



How I Use Fibonacci to Identify Key Support and Resistance Levels

By Carolyn Boroden

The definition of **synchronicity is meaningful coincidence**. In the methodology I use to trade and advise clients, I look for the “meaningful coincidence” of price parameters and time parameters that are projected using the ratios derived from the **Fibonacci number series**.

These coincidences help me to define low-risk high-probability trading setups.

In this first tutorial, we are going to start with how we apply these ratios to price levels.

First, let's look at the **Fibonacci number series**.

Number Series:

0,1,1,2,3,5,8,13,21,34,55,89,144,233, etc.

This series starts with zero and one and goes on to infinity by adding the prior two numbers to get the next number in the series. Thus:

$$0 + 1 = 1$$

$$1 + 1 = 2$$

$$1 + 2 = 3$$

$$2 + 3 = 5$$

$$3 + 5 = 8$$

and so forth...

As you move further out in the series, the constant that is found when you divide one number by the next is the ratio of **.618** or what is commonly known as the “**golden ratio**.”

For example, 144 divided by 233 is .618.

This ratio, and others derived from it, is actually what I use to analyze the market.

You may be wondering what in the world is the significance of these ratios? Well, we won't get into that here because we can get into some rather lengthy discussions. What is most important about these ratios is not where they come from and why they work...but the fact that they continually show up in both nature and the marketplace.

The ratios that I have found work best in my analysis are:

.382, .50, .618, .786, 100, 1.272 and 1.618

Sometimes I also use **.236, 2.618** and **4.236** when appropriate.

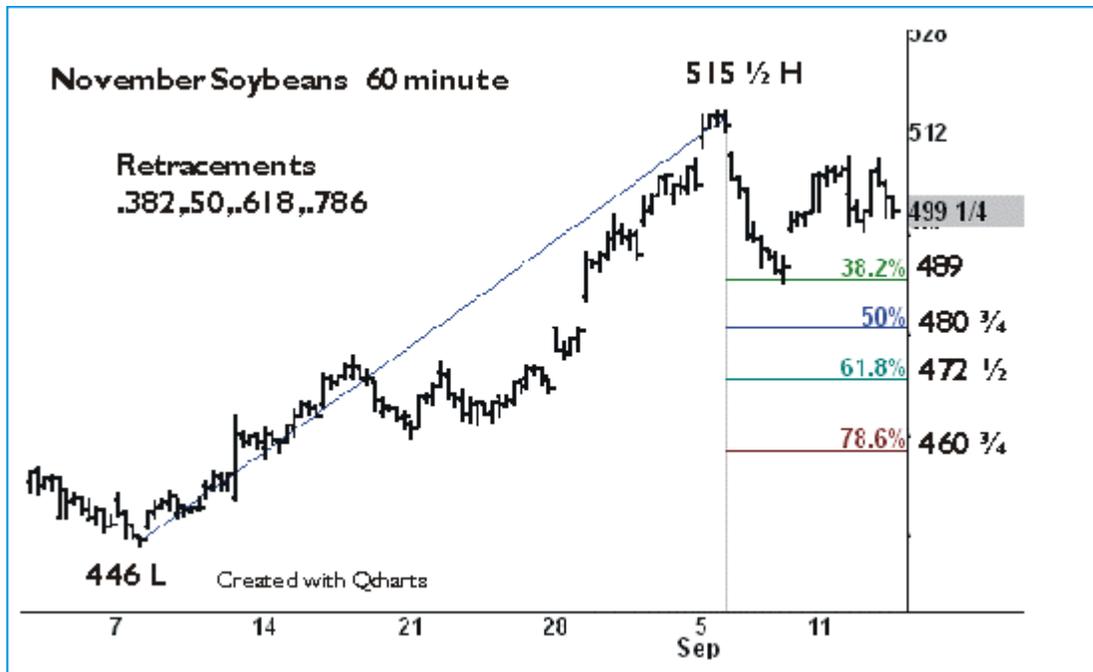
There are three types of price calculations we make from the key highs and lows in a particular market. These are **price retracements, price extensions** and **price projections** or **objectives**.

