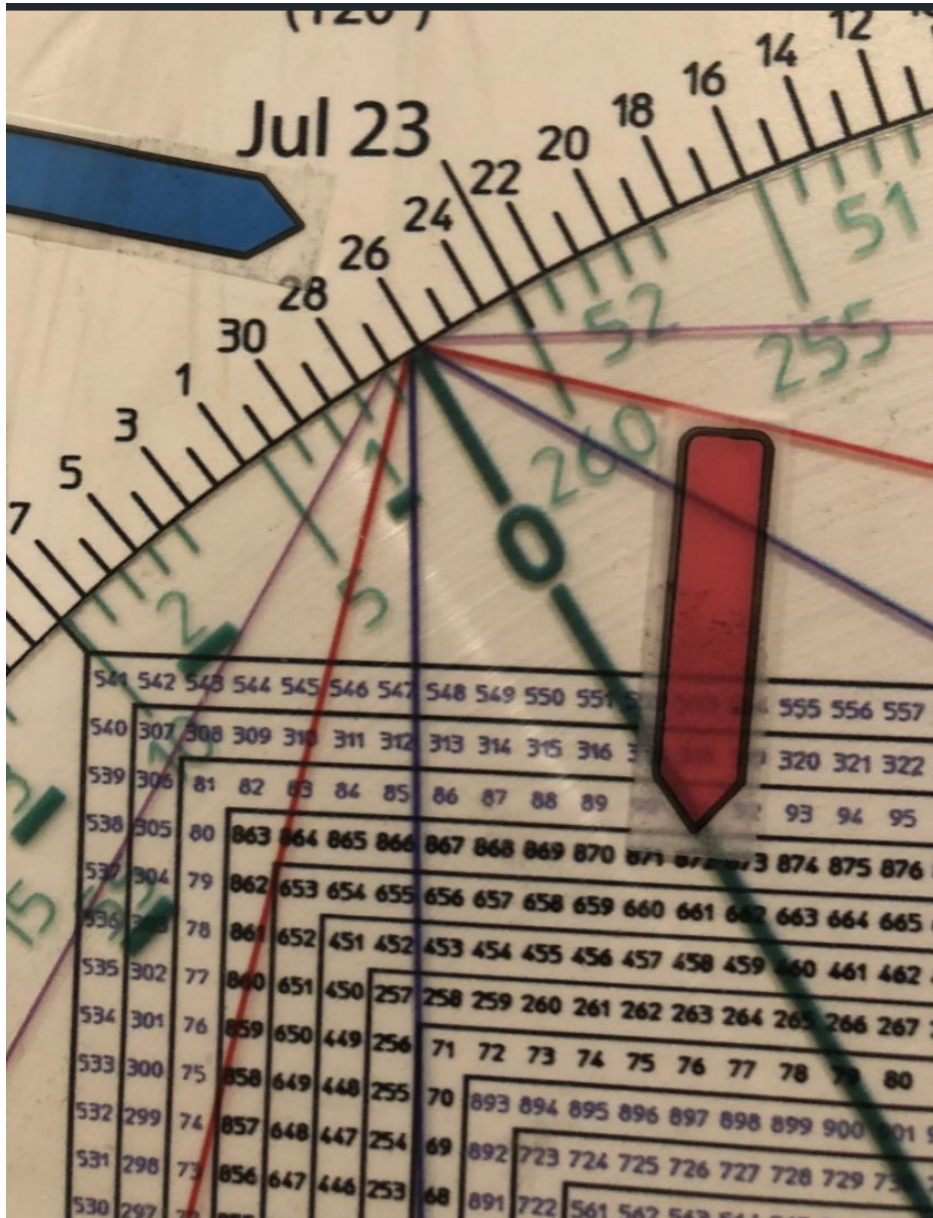
That high more or less capped the market for the next 20 months.



On July 26, 2019, the SPX struck a nominal new all-time high.

2872 aligns with July 26.

From July 26, 2019, the SPX fell 200 points (7%) in 6 days.



Red arrow is 872 (for 2872)

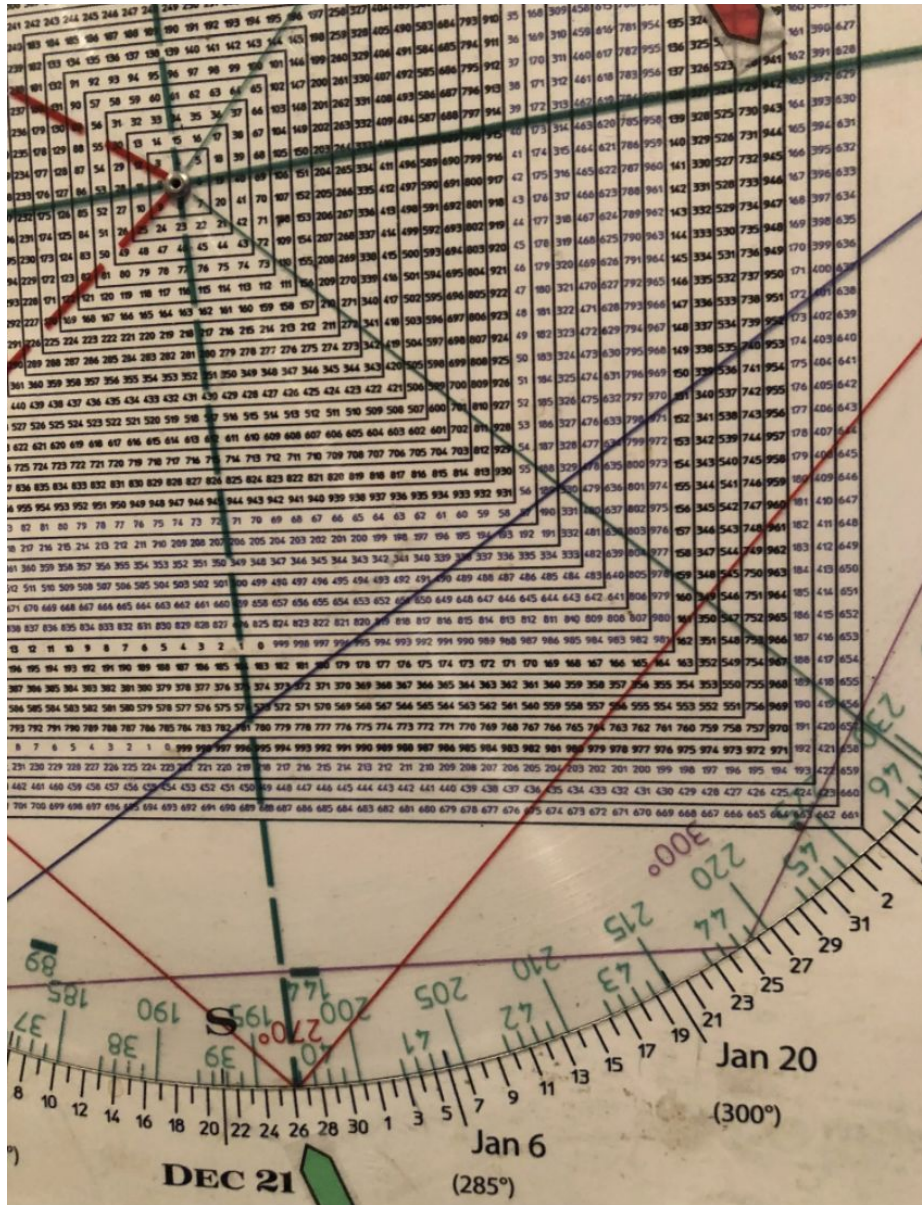
Blue arrow is July 26

Interestingly, in keeping with the Principle of Squares, 55 squared is 3025, which ties to the SPX ATH.

The takeaway is that the market is suspect until it clears the 3025 closing high from July 26, 2019.

On September 21, 2018, the SPX struck an all-time high of 2941 and tumbled to 2346 on December 26 (a period of roughly 90 days/degrees).

On the Square of 9, the number 2941 is 90 degrees square December 26.



Red is 2941

Green is December 26

This is a stunning example of how time points to price and price points to time.

