Options Strategies Workshop

Reference Guide

charles SCHWAB

Own your tomorrow®

How to use this guide

This reference guide is a tool to assist you in your learning during and after the Technical Analysis workshop.

During the Workshop

- Follow along with the presenter—the slides are in the guide.

After the Workshop

- Continue using the guide as a reference of all you've learned.

Keep the conversation going

Make sure to follow Charles Schwab on these social channels to stay connected with industry-thought leaders and fellow investors.

facebook.com/CharlesSchwab

youtube.com/@tradertalkswebcasts

@SchwabTrading

Important Information

Options carry a high level of risk and are not suitable for all investors. Certain requirements must be met to trade options through Schwab. Multiple-leg options strategies will involve multiple commissions. With long options, investors may lose 100% of funds invested. Spread trading must be done in a margin account. Writing uncovered options involves potentially unlimited risk. Please read the options disclosure document titled "Characteristics and Risks of Standardized Options". Call Schwab at 800-435-4000 for a current copy. Supporting documentation for any claims or statistical information is available upon request.

The information here is for general informational purposes only and should not be considered an individualized recommendation or personalized investment advice. The type of securities and investment strategies mentioned may not be suitable for everyone. Each investor needs to review a security transaction for his or her own particular situation.

The information provided through this event is generated for general informational purposes only and is not advice or a recommendation. Any views expressed by third-party speakers are solely their own and may not represent those of Charles Schwab. Charles Schwab does not guarantee the accuracy, completeness, or reliability of information provided by third parties. Any materials are provided only for your personal use and are designed to be used only in conjunction with the event - you may not reproduce, retransmit, distribute, disseminate, sell, publish, broadcast or circulate them without express prior written consent.

Schwab does not recommend the use of technical analysis as a sole means of investment research.

The paperMoney® software application is provided for educational purposes only, and allows users to engage in simulated trading with hypothetical funds using live market data. Market activity, trade executions, transaction costs, and other elements presented in paperMoney are simulations only. Simulated performance does not ensure success in a live environment.

For the sake of simplicity, the examples in this presentation do not take into consideration commission and other transaction fees, tax considerations, or margin requirements, which are factors that may significantly affect the economic consequences of strategies displayed. Please contact a tax advisor for the tax implications involved in these strategies.

Investing involves risks, including loss of principal.

@BenWatsonCS

Ben Watson, Education Coach

- Education Coach since 2005
- Host of *Your First Trade* on the Schwab Network*
- Specializes in teaching technical analysis and options strategies

*Schwab Network is brought to you by Charles Schwab Media Productions Company ("CSMPC"). CSMPC and Charles Schwab & Co., Inc. are separate but affiliated subsidiaries of The Charles Schwab Corporation. CSMPC is not a financial advisor, registered investment advisor, broker-dealer, or futures commission merchant.

@ScottDurfeyCS

Scott Durfey, Education Coach

- Education Coach since 2006
- Regular contributor on the Schwab Network*
- Specializes in teaching the thinkorswim® platform, technical analysis, stocks, and options strategies

*Schwab Network is brought to you by Charles Schwab Media Productions Company ("CSMPC"). CSMPC and Charles Schwab & Co., Inc. are separate but affiliated subsidiaries of The Charles Schwab Corporation. CSMPC is not a financial advisor, registered investment advisor, broker-dealer, or futures commission merchant.

@RayKimbrellCS

Ray Kimbrell, Education Coach

- Education Coach since 2004
- Regular contributor on the Schwab Network*
- Specializes in teaching the thinkorswim® platform, technical analysis, and options strategies

*Schwab Network is brought to you by Charles Schwab Media Productions Company ("CSMPC"). CSMPC and Charles Schwab & Co., Inc. are separate but affiliated subsidiaries of The Charles Schwab Corporation. CSMPC is not a financial advisor, registered investment advisor, broker-dealer, or futures commission merchant.

Workshop agenda

01

Options basics

02

Greeks

03

Covered calls

Workshop agenda

04

Cash-secured puts

05

Short vertical spreads

Session 1

Options Strategies Workshop

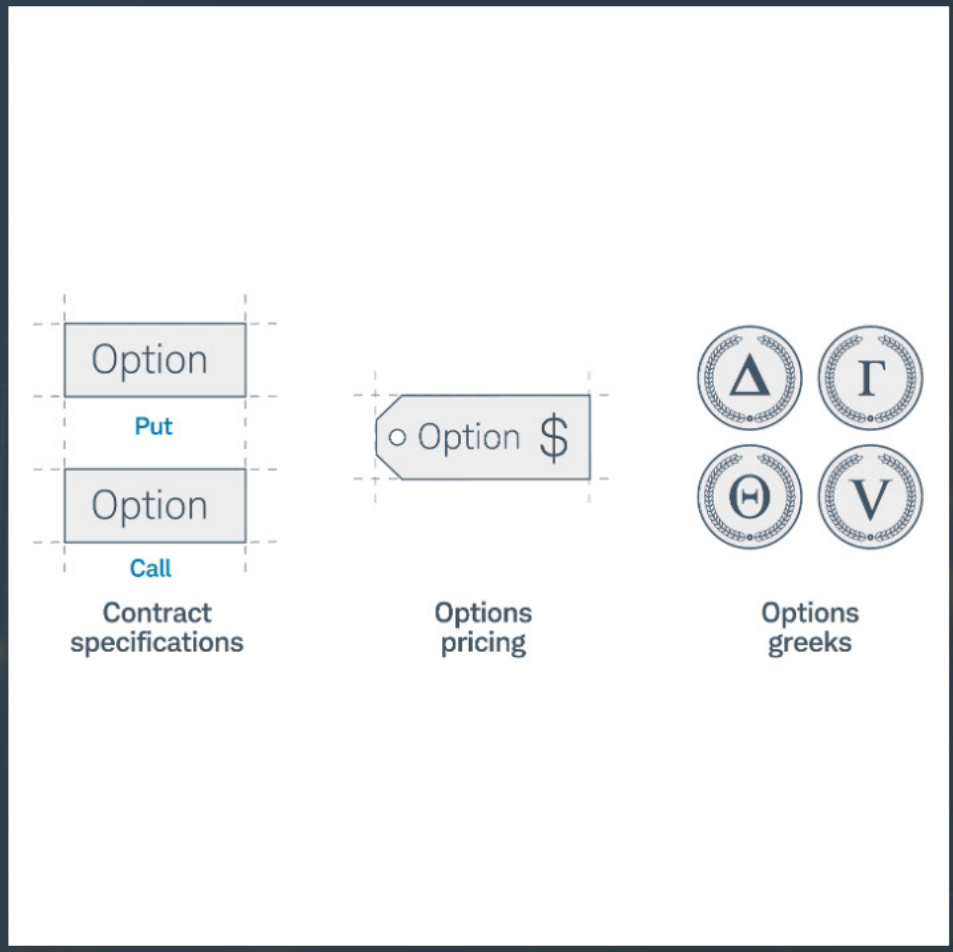
01
Options basics

02
Greeks

03
Covered calls

Goals for this session

- Learn the basics of an options contract.
- Differentiate between calls and puts.
- Identify how buying or selling options can change a trade's characteristics.
- Explore the various ways an options trade can end.
- Determine how changes in various factors can impact the price of an option.



Standard option contract involves 100 shares. Options contract expires at a certain date, unlike stocks.

What is an option?

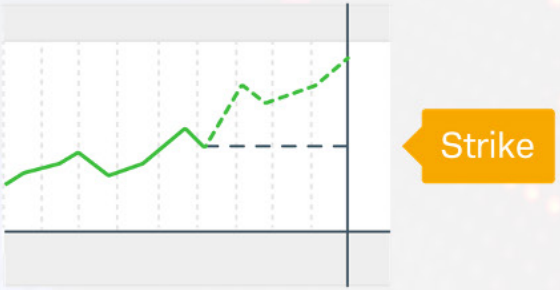
An options contract gives buyers the right to buy or sell a specified number of shares of a stock or ETF at a certain price (strike price) before a certain date (expiration).

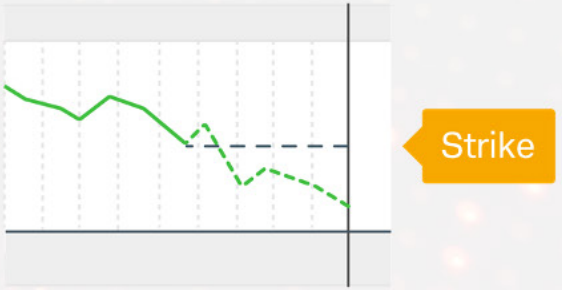
- **Underlying**
  XYZ
- **Quantity**
  100 shares
- **Premium**
  $1.20
- **Strike price**
  $200
- **Expiration**
  July 2024

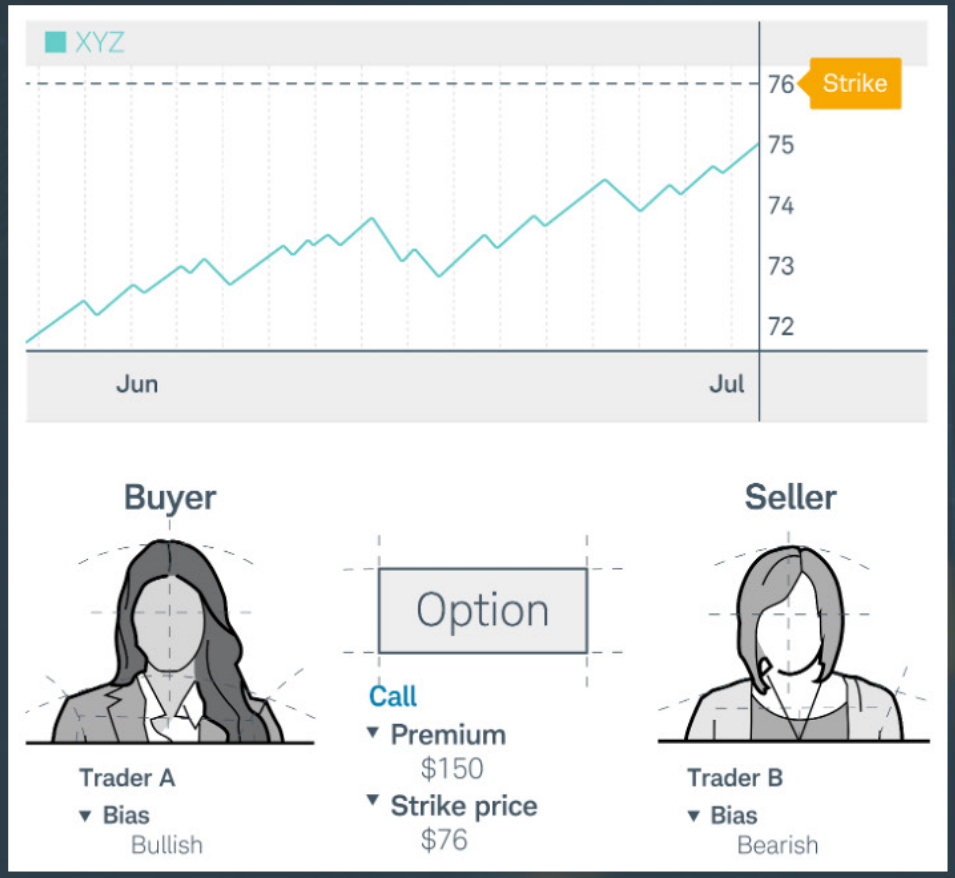
Long Call - We Buy a Call , expecting the price will go up. Have the riight to buy
Buyin Put, expectation value will go down. Have the right to sell
Seller of an option is obligated