We make these projections to identify **potential price support** and **resistance**. We pay special attention to an area or price zone when we see the coincidence of at least three or more price relationships come together within a relatively tight range. This is called a **price cluster**. If you were to learn only how to use price clusters effectively, you will greatly improve your trading. Please understand that this type of analysis is not stand-alone. It's capable of giving you some great results, but you must look for patterns to set up and confirmatory price action at these price clusters before there is a trading opportunity.

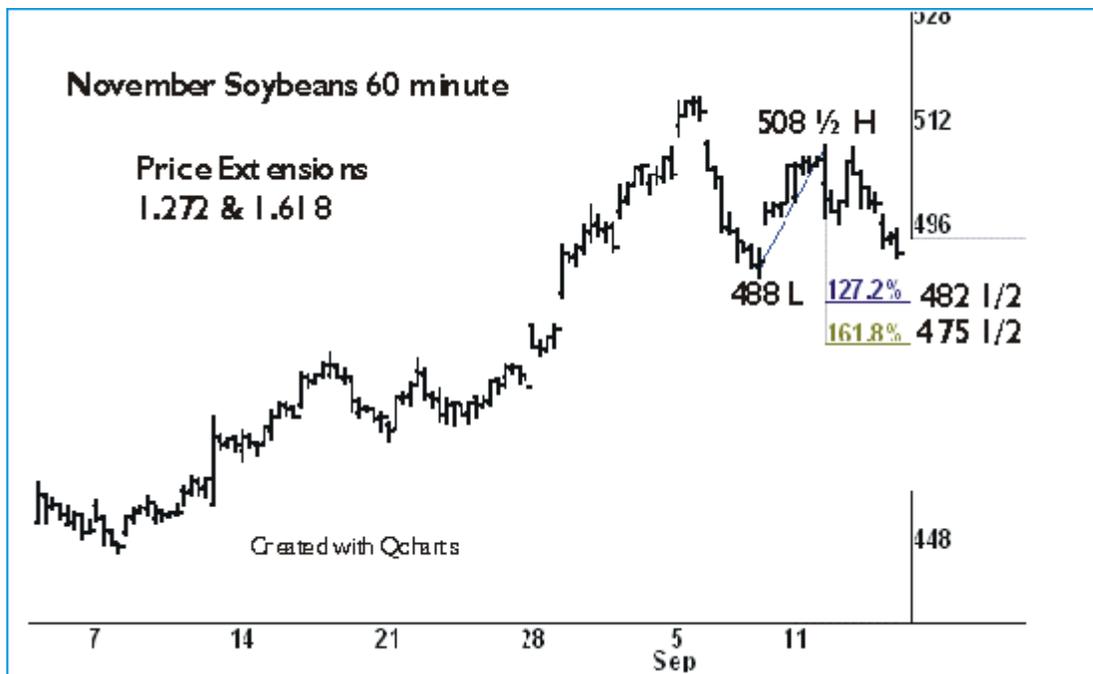
(The following chart examples were done on a 60-minute soybean chart of the November 2000 contract (SX0))

This methodology can be applied to both stocks and futures and all time frames therein. It works very well in all liquid stocks, stock indexes and commodities with adequate price history.

Retracements: Price retracements are calculated by measuring prior highs to lows or lows to highs and then determining the Fibonacci ratio retracements of this range. The ratios most often used for retracements are .382, .50, .618 and .786. In the following example, we measured the 446 low to the 515 1/2 high and ran all the price retracements from that low to high swing. This showed us potential support at 489, **480 3/4**, 472 1/2 and 460 3/4, which coincided with the .382, .50, .618 and .786 retracements.