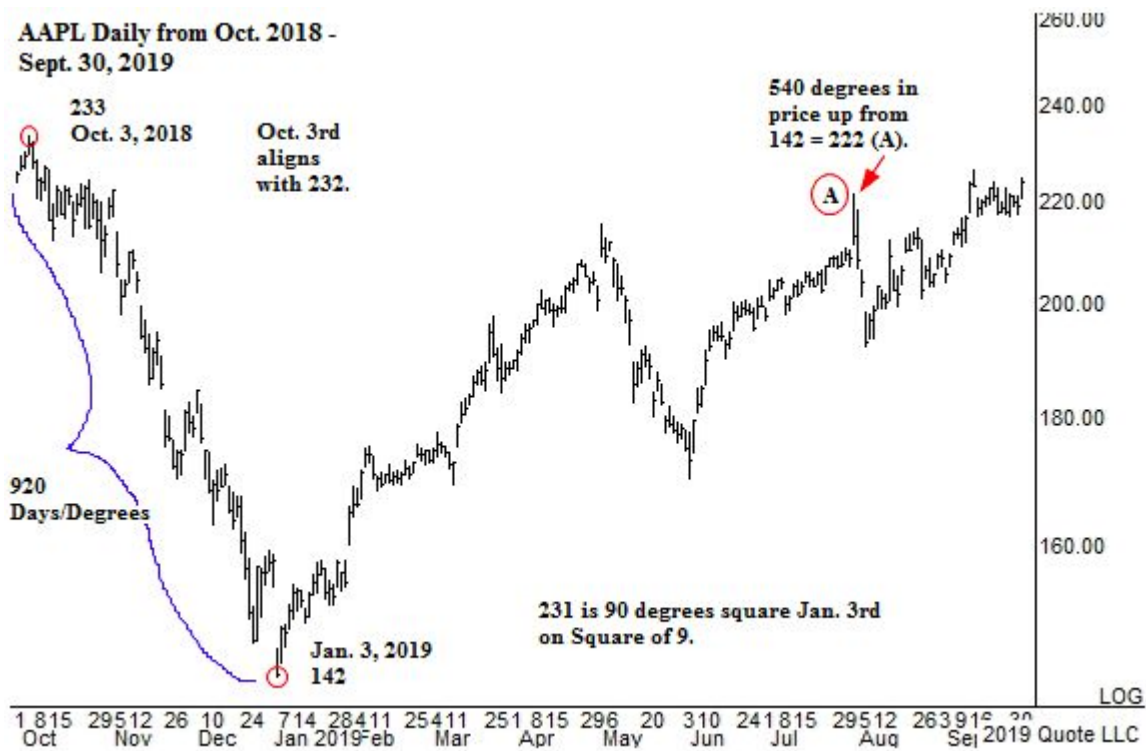
Time and Price Examples - AAPL

Let's look at some more examples of the concept that time is price and price is time.

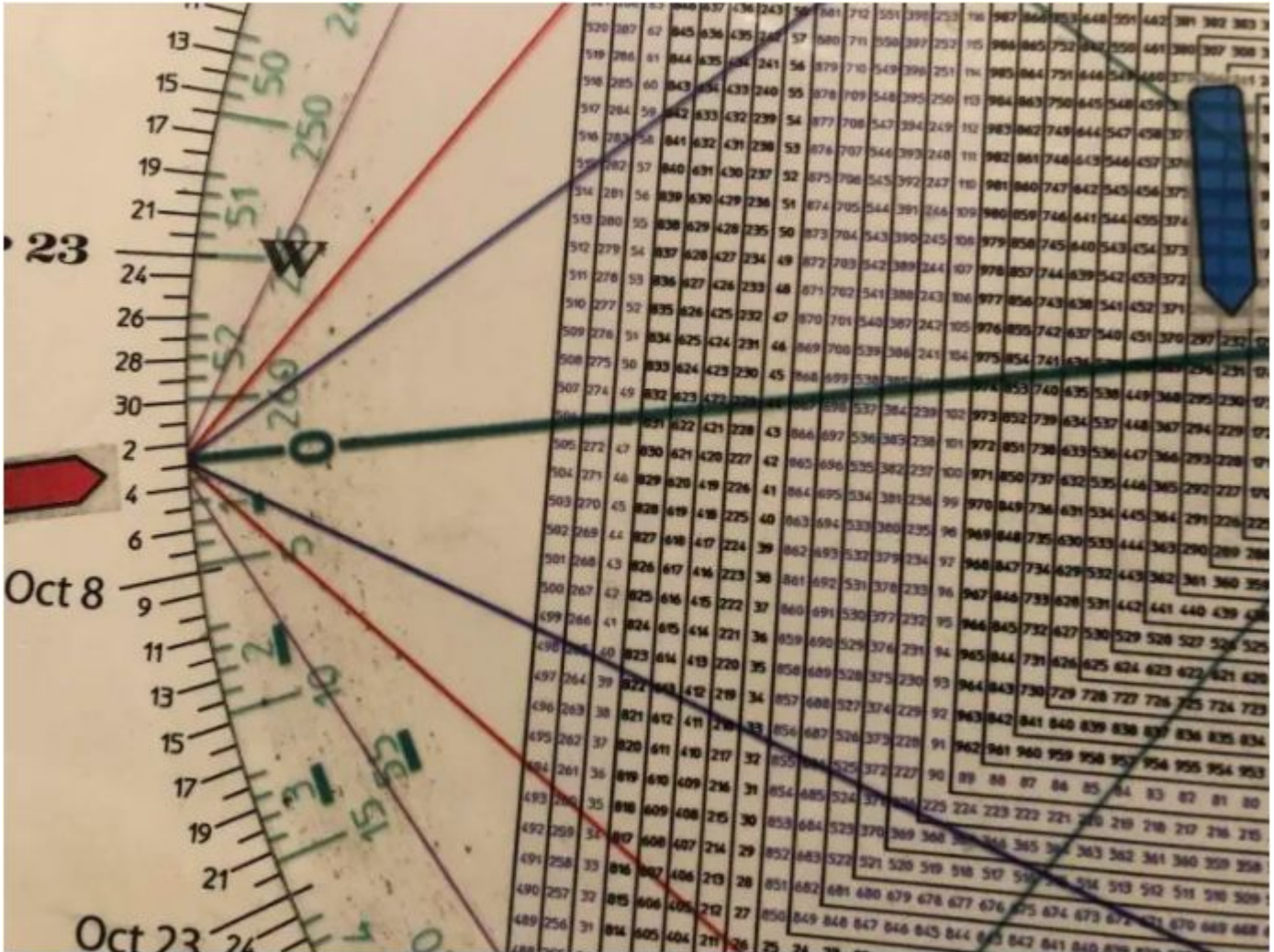
In late 2019, we got the December Massacre.

AAPL dropped from an all-time high of 233 on October 3, 2018, to 142 on January 2, 2019.

This was precisely 90 days/degrees later.



October 3 aligns with a price of 232 for a square-out.



Red arrow is Oct 3

Blue arrow is 232

On January 3, 2019, AAPL saw a large gap down.

After its substantial slide, this had the potential to be an Exhaustion Gap.

Setting “zero” on January 3 shows that a price of 231 is square January 3.

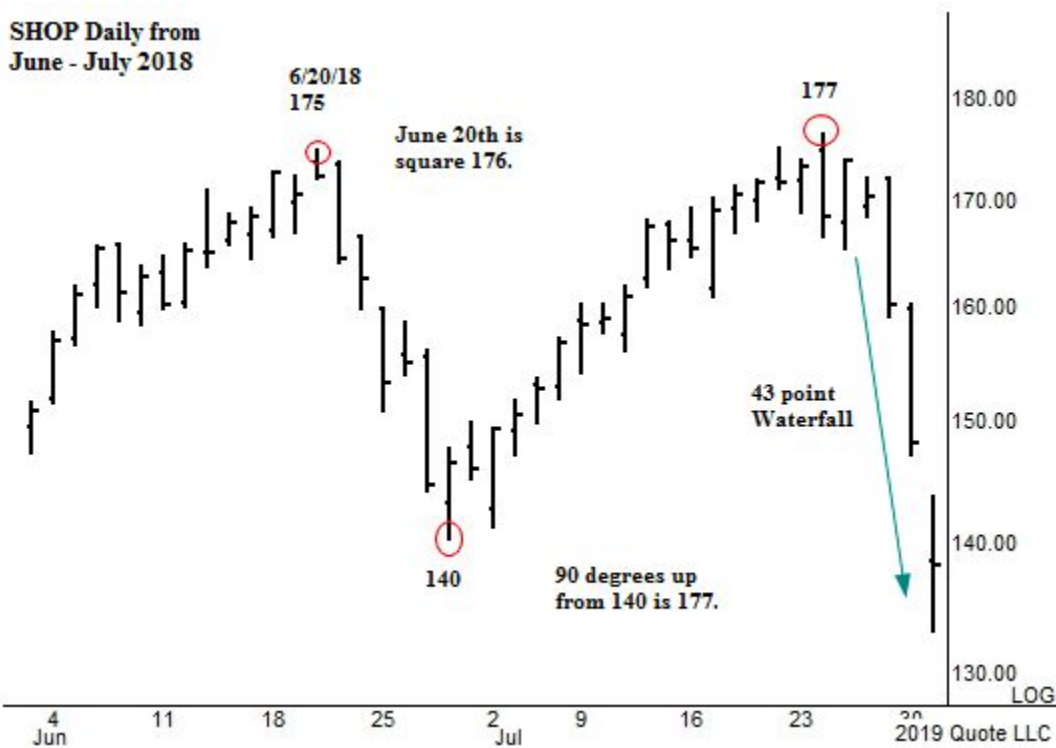
The all-time high was 233. The all-time closing high was 232.

So the date of the low was square the price of the high. Price pointed to time, time pointed to price.