Two types of options: Calls and puts

	Calls	Puts
Buyer rights	Rights to buy underlying	Rights to sell underlying
Seller obligations	Obligated to sell underlying	Obligated to buy underlying
Bias	Contract gains value when underlying increases	Contract gains value when underlying decreases





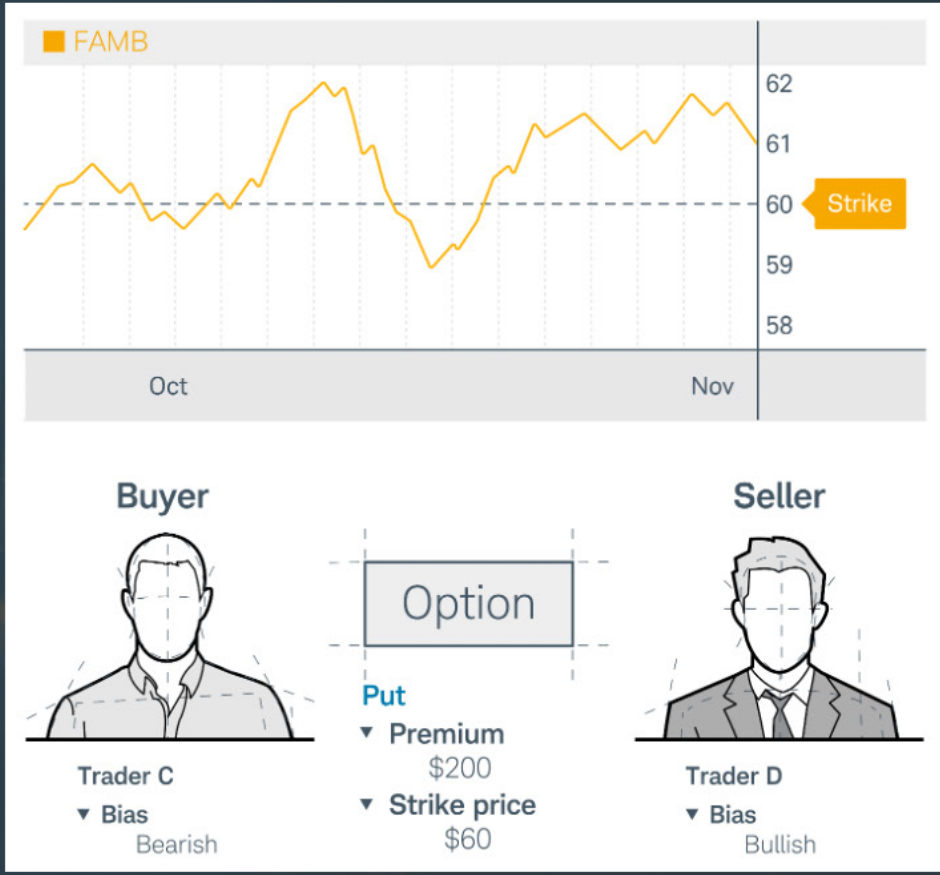


Calls

- What if...
  - Price rises to $78
  - Price falls to $74

Puts

- What if...
  - Price stays at $61
  - Price falls to $58



The options multiplier

The total amount an investor pays for a single options contract equals the price of the option (the premium) times the options multiplier (generally, 100).

Premium	×	Options multiplier	=	Amount investor pays*
$1.20		**100**		**$120**

*In this example, $1.20 x 100 = $120 plus transaction costs (brokerage commissions and fees).

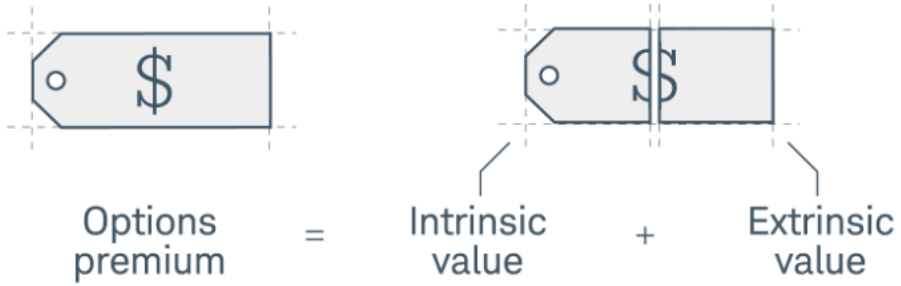
Long vs. short

Rights & obligations

Buyer

Seller

	Call	Put
Long	**Long call** ▪ Buying the right to buy underlying at strike price ▪ Bullish	**Long put** ▪ Buying the right to sell underlying at the strike price ▪ Bearish
Short ▪ Seller of options contract ▪ Obligated to fulfill contract if exercised	**Short call** ▪ Obligated to sell the underlying at the strike price ▪ Bearish	**Short put** ▪ Obligated to buy the underlying at the strike price ▪ Bullish



Understanding options premium

The options premium (option price) has two parts: intrinsic and extrinsic value.

- **Intrinsic value** is the difference between the strike price of the option and the market price of the underlying. This value is only impacted by the price of the underlying.
- **Extrinsic value** is the value an option has because of time and implied volatility. This value melts away by expiration.

Options pricing

Influences

Trading options requires more than just looking at trend. The price of an option can be impacted by multiple factors.

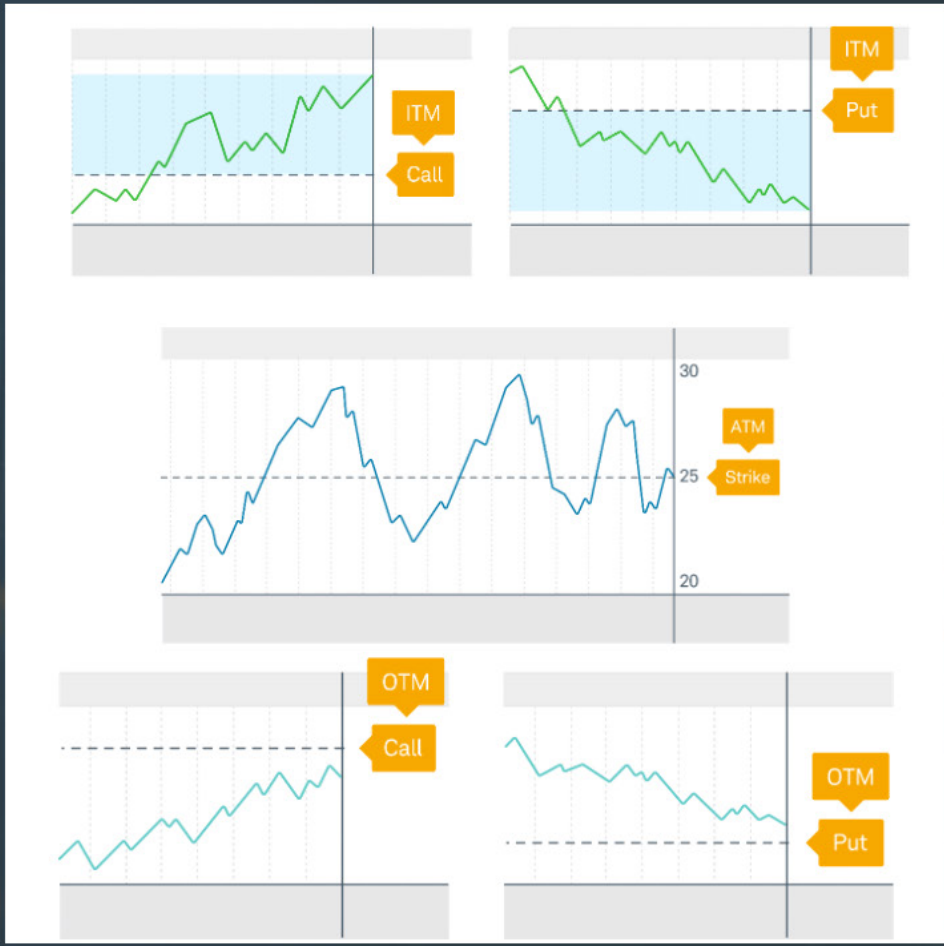
- Price of the underlying:
  - Call options gain value when stock price increases. Put options gain value when stock price decreases.
  - Expensive stocks often have more expensive options premiums.

- Time:
  - This is how much time is left until expiration.
  - Time value decays faster as it nears expiration.

- Implied volatility:
  - This is how much price movement is expected by the market before expiration.
  - When expected volatility is high, options may be more expensive.

Options premium

- In the money (ITM):
  - Option has intrinsic value
- At the money (ATM):
  - Strike closest to the current price of the underlying
- Out of the money (OTM):
  - Option has no intrinsic value

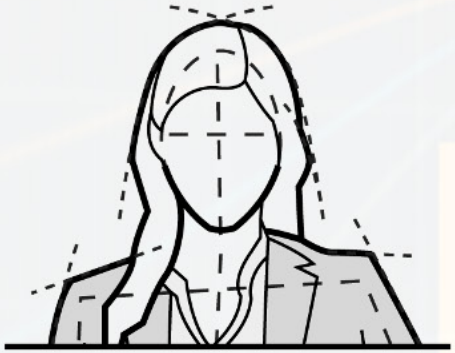


How options trades can end

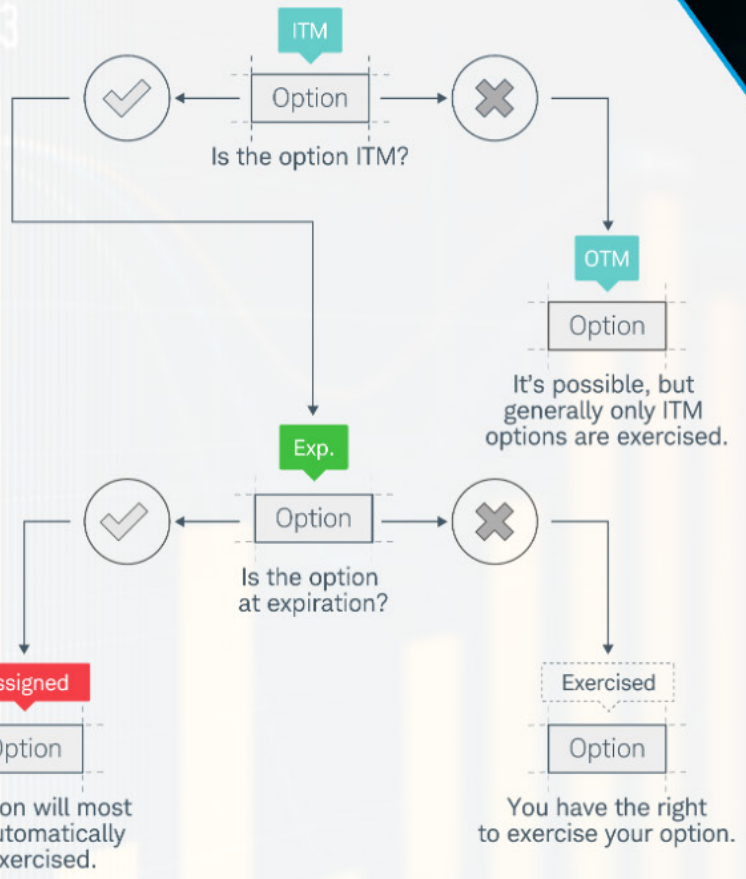
	Before expiration	At expiration
Buyers	▪ Sell back to close trade ▪ Roll to different expiry/strike* ▪ Exercise	▪ Automatic exercise* (ITM) ▪ Let trade expire worthless (OTM)
Sellers	▪ Buy back to close trade ▪ Roll to different expiry/strike* ▪ Early assignment**	▪ Assignment (ITM)** ▪ Let trade expire worthless (OTM) ▪ Pin risk (ATM)

*Rolling strategies can entail substantial transaction costs, including multiple commissions, which may impact any potential return. There is no guarantee of a secondary (liquid) market for any option at any given time. **Short options can be assigned at any time up to expiration regardless of the in-the-money amount.