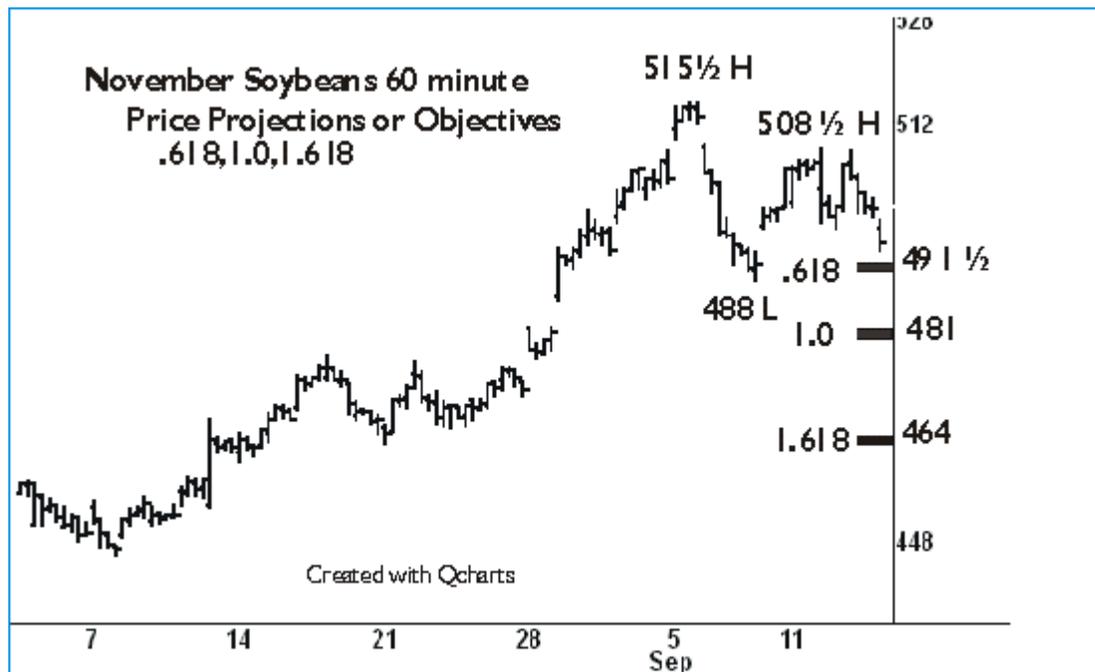


Extensions: Price extensions are essentially retracements that extend beyond 100%. Again, we are measuring prior highs to lows or lows to highs and then making the projections with the appropriate ratios. For price extensions, we are most often using the ratios of **1.272** and **1.618**. Occasionally, we will use **2.618** and **4.236**. In the following example, we measured the 488 low to the 508 1/2 high and came up with our price extension levels of **482 1/2** and then **475 1/2**, coinciding with the 1.272 and 1.618 extensions.



Price Objectives or Projections: Price objectives or projections are *always* calculated from three different price points in order to compare swings of the same degree and in the same direction. The ratios most often used for these projections are **.618, 1.00** and **1.618**. Here we would measure a swing high to a low (or a low to a high) and then project the ratios from the third point.

In the following example, we measured the swing from the 515 1/2 high to the 488 low (27 1/2 cents). We then project ratios calculated from this swing **from the 508 1/2 swing high**. To calculate the ratios, we multiplied 27 1/2 cents by .618, 1.0 and 1.618, which equals 17, 27 1/2 and 44 1/2 cents, respectively. We then then projected these results from the swing high by subtracting from 508 1/2 (for example: 508 1/2 - 17 cents = 491 1/2, or the .618 price projection). This gives us price projections of 491 1/2, **481** and 464.



So now that we have all these price calculations and levels all over the chart...which ones do we use to take a trade against?

Here are my preliminary criteria for determining whether I have a trade worth considering.

- 1) Clustering of levels (price-cluster zone coincidence of three or more Fibonacci price relationships within a relatively tight range).
- 2) Qualification via timing parameters (I see a time relationship coinciding with the price relationship--I will teach you about this in an upcoming lesson).
- 3) Analysis of a higher time-frame level agrees with the analysis at the lower-time frame.

For those reading this article, I suggest you go further. Look for chart patterns and other technical indicators to confirm the projected support or resistance levels.

Now let's look at this strategy in action...

Notice that in the above examples there was a confluence of price relationships that came in between $480 \frac{3}{4}$ and $482 \frac{1}{2}$. There was a 50% retracement at the $480 \frac{3}{4}$ level, there was a 1.272 price-extension level that came in at the $482 \frac{1}{2}$ level and there was a 100% price-projection level which came in at 481. This represents a clustering of price levels.

In the following chart, we can see that this "**confluence**" or cluster of price relationships within this zone put in a healthy low in the November soybean contract. The actual low was made at 482 and the rally that followed took this contract to $502 \frac{3}{4}$ within a week and a half.

Note that this is an example of the **first and most powerful way** we qualify the Fibonacci price relationships we use for trading. The other methods will be discussed in a future lesson. :)