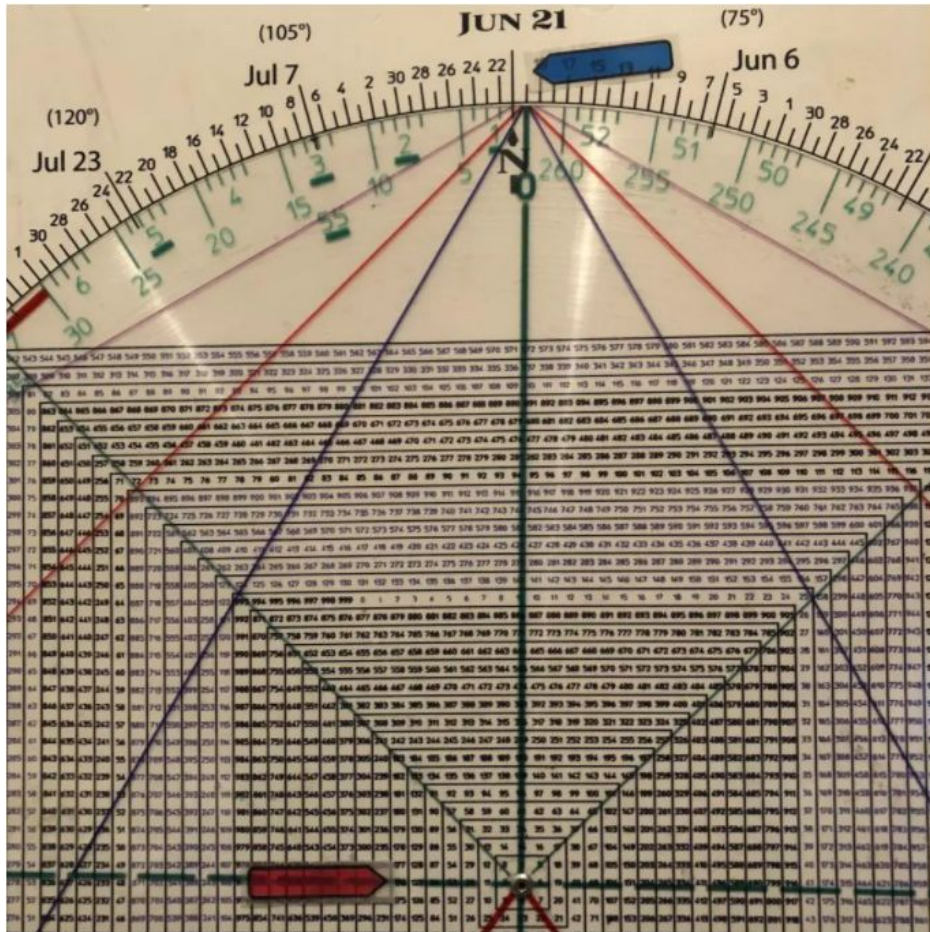
Time and Price Examples - SHOP

Let's take a look at an example of time and price squaring out using **SHOP**, the poster-child of the bull in 2019.

SHOP struck a high at 175 on June 20, 2018 and declined to 140 quickly – in 6 days.



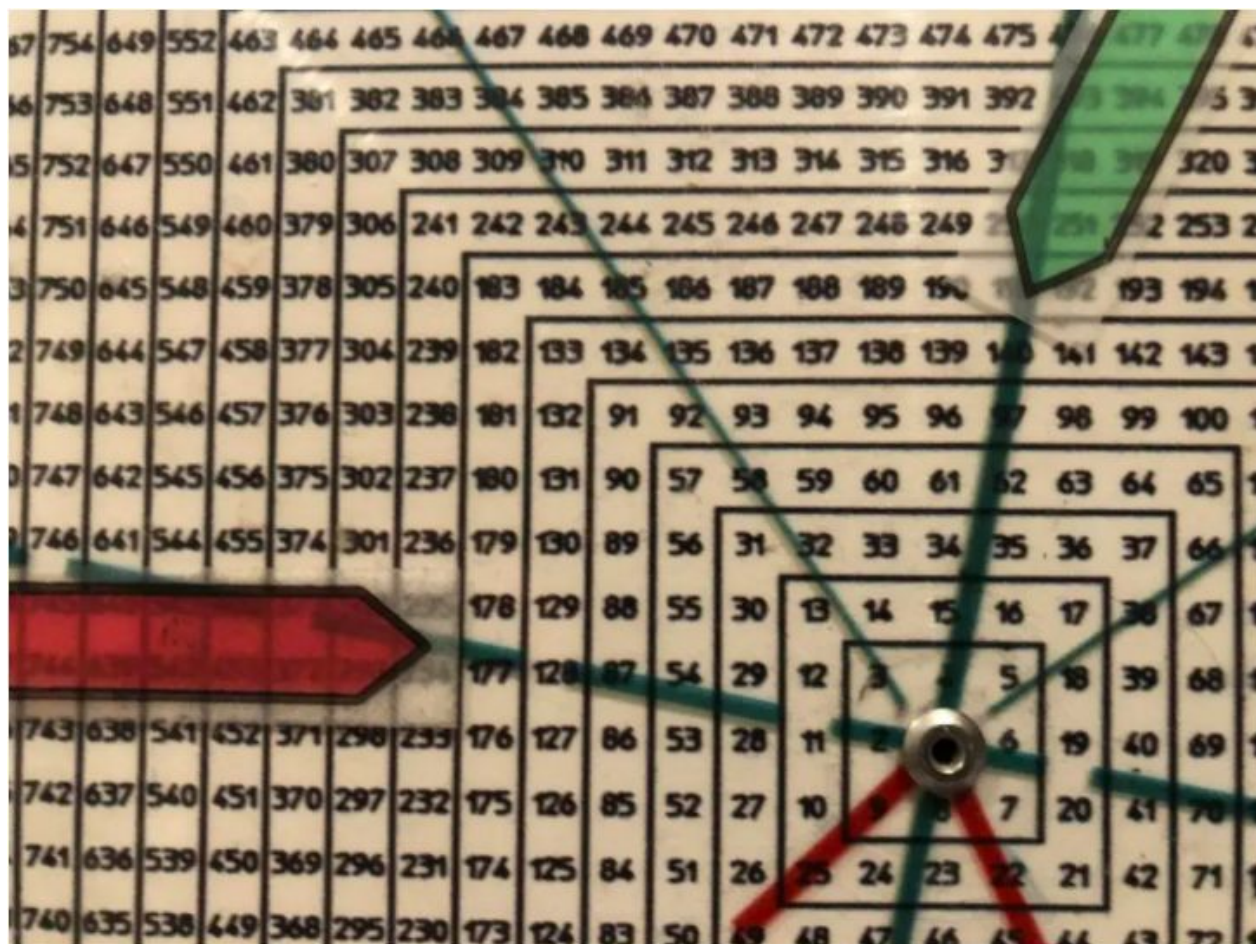
June 20 is 90 degrees square 176 for a time/price square-out.



Red arrow is 176

Blue arrow is June 20

SHOP recovered to make a nominal new high at 176.60 on July 24, 2018, where it left a large range Key Reversal Day before plunging to 133 by the end of the month 90 degrees up from the initial break to 140 is 177. So, the low of the first break pointed to the test failure high at 177.



Green arrow is 140

Red arrow is 177

Armed with this knowledge, the reversal at 177 could be seen for the failure it was destined to be.

The geometry of the Square of 9 was telegraphing that SHOP was in a weak position.

It was – dropping 43 points in 3 days.

How much could you have banked with put options with the benefit of this knowledge possessed by the Square of 9?

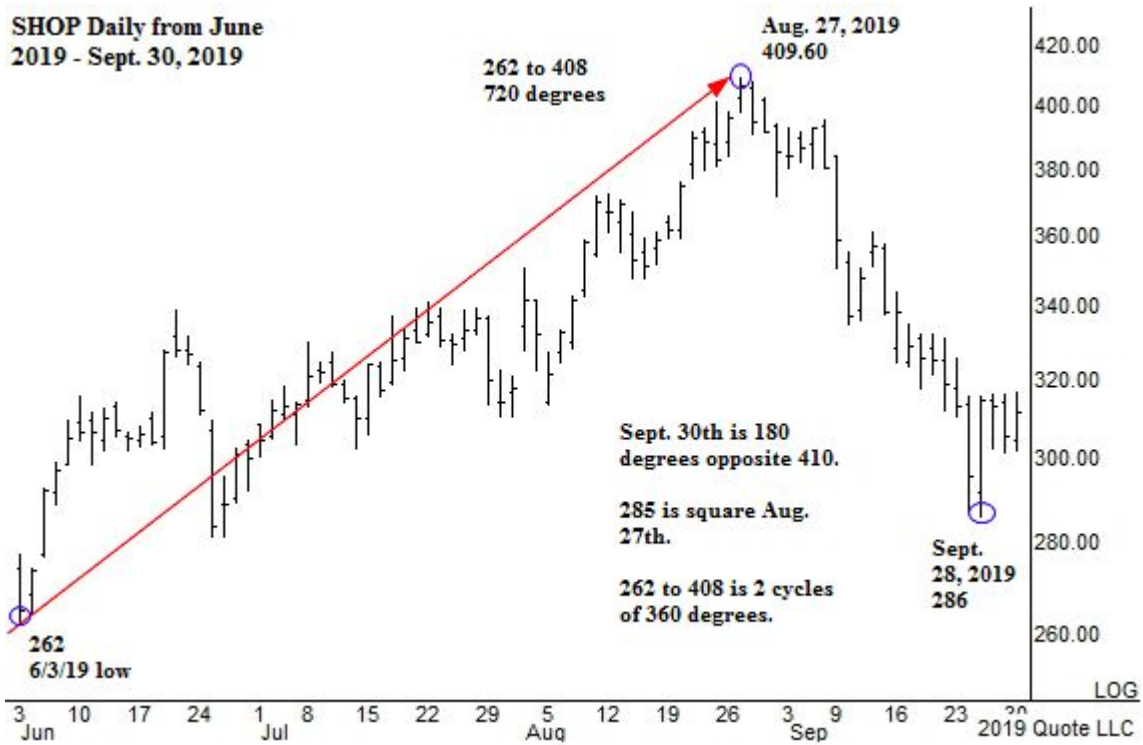
This is one of the great benefits of The Wheel. Options require timing. The Square of 9 does a good job pinpointing time frames.

Let's look at some examples from the 3rd quarter of 2019.