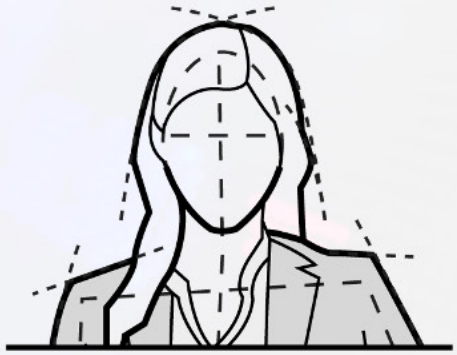
Exercised options



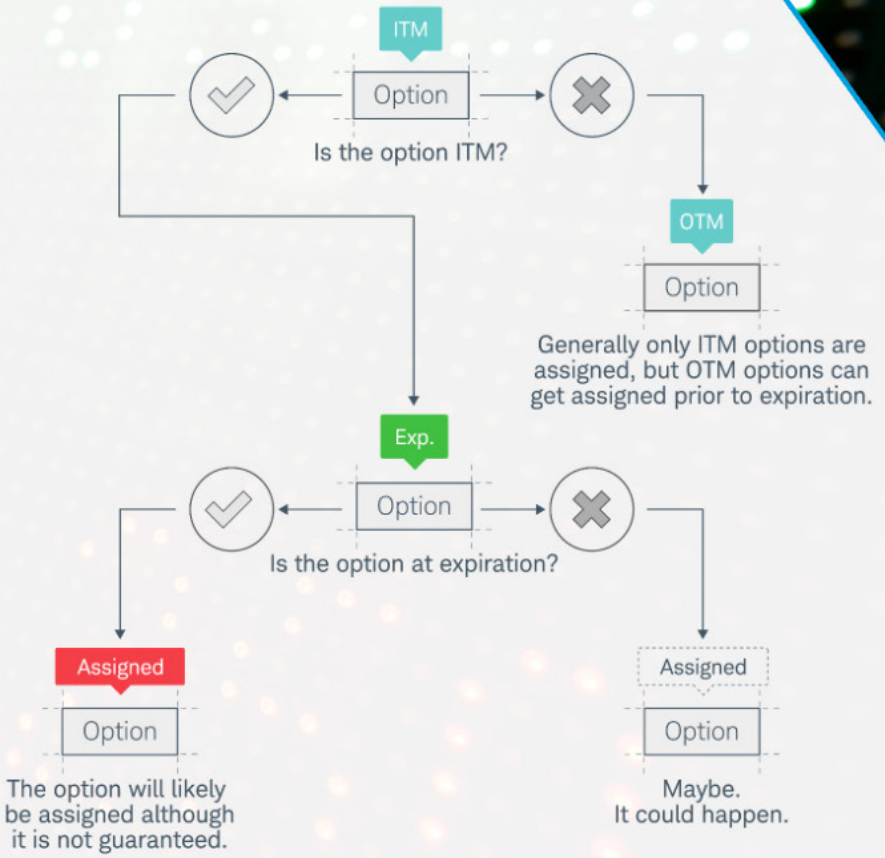
I bought an option.
Can it be exercised?



Assigned

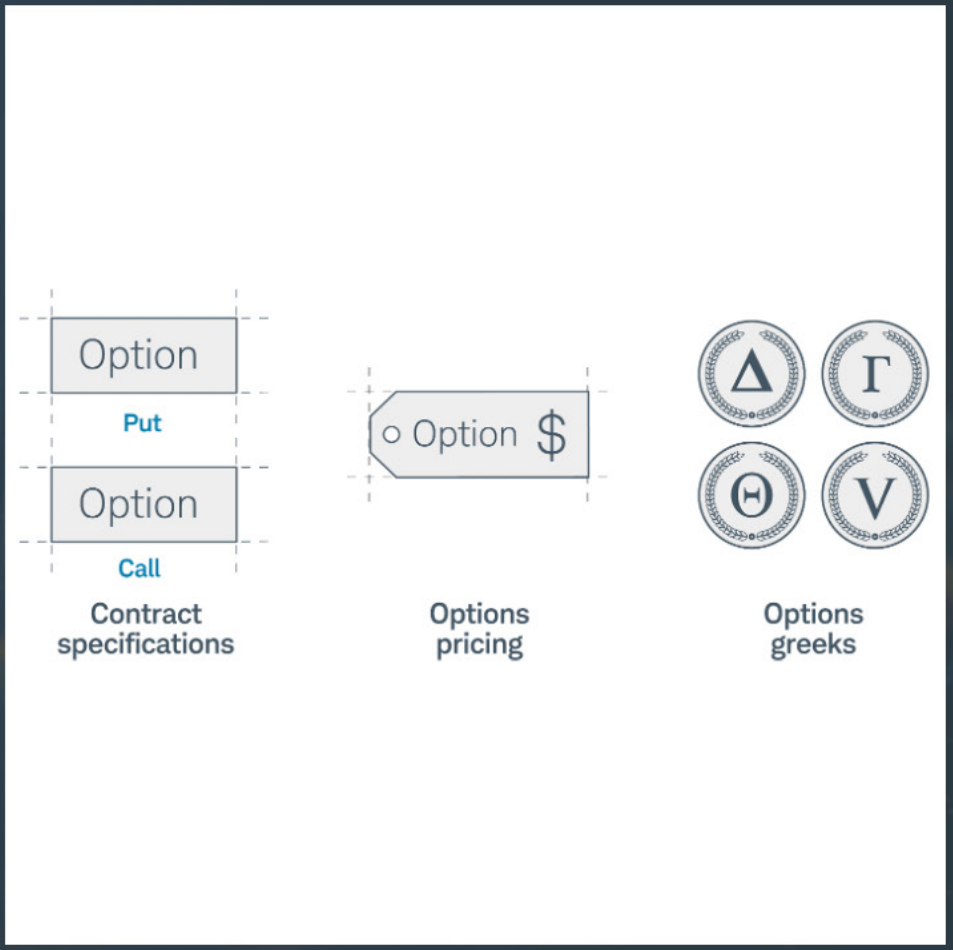


I sold an option.
Am I going to be assigned?



Goals recap

- ✓Learn the basics of an options contract.
- ✓Differentiate between calls and puts.
- ✓Identify how buying or selling option can change a trade's characteristics.
- ✓Explore the various ways an options trade can end.
- ✓Determine how changes in various factors can impact the price of an option.



Workshop agenda

01

Options basics

02

Greeks

03

Covered calls

Session 2

Options Strategies Workshop

01

Options basics

02

Greeks

03

Covered calls

Goals for this session

- Determine how changes in various factors can impact the options premium.

Understanding how prices change

Options greeks help traders measure and understand how different factors can impact the options premium.

Delta

Gamma

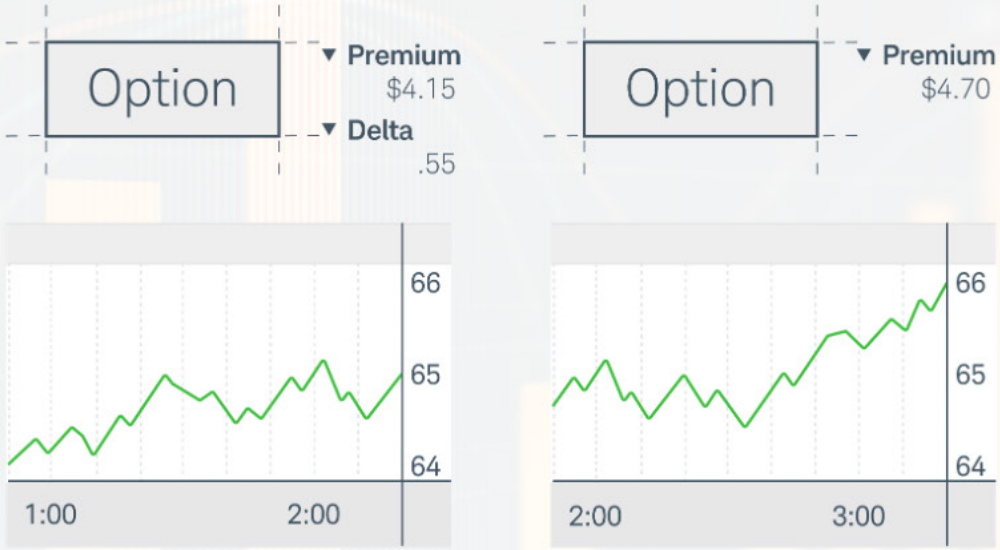
Theta

Vega

Options greeks: Delta

Delta measures how sensitive an option is to a $1 change in the price of the underlying.

Delta



Options greeks: Delta

Delta is also used, by some traders, as a proxy to estimate the likelihood that an option will expire ITM.

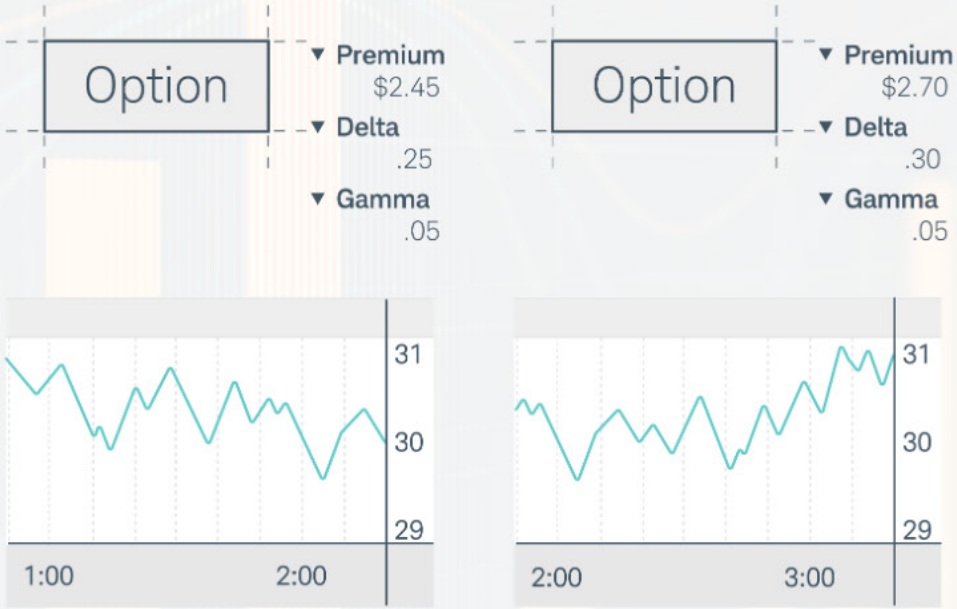
Delta

Probability of expiring ITM

Options greeks: Gamma

Gamma measures how much delta may change with each $1 move of the underlying.

