**Future Options And derivatives**

***Partially Resources From Microsoft Co-Pilot***

What is an Options (Warrants)?

An option is a financial derivative that gives the buyer the right (but not the obligation) to buy or sell an underlying asset (like a stock) at a predetermined price within a specific time frame. There are two main types of options:

1. **Call Option**: Gives the holder the right to buy the underlying asset at a specified price.
2. **Put Option**: Gives the holder the right to sell the underlying asset at a specified price.

Key parameters of an option include:

1. **Strike Price (Exercise Price)**: The fixed price at which the holder can buy or sell the underlying asset.
2. **Expiration Date**: The date by which the holder must exercise the option, or it expires worthless.
3. **Premium**: The price paid by the buyer to the seller (writer) of the option for acquiring the right.
4. **Underlying Asset**: The financial instrument (e.g., stock, index, commodity) on which the option is based.
5. **Volatility**: A measure of the asset's price fluctuations, which affects the option's value.
6. **Intrinsic Value**: The real value of the option if exercised (e.g., difference between stock price and strike price for a call option).
7. **Time Value**: The additional premium that reflects the remaining time until expiration.

Options or sometimes call warrants is a financial investment tools and strategies to hedge risks or speculate on price movements. It is also especially usefull for one to sell it’s own comodities (usually stockes) at an appropiate reasonable price. Let’s take an example on how it works.

Here are some brokers that are highly regarded for trading stock futures options:

1. **Interactive Brokers**: Known for its advanced trading tools and low fees, it's a great choice for experienced traders.
2. **tastytrade**: Offers competitive pricing and an intuitive platform, making it ideal for frequent options traders.
3. **TradeStation**: Provides robust trading technology and excellent support for futures and options.
4. **Charles Schwab**: Features the powerful thinkorswim platform, which is excellent for options trading.

As Hong Kong has no stocks options brokers and I live in Hong Kong, I will try to explain how it works by making up figures (I think this also applies to other US stocks).

For example, I am going to trade Tesla Stock No. (TSLA) for a **PUT option**. for the contract 10411 at the price 0.148. I am going to buy 100,000 total no of stocks. Below listed are the parameters:

Tesla closing price **$263.55** (As at today 28 March 2025)

1. **Strike Price (Exercise Price)**: The fixed price at which the holder can buy or sell the underlying asset. - **$350**
2. **Expiration Date**: The date by which the holder must exercise the option, or it expires worthless. - **21 May 2025**
3. **Premium (Stike Price - Stock Price)**: The price paid by the buyer to the seller (writer) of the option for acquiring the right. **$86.45 X Ratio = $10,000**
4. **Volatility**: A measure of the asset's price fluctuations, which affects the option's value - **71.68%**.

There are different scenarios base on the above data and we will talk about each.

1. If Tesla stock price equal or greater than the strike price during within the expire date.
   1. What the seller (PUT) gain is: $14,800 + (premium) $10,000 = $24,800
   2. If the buyer (Call) didn’t take any reacton (due to the current price is chaeaper that the agree strike price) by the end of the expirery date, then the buyer will losse all it’s premium, that is $10,000.
2. If Tesla stock price less than the strike price after the expirery date for example $250 which is less than $350.
   1. Then the seller will need to buy all the no of stocks for the buyer at a strike price of $350.

Then the buyer will gain:

(($350 - $250) X Agreeded No. Of Socks) - Premium

The seller will loss:

(($250 - $350) X Agreeded No. Of Stocks) + Premium

1. If Tesla stock price less than the strike price after the expirery date for example $250 which is less than $350. However, the seller personally owns Tesla stock which is brought from the average price of $230.
   1. Then the seller will need to buy all the no of stocks for the buyer at a strike price of $350.

Then the buyer will gain:

(($350 - $250) X Agreeded No. Of Socks) - Premium

The Seller will Loss / Gain:

((($250 + $230) / 2 - $350) X Agreeded No. Of Stocks) + Premium

1. If Tesla stock price less than the strike price after the expirery date for example $250 which is less than $350. However, the seller personally buys equal no of Tesla stock at the price of $250.
   1. Then the seller will need to buy all the no of stocks for the buyer at a strike price of $350.

Then the buyer will gain:

(($350 - $250) X Agreeded No. Of Socks) - Premium

The Seller will Loss / Gain:

((($350 + $250) / 2) X Agreeded No. Of Stocks) + Premium

Therfore this financial tools is recommended for the ones who owns the relavant stocks to perform PUT options.