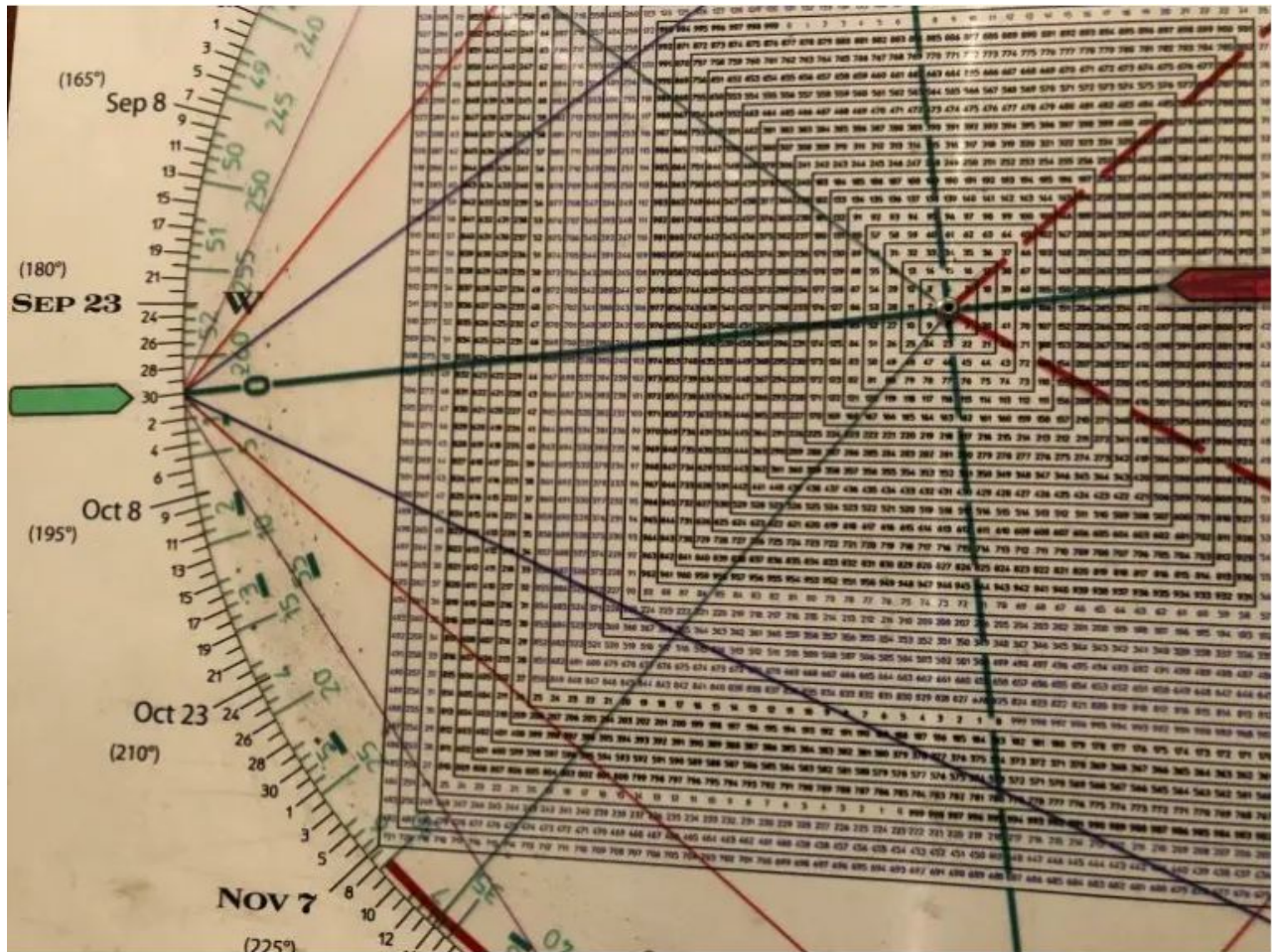
Once again, let's analyze SHOP.

SHOP struck a high of 409.60 on August 10, 2019.

From there it declined to 286 on September 25, where it left potentially bullish Train Tracks – sometimes a signal of exhaustion.



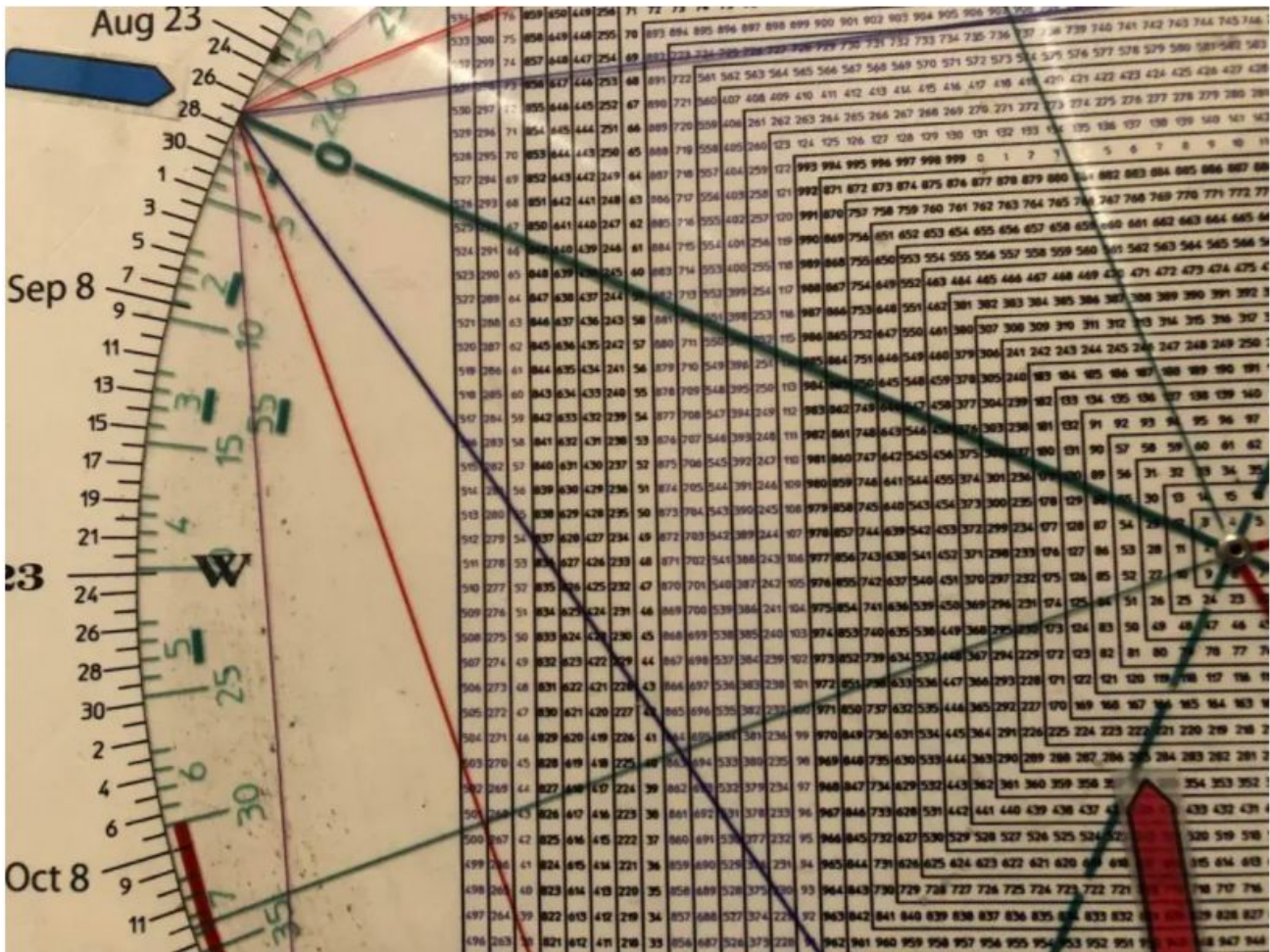
What is interesting is that September 30 is 180 degrees straight across and opposite the 410 high.



Red arrow is 410

Green arrow is Sept 30

Putting “zero” on the date of the high, August 27, reveals that 285 (1 point from the low) is square August 27.



Blue arrow points to Aug 27

Red arrow points to 285

Could 286 have marked a Selling Climax?

8 trading days after the 286 low, SHOP struck 330, a rally of 44 points in 8 trading days.