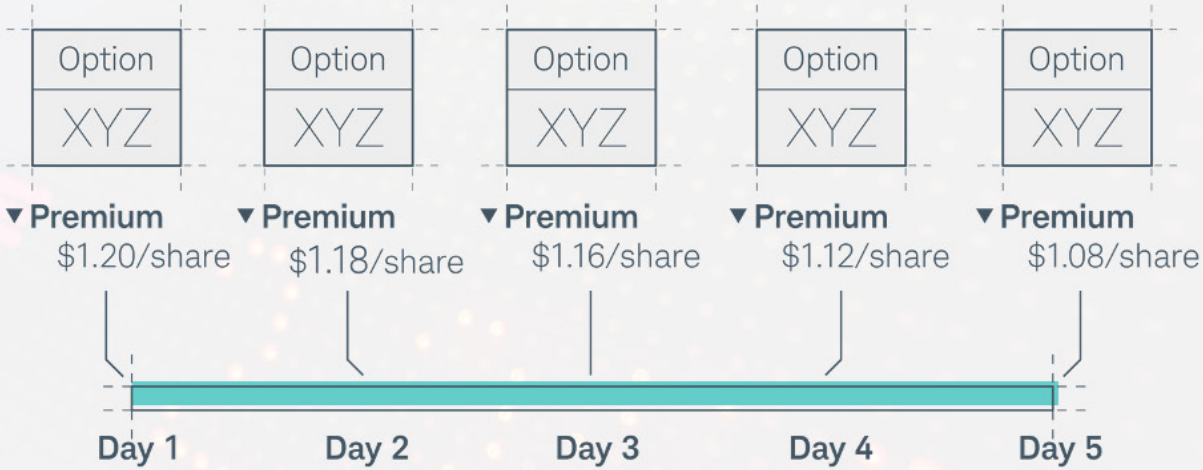
Gamma



Options greeks: Theta

Theta measures how sensitive an option is to time decay.

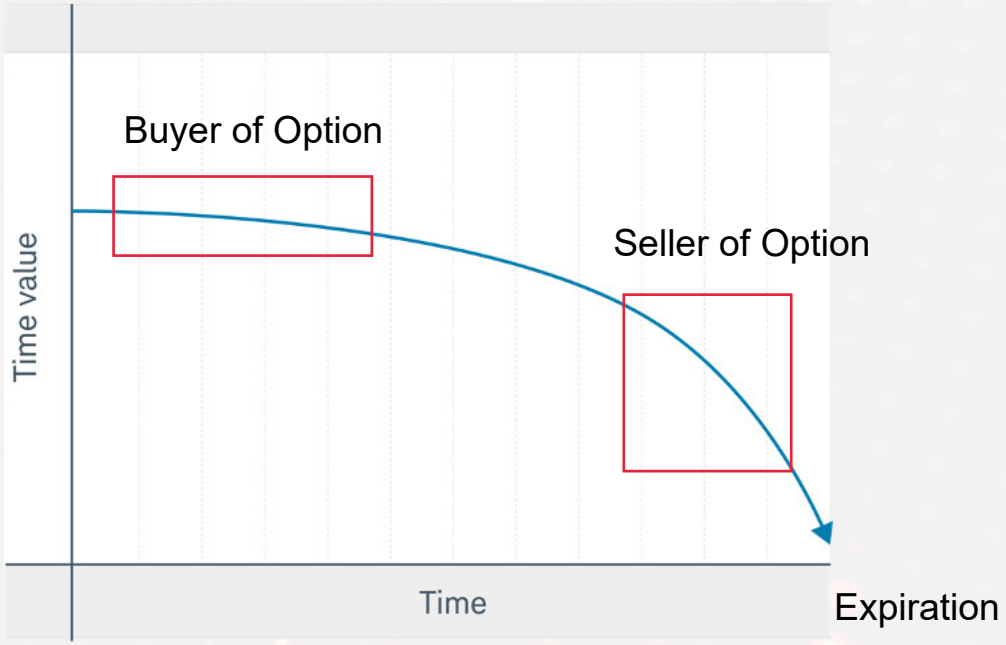
Theta



Options greeks: Theta

Theta measures how sensitive an option is to time decay.

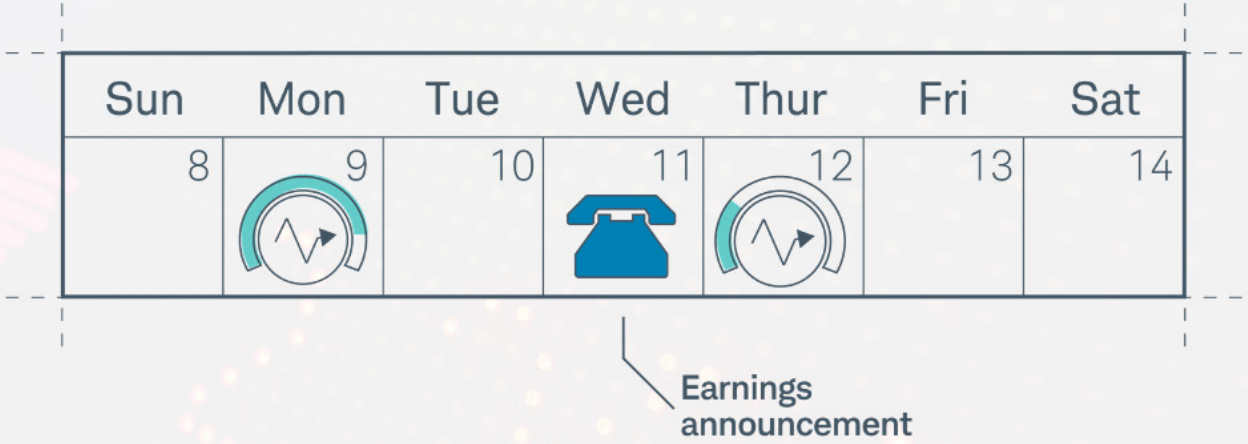
Theta



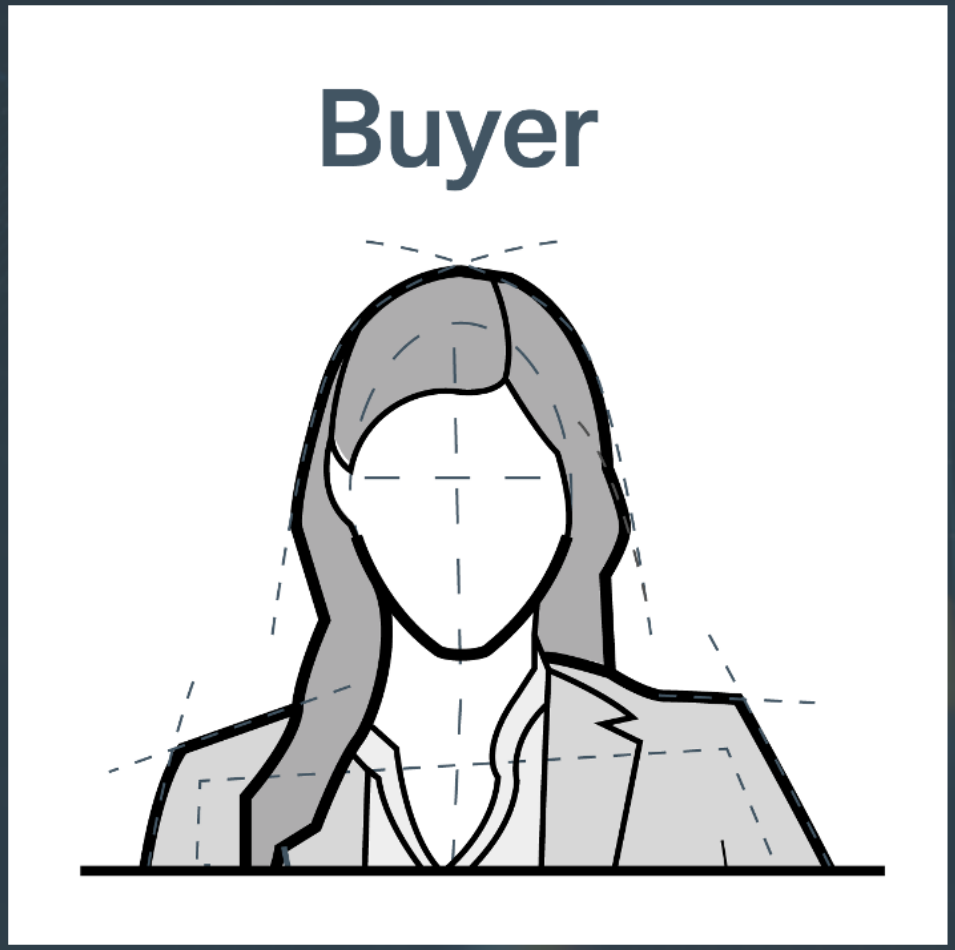
Options greeks: Vega

Vega measures how sensitive an option is to changes in the volatility of the underlying asset.

Vega



For illustrative purposes only.