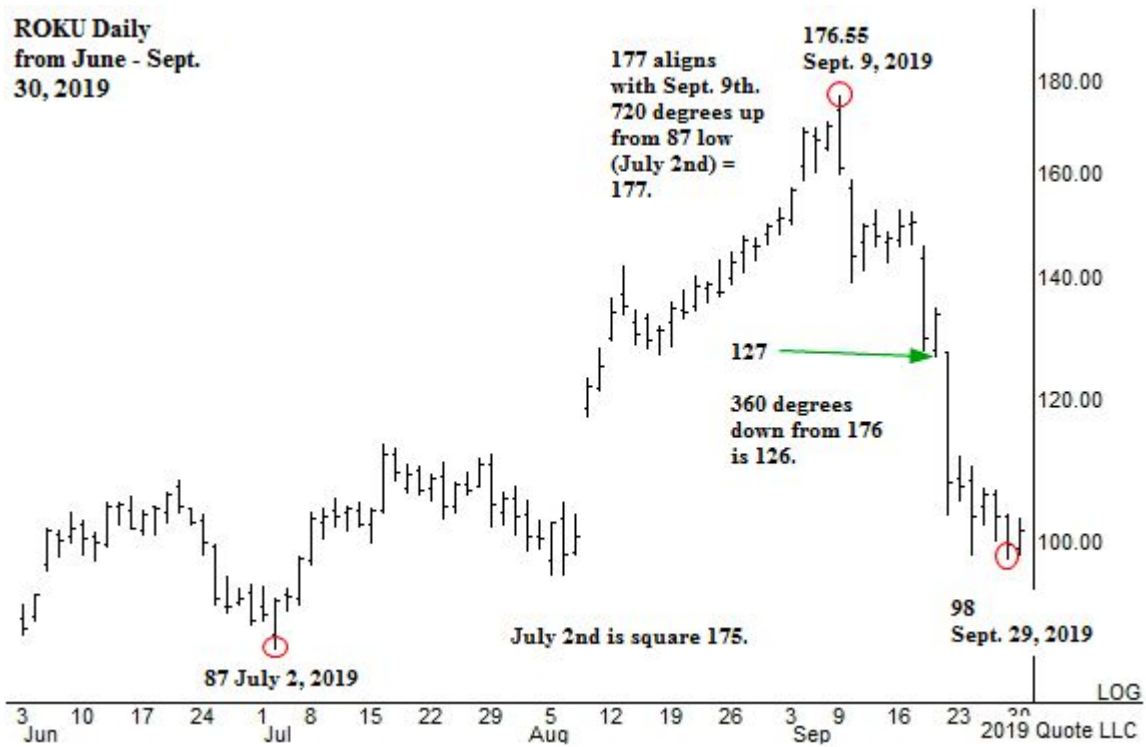
SHOP tagged a high of 330.45 on Friday, October 4, 2019.

331.50 is 180 degrees straight across and opposite Monday, October 7.

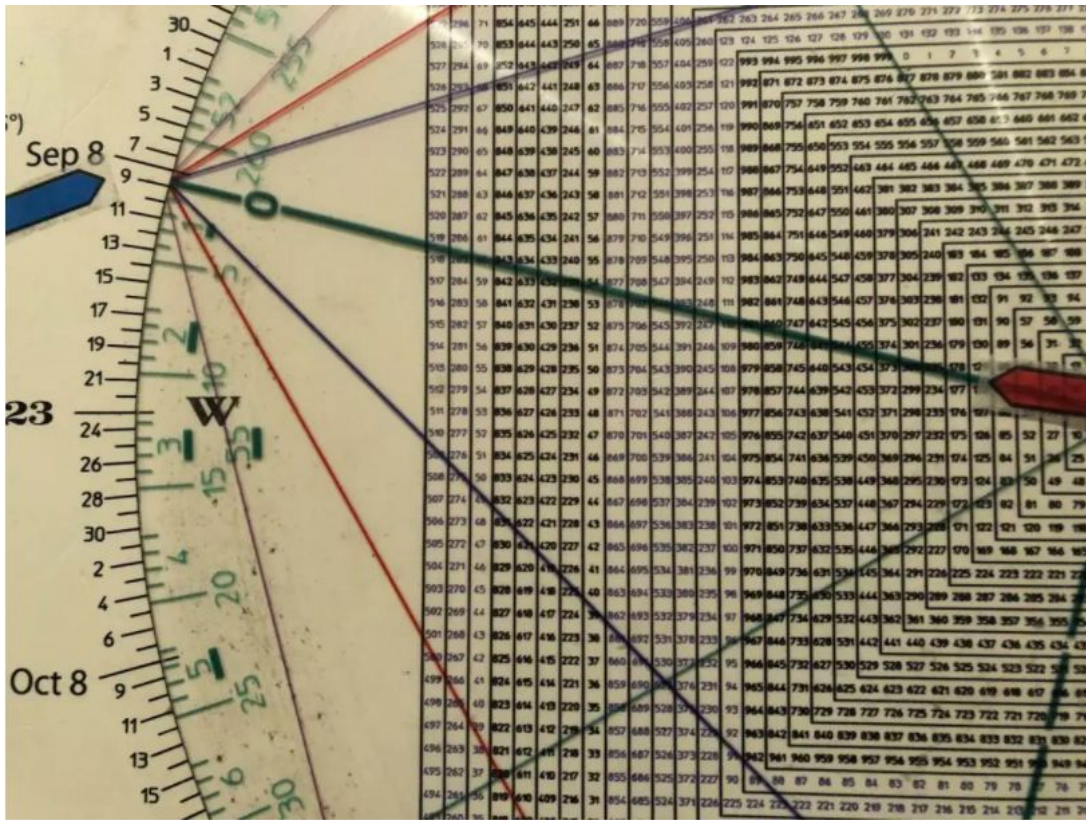
It will be interesting to see how things play out.

Time and Price Examples - ROKU

ROKU's big run from its December 24, 2018 low of 26 reversed decisively from 176.55 on September 9, 2019, dropping all the way to 98 on 9/29.



Checking a Square of 9 shows that 177 “points” to September 9.



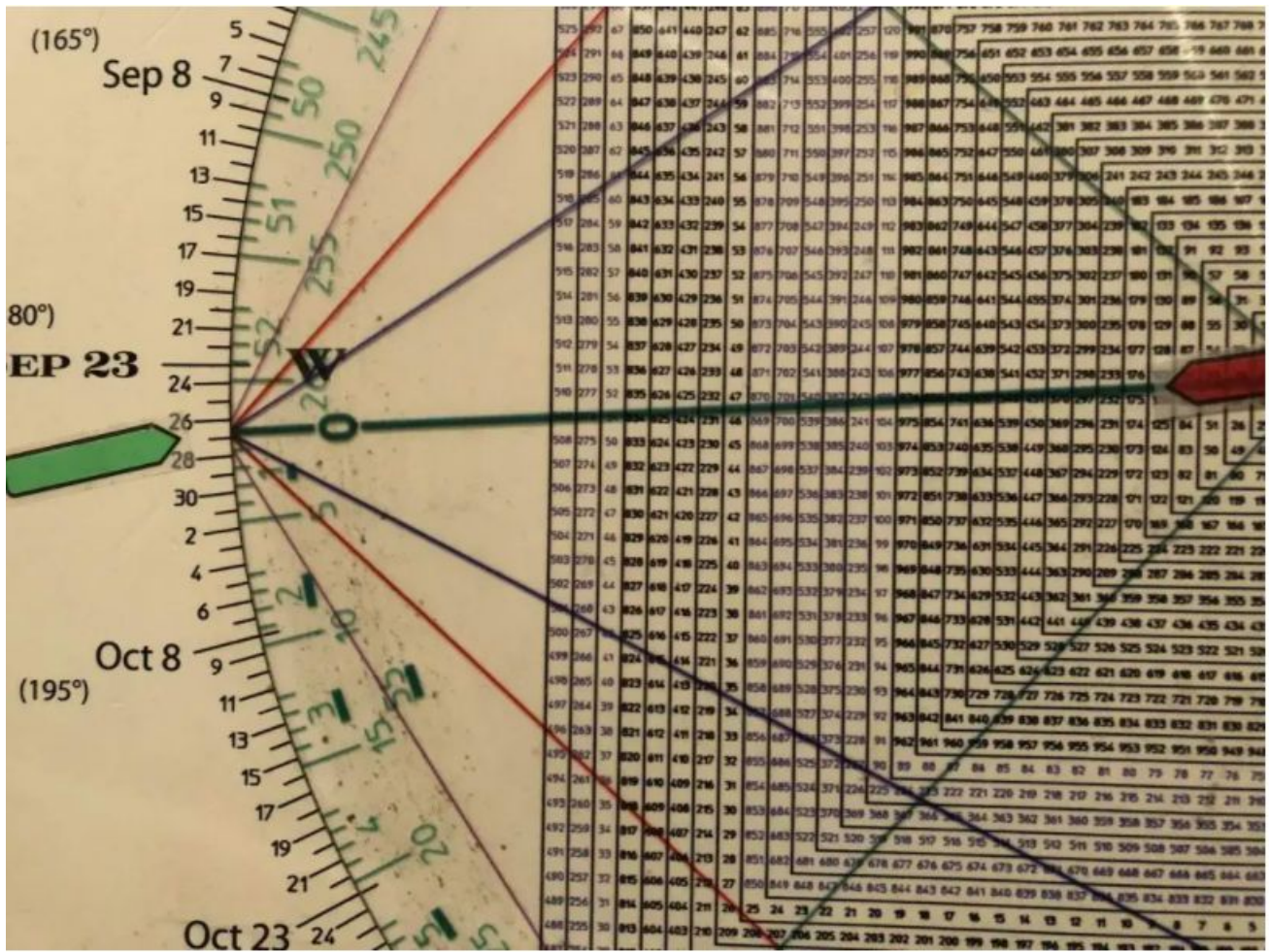
Red arrow points to 177

Blue arrow is Sept 9

360 degrees down from 176 is 126. ROKU gave signs of trying to reverse from 126, but when it failed from a quick 360 degree drop, it crashed.

That said, September 27 aligns with the 176 all-time high.