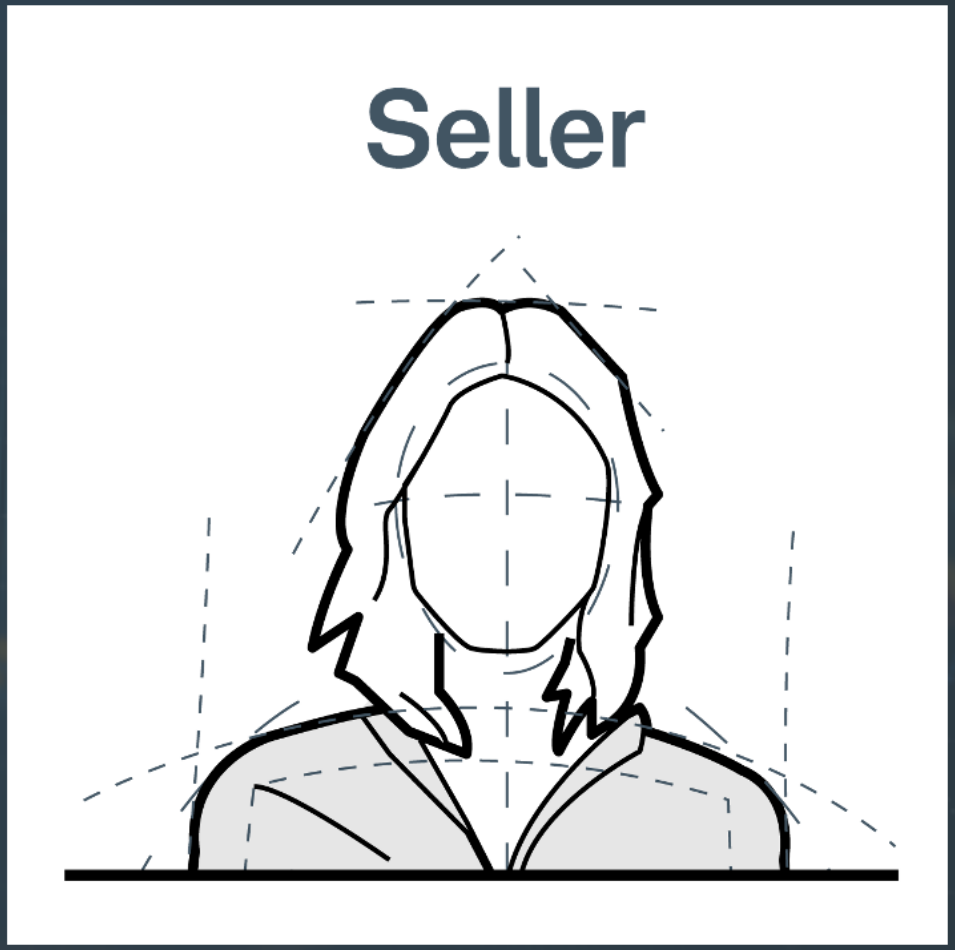


Considerations when buying options

- How far do I expect the stock to go?
  - This impacts strike price.
- How long do I think it will take?
  - Time decay works against buyers.
- Is volatility working in my favor?
  - Relatively low volatility is favorable.
- Do I have a plan?
  - Entries, exits, position size, etc.

Considerations when selling options

- How far do I expect the stock to go?
  - This impacts strike price.
- How long do I think it will take?
  - Time decay works for sellers.
- Is volatility working in my favor?
  - Relatively high and falling volatility is favorable.
- Do I have a plan?
  - Entries, exits, position size, etc.



Goals recap:

- ✓ Determine how changes in various factors can impact the options premium.

Workshop agenda

01

Options basics

02

Greeks

03

Covered calls

Session 3

Options Strategies Workshop

01

Options basics

02

Greeks

03

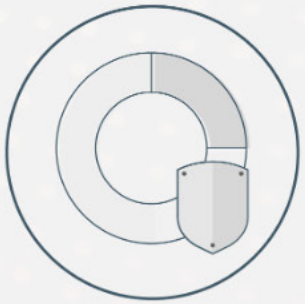
Covered calls

Three uses of options in a portfolio

Generate income

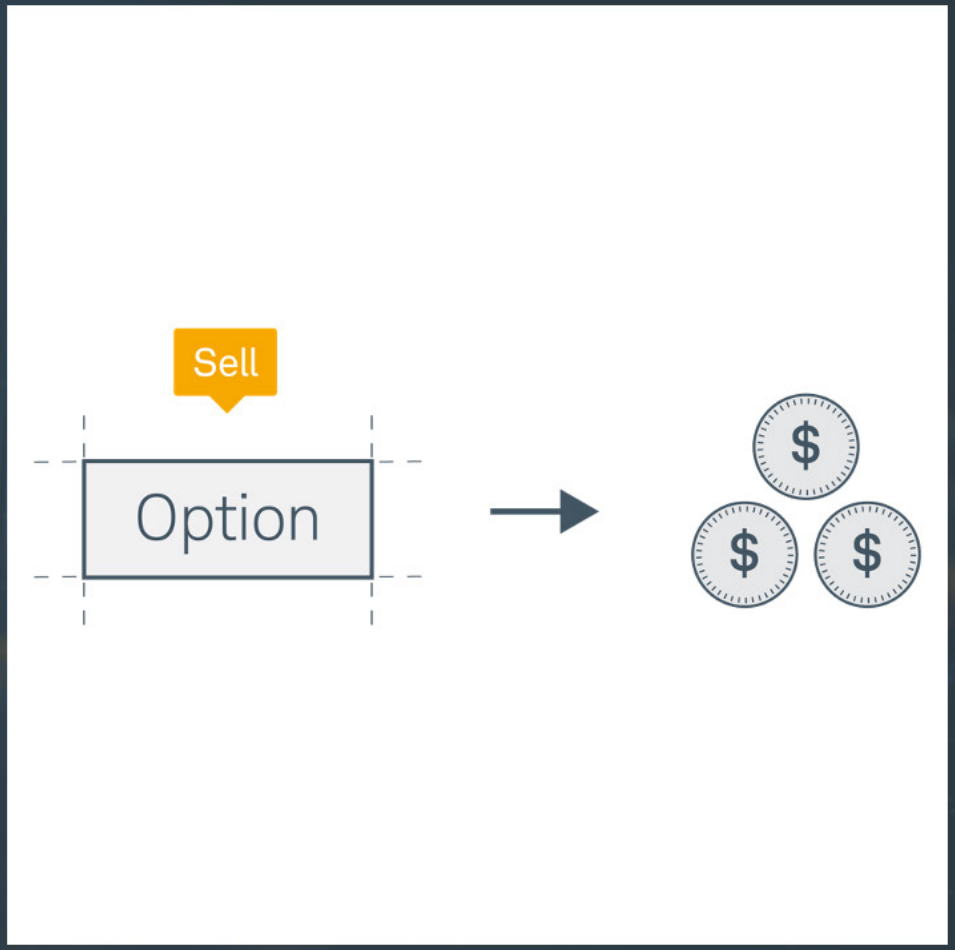
Speculate

Hedge



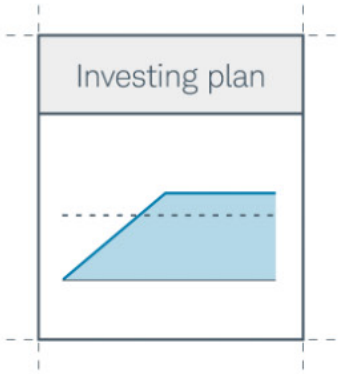
Generating income with options

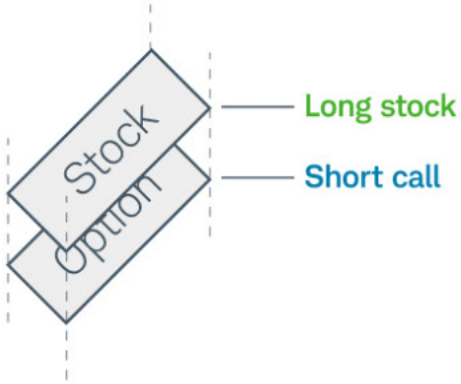
- **What it is**: Selling options to generate income through premium.
- **Pro**: Collect premium.
- **Con**: Assignment risk; obligated to buy or sell underlying if option is exercised. Option value increase may require purchase at a higher amount.



Goals for this session

- Search for and evaluate securities that meet sample criteria.
- Calculate position size and plan exits.
- Practice placing covered call paper trades.





Objective

Covered calls

To generate income by selling OTM calls on stocks you already own. Consider when conditions are favorable, rather than on a regular schedule.

Long stock

▼ **Bias**

Bullish

Short call

▼ **Bias**

Neutral to bearish

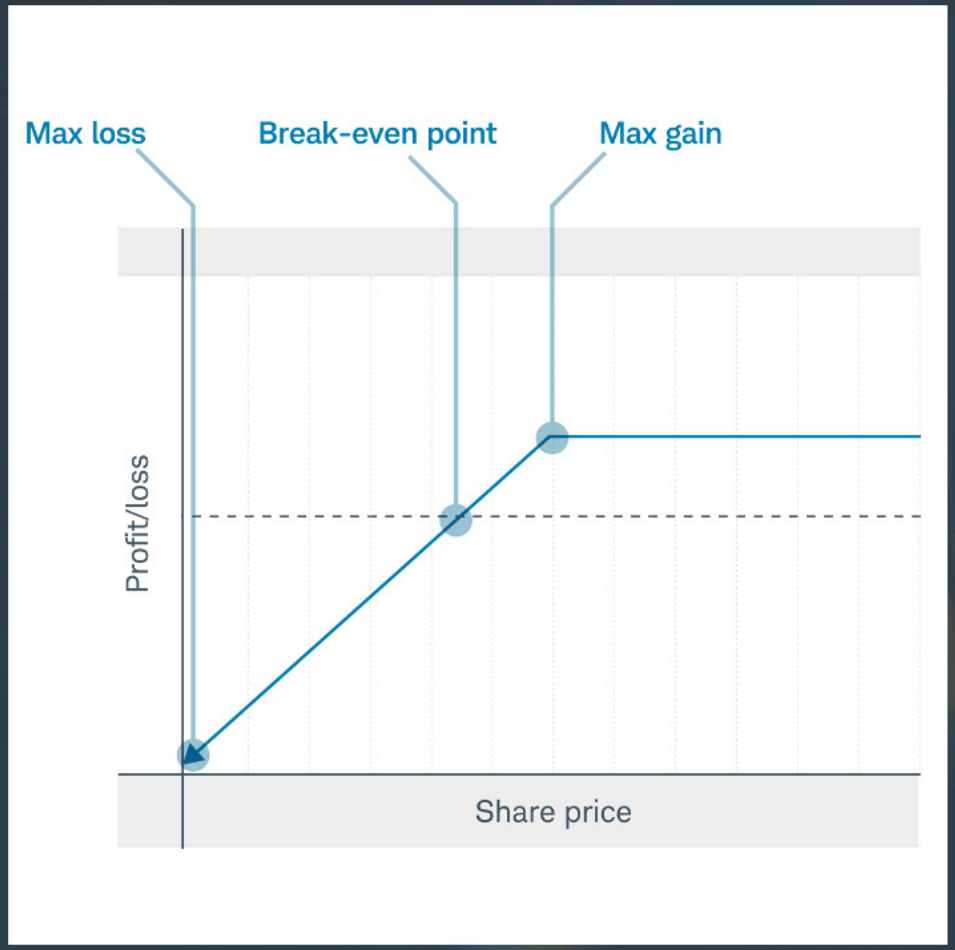
Covered call

▼ **Bias**

Bullish

Money management

Consider selling up to one call contract for every 100 shares of a stock position.