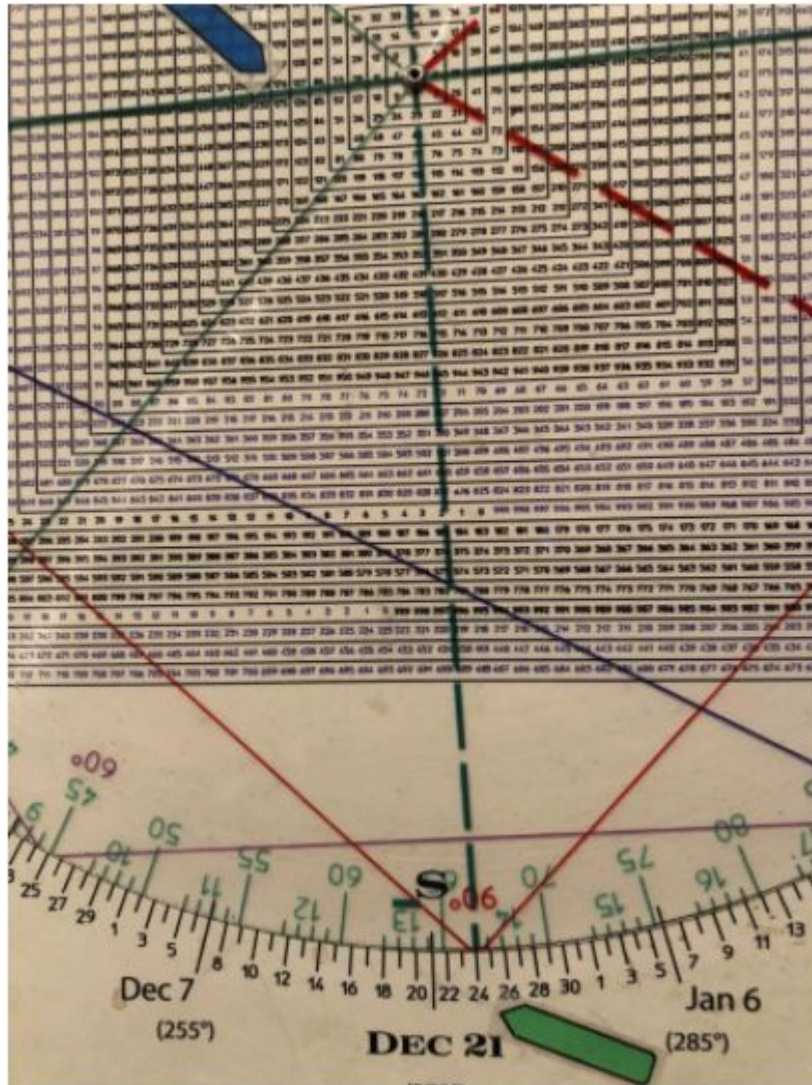
ROKU struck a low on September 27 at 98, running all the way to 124 in 10 days... just below the 127 region which we flagged above as being 360 degrees down from the 176 top.



Red arrow is 175

Blue arrow is Sept 27

Remarkably, the date of ROKU's December 24, 2018 low is square its 176 record high.



Green is Dec 24

Blue is 176

Time and Price Examples - TSLA

Few stocks command the controversy **TSLA** ignites.

Can the Square of 9 tame TSLA's wild swings?

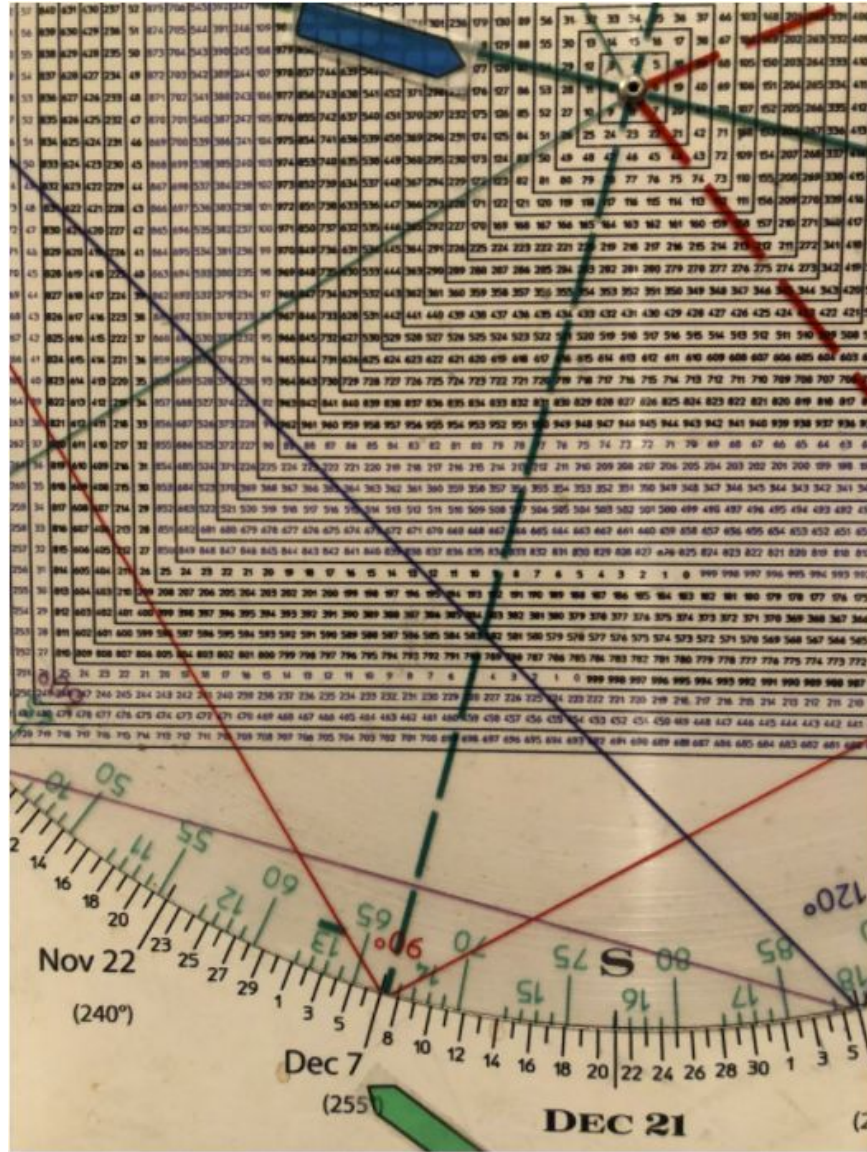
TSLA struck a major high at 379.49 on December 7, 2018, falling to 177 on June 3, 2019, a period of 180 days/degrees.



177 is 90 degrees square December 7 for a square-out.

From its 177 low on June 3, 2019 (180 degrees/days from the December 2018 peak) TSLA ran up nearly 90 points.

Remarkably, 266 is $360 + 180$ (540) degrees in price up from 177.