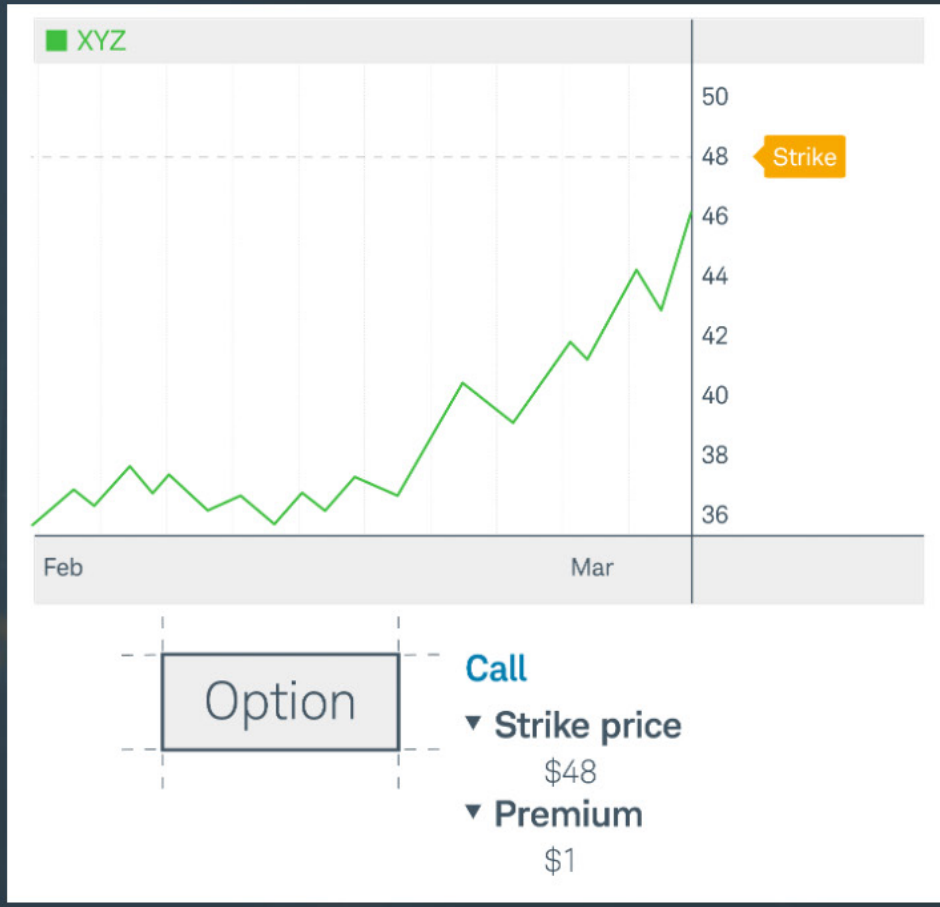


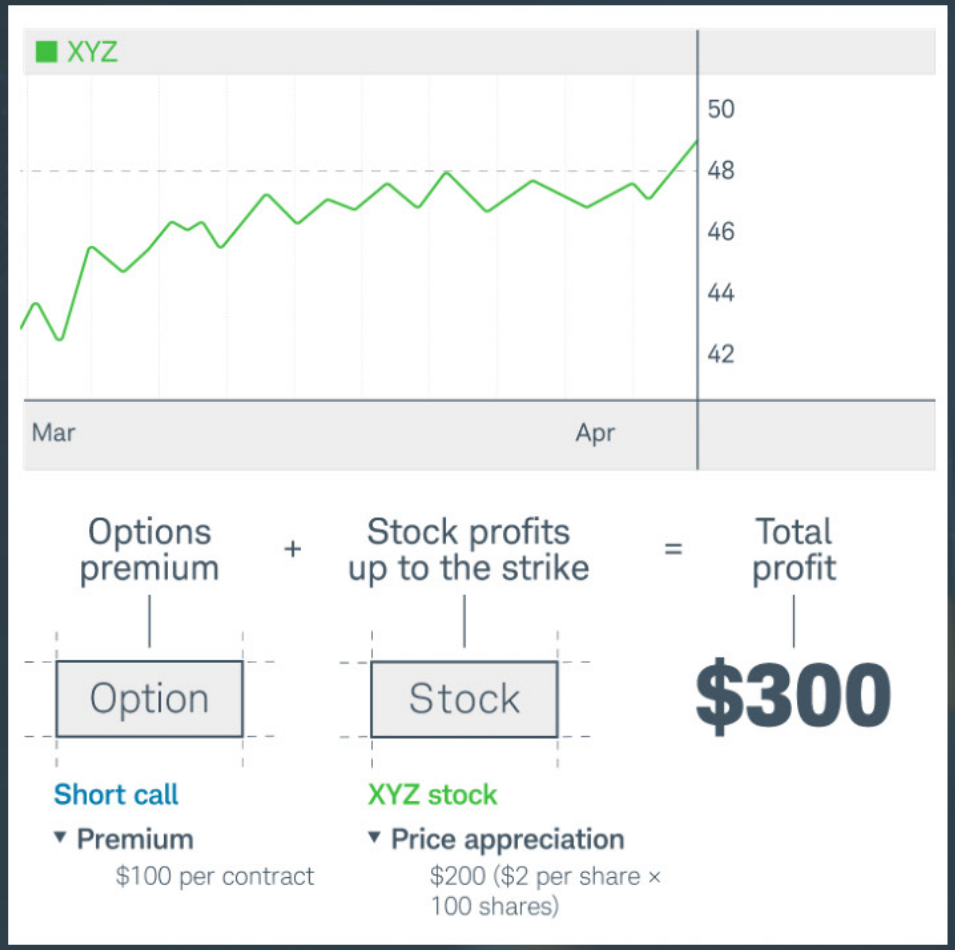
Risk profile

- Max gain:
  - Premium + gains in underlying up to strike price
- Max loss:
  - Amount lost if underlying stock falls to zero
- Break-even point:
  - Purchase price of the stock – premium

Example

- You own 100 shares of XYZ stock at $46 per share.
- You decide to sell a call contract.
- You sell the 48 strike that expires in 30 days for a credit of $1.





What if the stock goes up a lot?

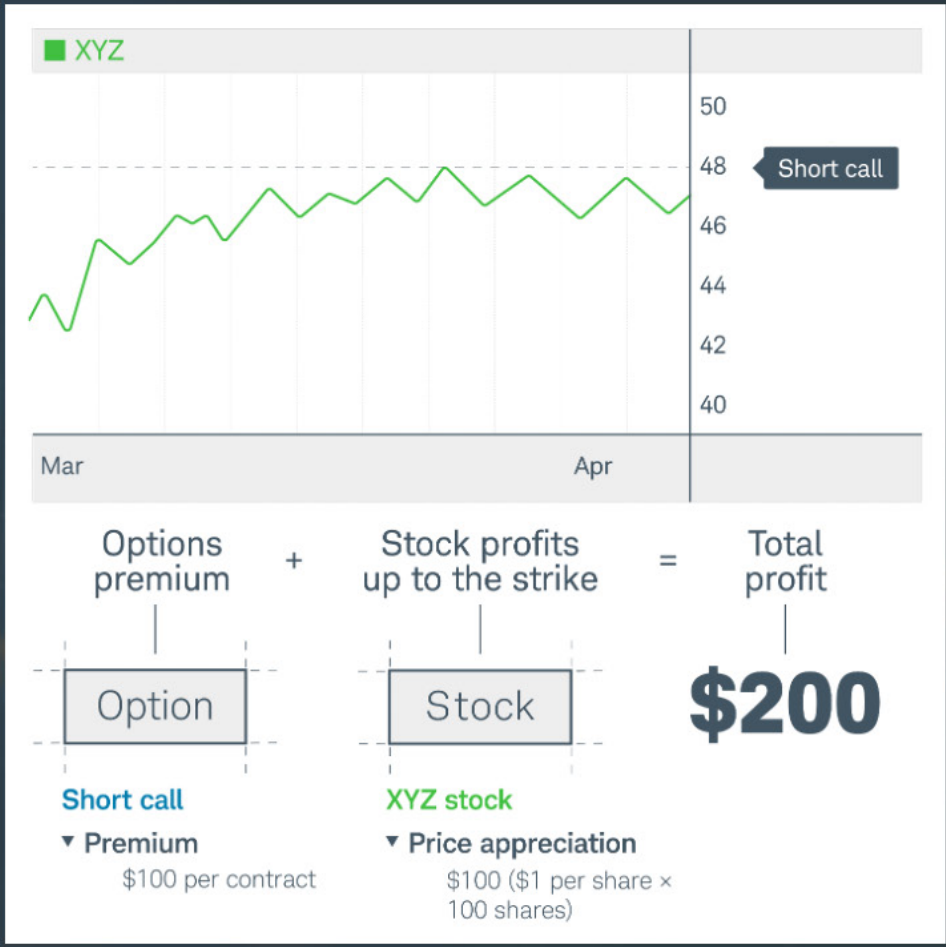
Let's say the stock rises to $49 prior to or at expiration:

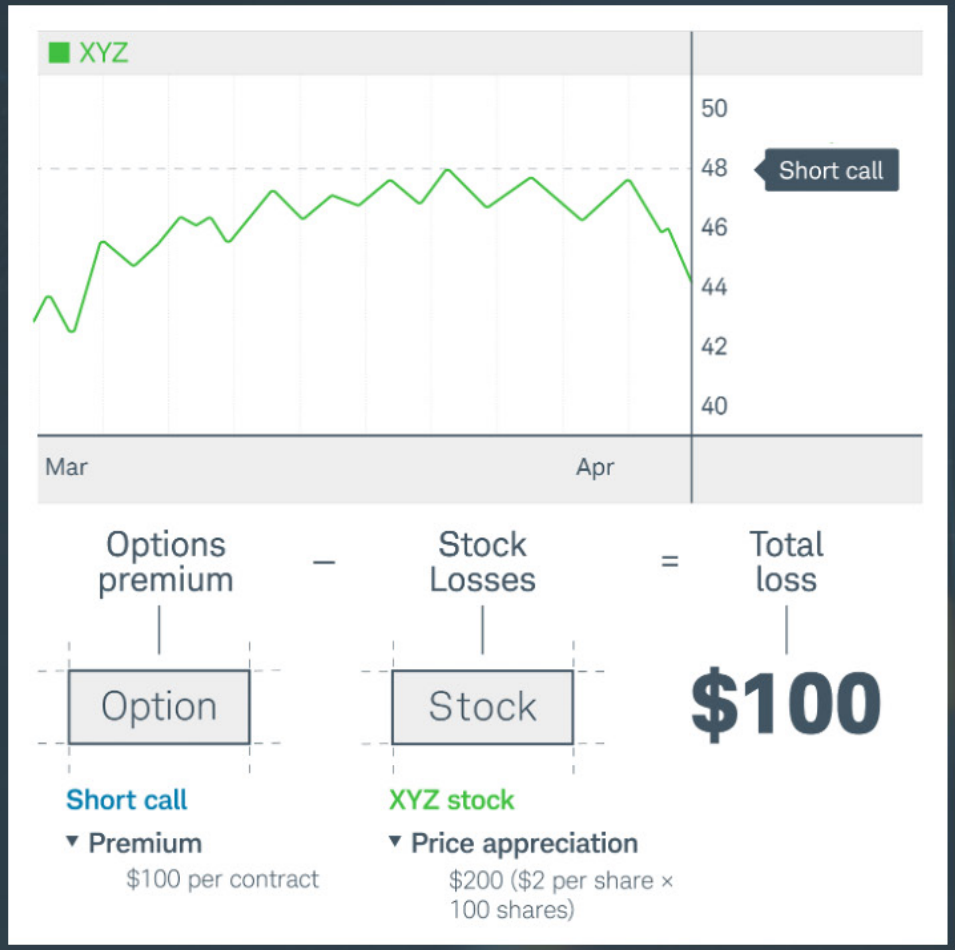
- Your option is ITM.
- You'd likely be assigned to sell the shares for $4,800 (less transaction costs).
- Profits on the stock are capped at the strike price.

What if the stock goes up a little?

Let's say the stock only rises to $47 prior to or at expiration:

- Your option is OTM.
- It will likely expire worthless.
- You keep the premium of $100 and the $100 in stock unrealized gains appreciation (less transaction costs).