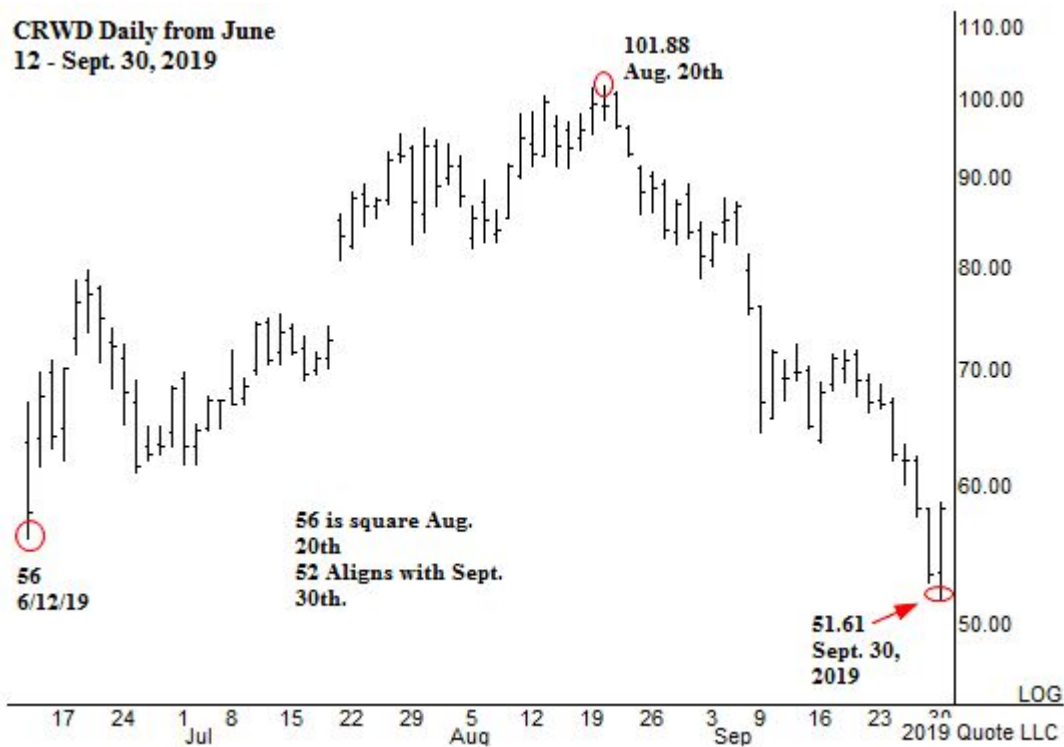
Green arrow is Dec 7

Blue arrow is 177

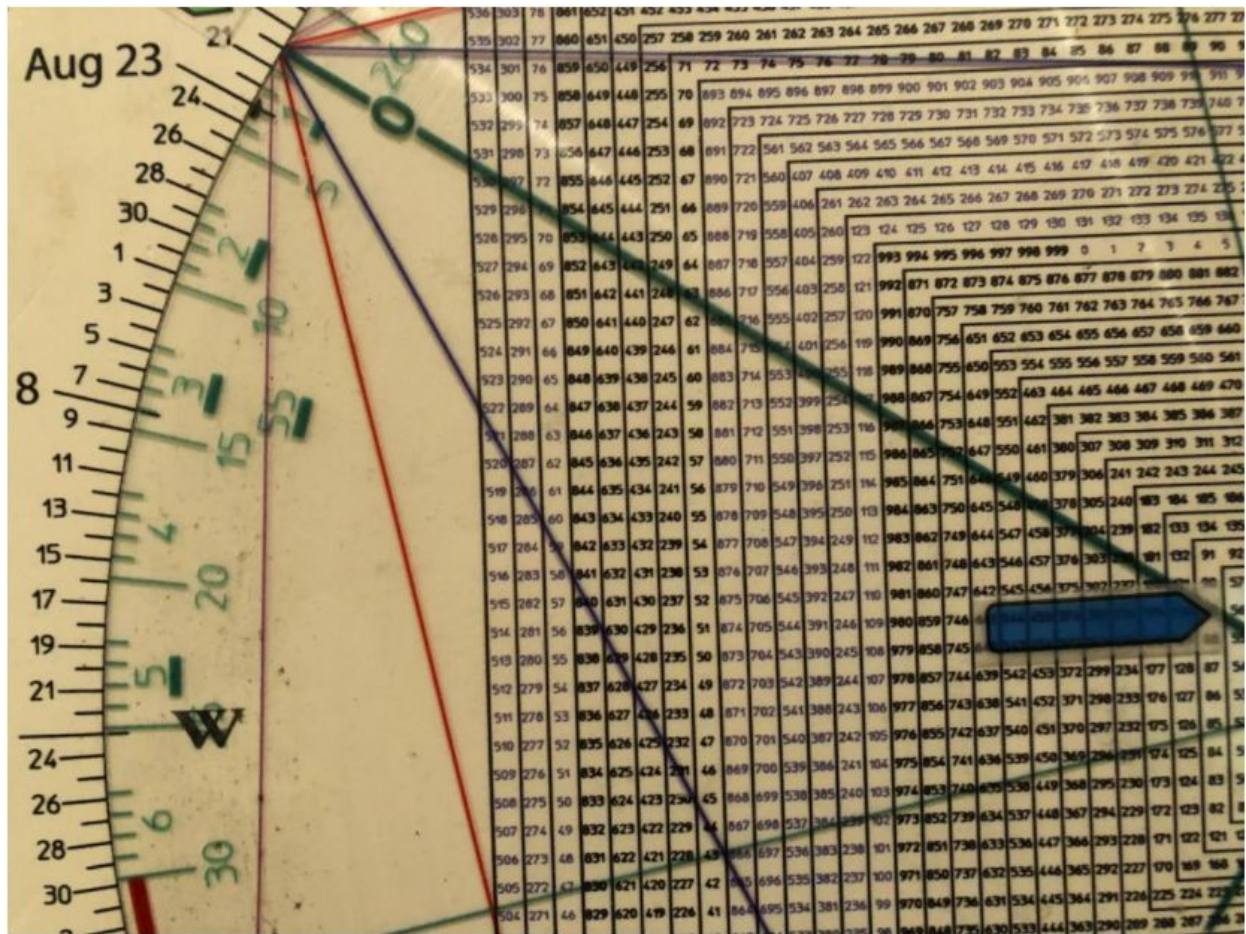
Square of 9 with IPOs

Hot IPO's are the heart and soul of speculative sentiment and respond quite well to the synergistic psychology reflected by the Square of 9.

Let's take a look at **CRWD**, a hot IPO from June 2019.



The IPO low of 56 aligns with the all-time high day of August 20.

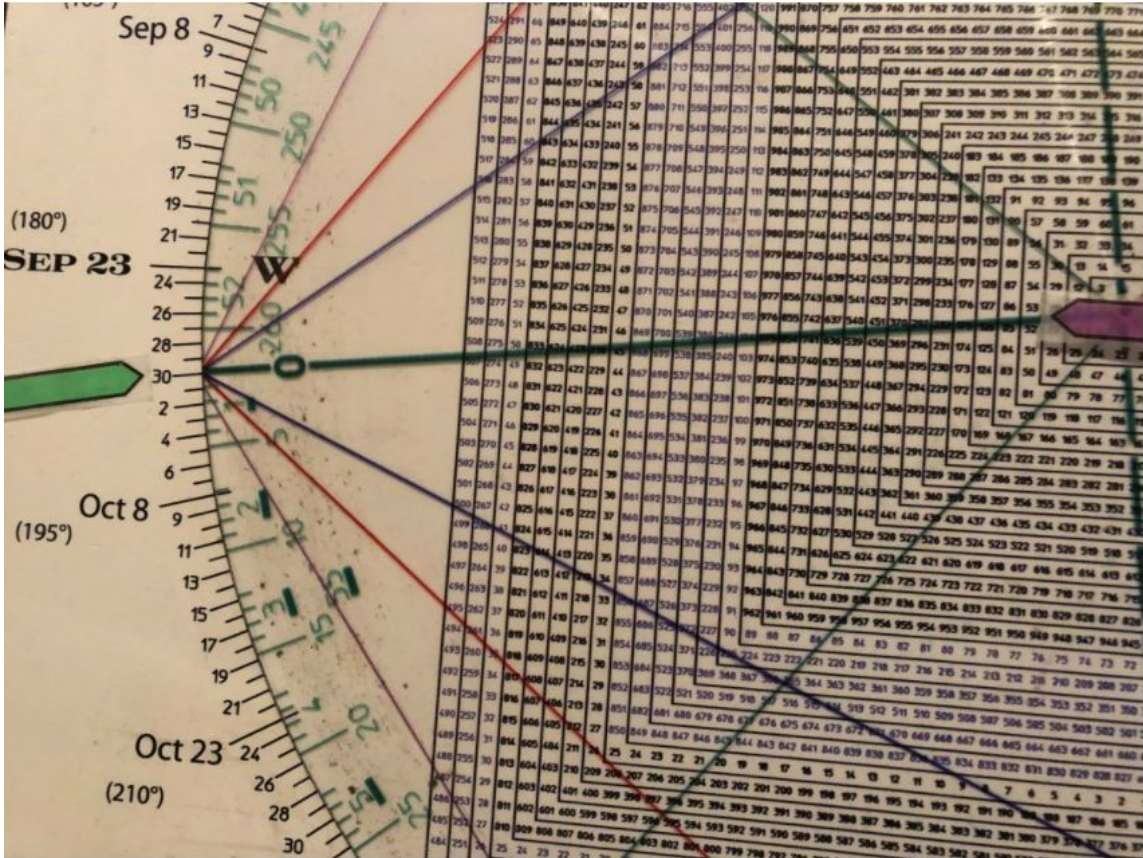


Green arrow is Aug 20

Blue arrow is 56

On September 30, CRWD carved out a large range signal reversal bar from a low of 51.61.

September 30 “points” to/aligns with 52.



Green arrow is Sept 30

Purple arrow is 52

Subscribers bought CRWD off the setup, selling the balance of their shares near 63 on Friday, October 4.

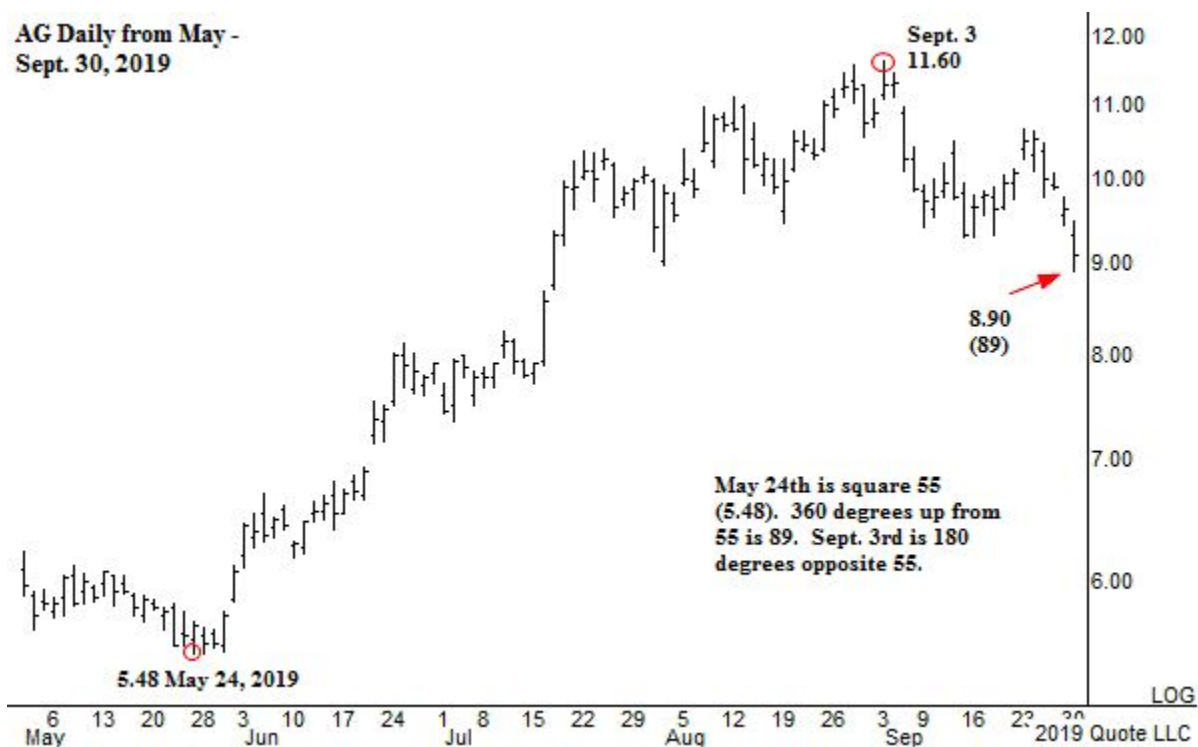
Using the Square with Low-Priced Stocks

I'm often asked whether the Square of 9 works with low-priced stocks.