What if the stock goes down?

Let's say the stock falls to $44 prior to or at expiration:

- Your option is OTM.
- It most likely expires worthless.
- You have an unrealized loss of $200 on the stock.
- The $100 premium received helps offset some of the loss.

Common pitfalls: Covered calls

- Traders can become greedy when the stock is up near resistance.
- Traders may not realize the impact events can have on options—consider earnings, dividends, market drops.
- Traders may fail to understand that low volatility ($VIX) typically means that stocks are up near resistance anyway. (This may be an opportunity to consider selling covered calls.)

Sample entry considerations: Options

- Expiration selection
  - 20 to 50 days to expiration may balance time decay and premium.

$207.75 — *Option chain*

Expiration

- ▶ 14 DEC 22 (23) 100 (Weeklys)
- ▶ 16 DEC 22 (25) 100
- ▶ 23 DEC 22 (32) 100 (Weeklys)
- ▶ 30 DEC 22 (39) 100 (Quarterlys)
- ▶ 20 JAN 23 (60) 100
- ▶ 17 FEB 23 (88) 100
- ▶ 17 MAR 23 (116) 100

- Strike selection:
  - A delta between .30 and .40 may balance probability of success and return.

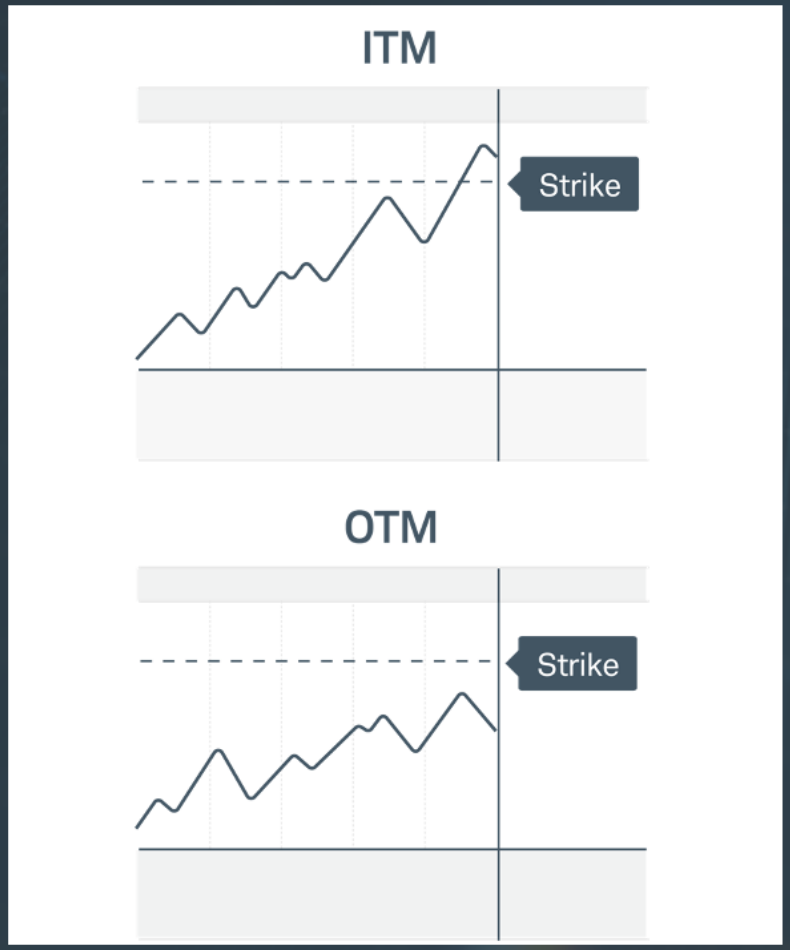
$207.75 — *Option chain*

Expiration

▼ 16 DEC 22 (25) 100

Calls

Delta	Bid X	Ask X	Expiration	Strike
0.43	2.23	2.28	16 DEC 22	209
0.40	1.99	2.02	16 DEC 22	209.5
0.37	1.75	1.79	16 DEC 22	210
0.34	1.53	1.57	16 DEC 22	210.5
0.31	1.32	1.35	16 DEC 22	211
0.29	1.13	1.17	16 DEC 22	211.5



Sample exit considerations

- If the option looks like it will expire **ITM**, you'll likely have to sell the stock.
- If you want to keep the stock:
  - Prior to expiration, consider rolling the option to the next month if you can do so for a credit.
  - Consider buying back the call.
- If the option looks like it will expire **OTM**, consider letting it expire worthless, or close the short position positively before expiration.

Note: If your stock exit rules are triggered, remember to buy back the call before selling the stock.

If you decide to roll, consider your short-term stock outlook.

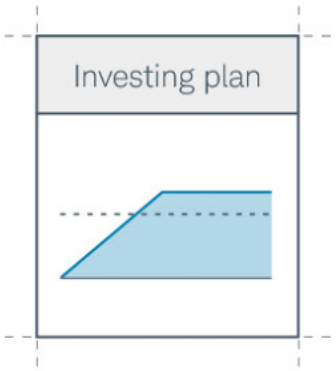
- Neutral:
  - Roll out
  - Keep the same strike

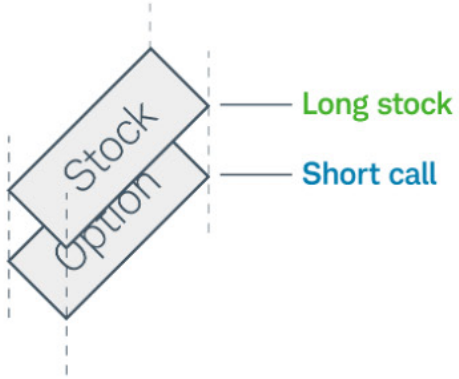
- Bearish:
  - Roll down
  - Sell a lower strike

- Bullish:
  - Roll up
  - Sell a higher strike

Goals recap

- ✓Search for and evaluate securities that meet sample criteria.
- ✓Calculate position size and plan exits.
- ✓Practice placing covered call paper trades.





Workshop agenda

04

Cash-secured puts

05

Short vertical spreads

Session 4

Options Strategies Workshop

04

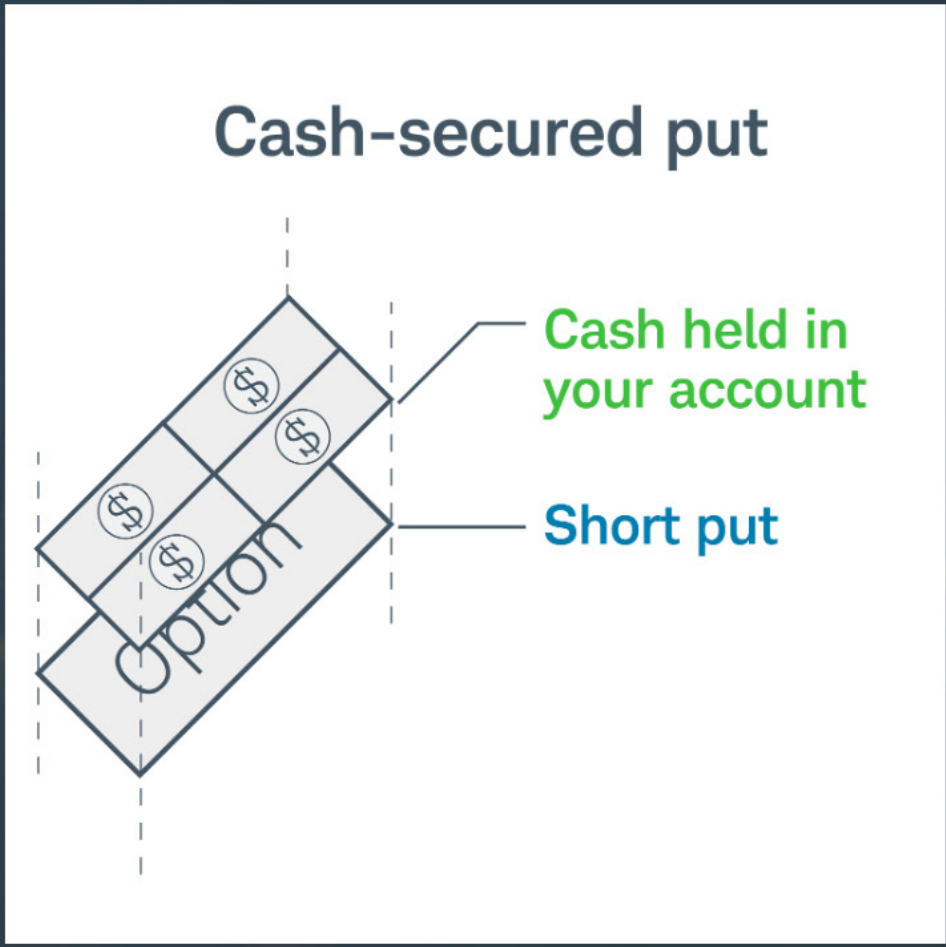
Cash-secured puts

05

Short vertical spreads

Goals for this session

- Search for and evaluate securities that meet sample criteria.
- Calculate position size and plan exits.
- Practice placing cash-secured put paper trades.



Objectives

Cash-secured puts

To generate income in hopes the option will expire worthless, **or** to build a stock position at a relative discount.