The last example shows how we worked-out silver miner **AG** on the Wheel, allowing subscribers to benefit from a big run in calls and the stock.

AG struck a low of 5.48 on May 24.

To work with low-priced stocks, we move the decimal point to get 54.8 and round to get 55.

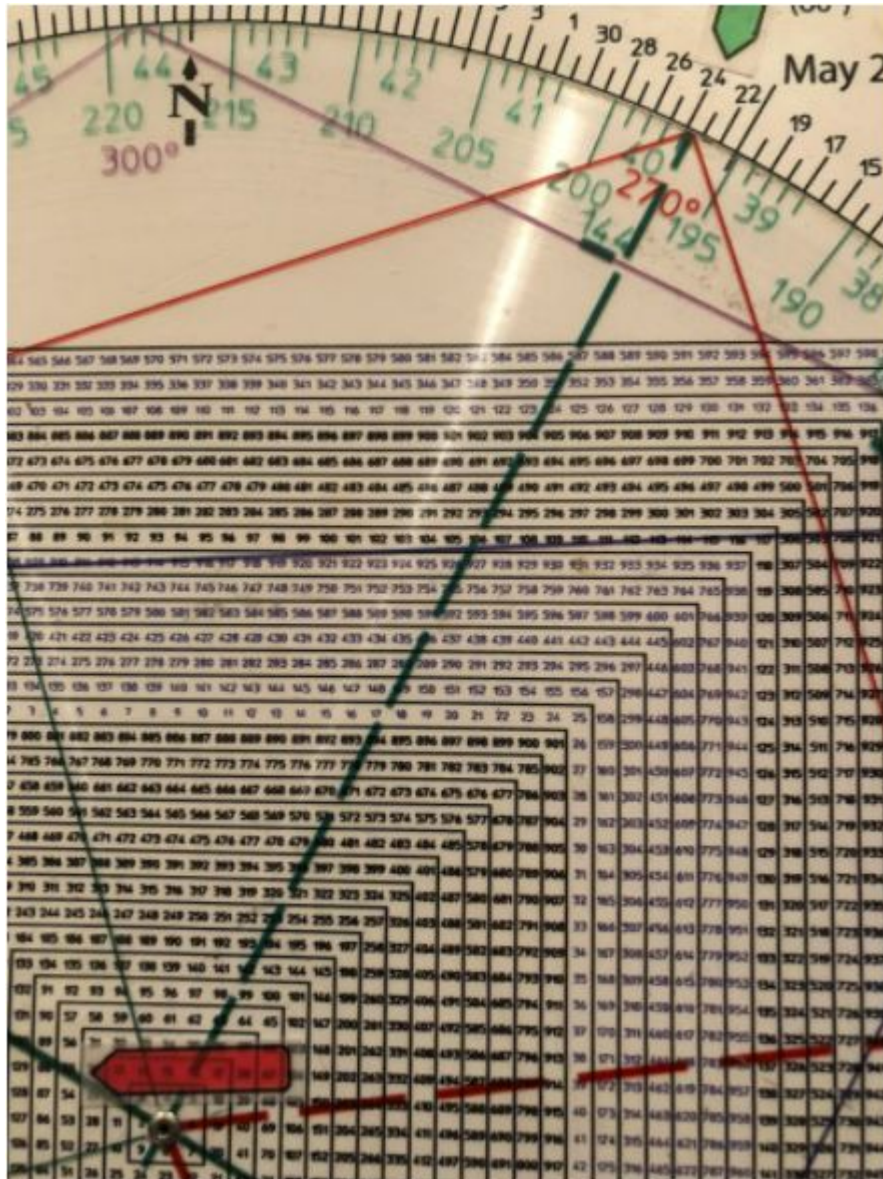


55 is square May 24.

360 degrees up from 55 is 89.

Moving the decimal point back, we get 8.90, which should act as support and subscribers re-loaded.

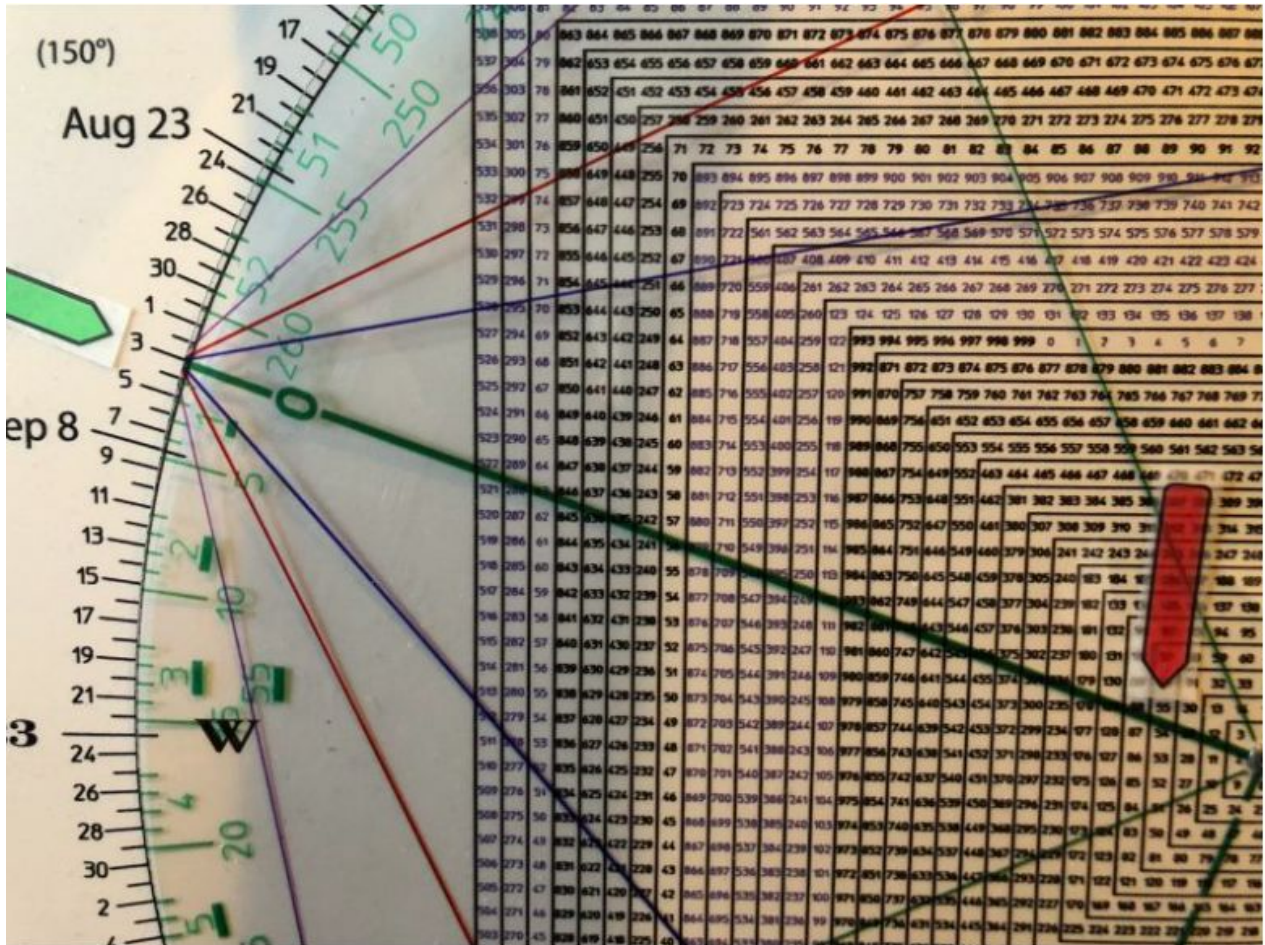
In late September, AG pulled back to 8.90 after a more than 100% run to 11.60 over in approximately 90 days (May 24 to early Sept – Notice that the big breakout day was June 3, exactly 90 days prior to the high).



Red arrow is 55

Green arrow is Sept 3

Interestingly, AG's 11.60 top on September 3 was a square-out with September 3 straight across and opposite 55 (the 5.48 low).



Red arrow is 55

Green arrow is Sept 3

Conclusion

The important thing to understand about the Square of 9 Wheel is that not all square-outs are created equal.

While all significant tops and bottoms are square-outs of time and price, not all square-outs are major tops or bottoms.

The key to speculation is observation of the behavior from a time and price relationship.

Combining time/price square-outs with signal bar reversals and price action is a superior way of capturing extraordinary swings and major trends.

The question I get asked the most is why does the Square of 9 work?

I can't tell you unequivocally why it works — just that it works.

The best way I know to explain how it works is in the proof offered in these examples.

The best way I know how to explain the value of the Square of 9 is that if you can't measure risk, you can't manage risk.