Short put

▼ **Bias**

Sideways to bullish

Cash

▼ **Bias**

Neutral

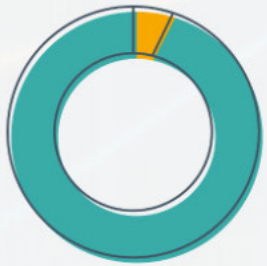
Cash-secured put

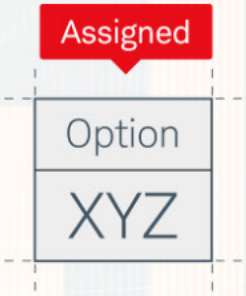
▼ **Bias**

Bullish

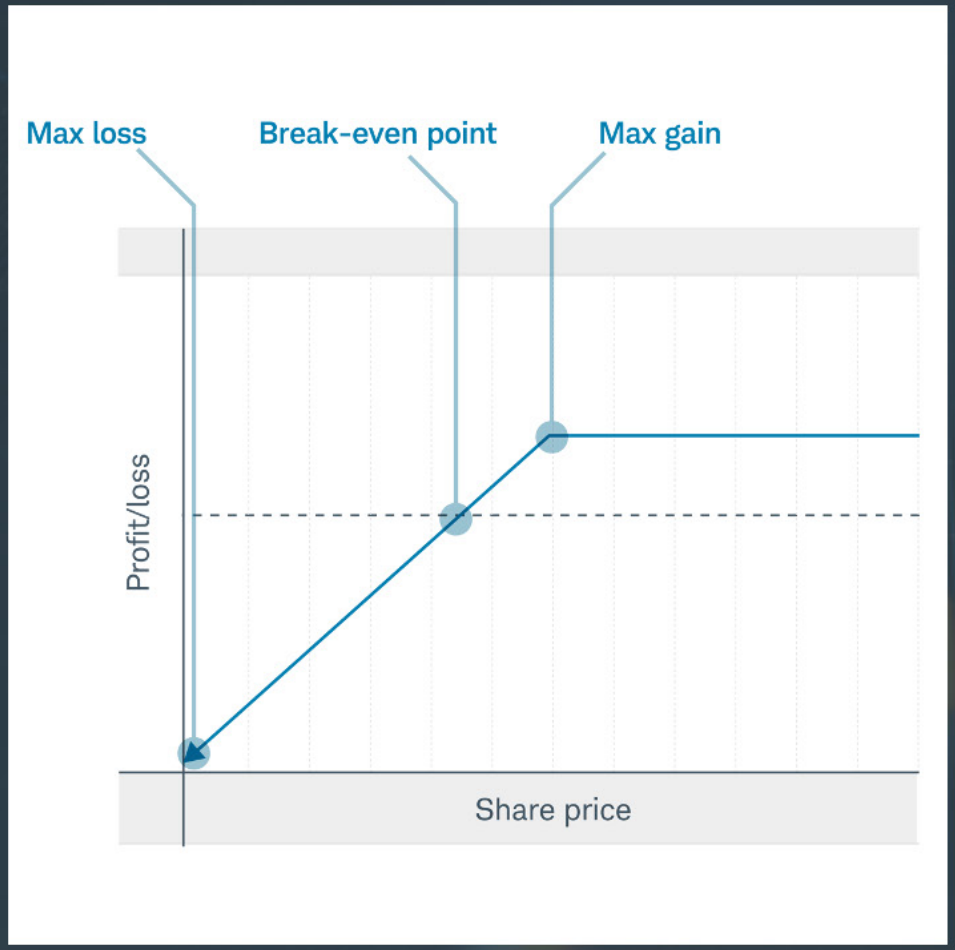
Money management

Determine for yourself how much you're willing to pay to purchase the shares should assignment occur—for example, 5% or 10% of your account value.





Position size	÷	Cost of assignment	=	Number of contracts
$7,500		**$3,500**		**2.14**

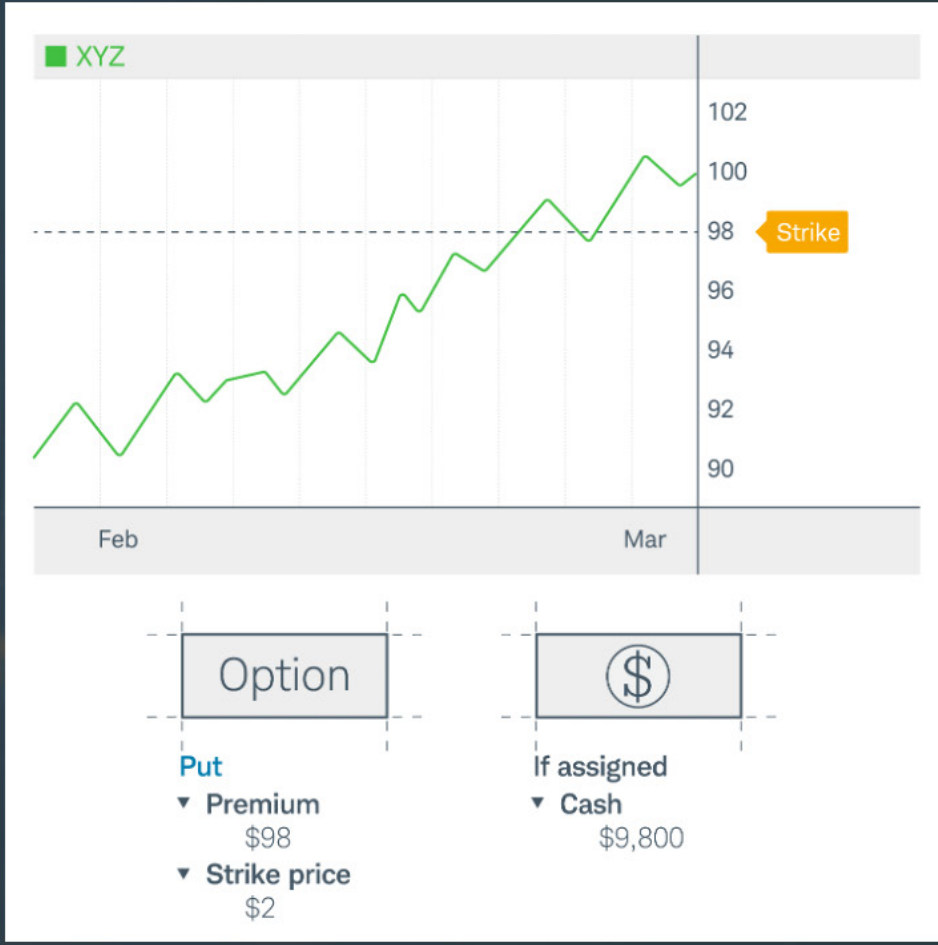


Risk profile

- Max gain:
  - Premium received from selling the put
- Max loss:
  - Losses in underlying if assigned and stock falls to zero
- Break-even point:
  - Strike price – premium

Example

- You want to own 100 shares of XYZ stock. It's currently trading at $100 per share.
- You choose the current month's 98-strike put option for a premium of $2.
- You collect a total premium of $200.
- You set aside $9,800 in case of assignment.



What if the stock goes down a lot?

Let's say the stock falls from $100 to $90 prior to or at expiration:

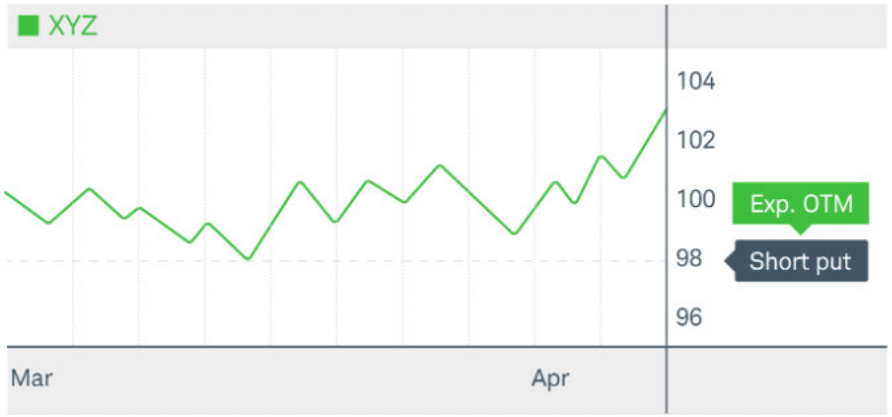
- Your option is ITM.
- You'd likely be assigned to buy the shares for $9,800.
- The premium would offset some of the cost.
- The stock price could continue to fall.

What if the stock goes up a lot?

Let's say the stock closes at $103 at expiration:

- Your option is OTM.
- It most likely expires worthless.
- You miss the chance to buy the stock.
- You keep the $200 premium received (less transaction costs).

Short options can be assigned at any time up to expiration regardless of the in-the-money amount.



Exp. OTM

Option

Stock

Short put

- Strike price: $98
- Premium: $200 per contract

XYZ stock

- Market price: $103
- Your price: $98 per share
- Outcome: Not purchased

What if the stock goes down a little?

Let's say the stock closes at $97.95 at expiration:

- Your option is ITM.
- You'd be assigned to buy the shares for $9,800.
- You purchase shares at a relative discount, but at a price higher than the current market.

Common pitfalls: Cash-secured puts

- Traders may not recognize a stock pullback to longer-term horizontal support as an opportunity to sell a put. (These situations can have higher premiums because of higher volatility.)
- Traders often sell puts on stocks when implied volatility is too low.
- Traders may not clearly define: “Is this just a trade, or do I want to own the stock, especially if the market price of the stock is lower?”

Expiration

▼ 16 DEC 22 (25) 100

Puts

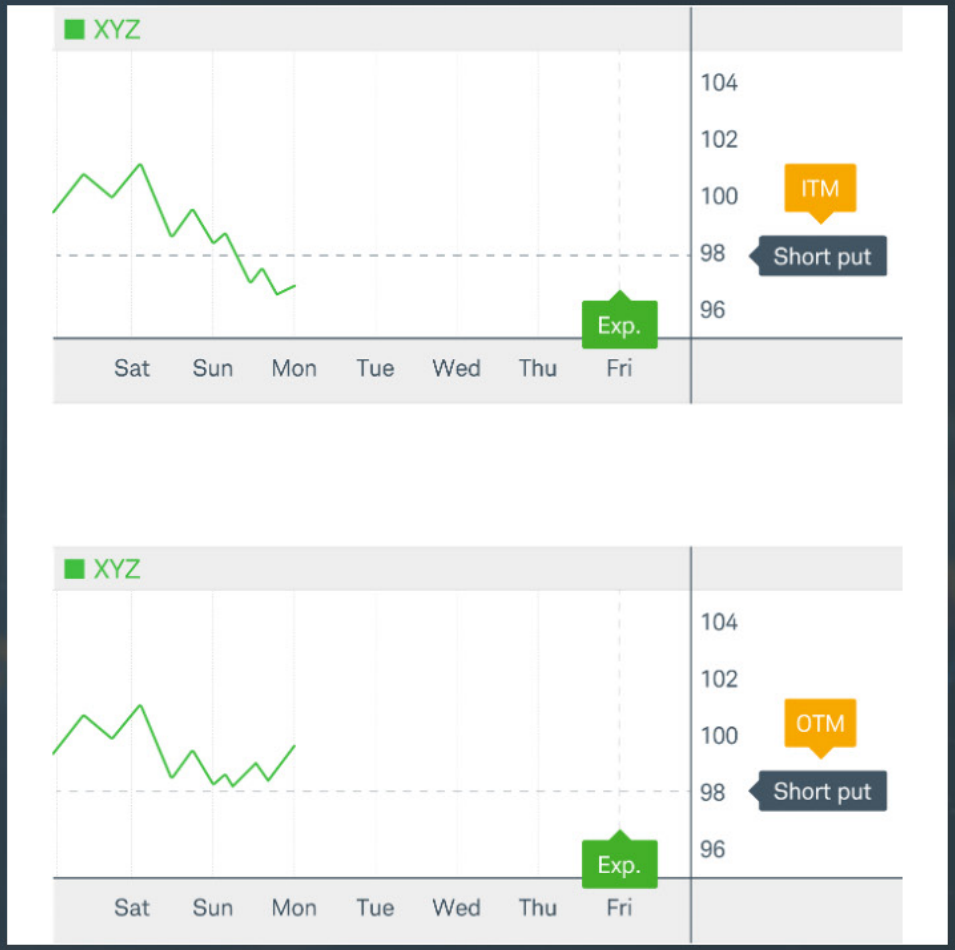
Expiration	Strike	Bid X	Ask X	Delta
16 DEC 22	209	1.13	1.17	-0.29
16 DEC 22	209.5	1.32	1.35	-0.31
16 DEC 22	210	1.53	1.57	-0.34
16 DEC 22	210.5	1.75	1.79	-0.37
16 DEC 22	211	1.99	2.02	-0.40
16 DEC 22	211.5	2.23	2.28	-0.43

Example entry considerations

- Expiration Selection:
  - 30 days may balance time decay and premium.
- Strike Selection:
  - A delta between –.30 and –.40 may balance probability of success and return.

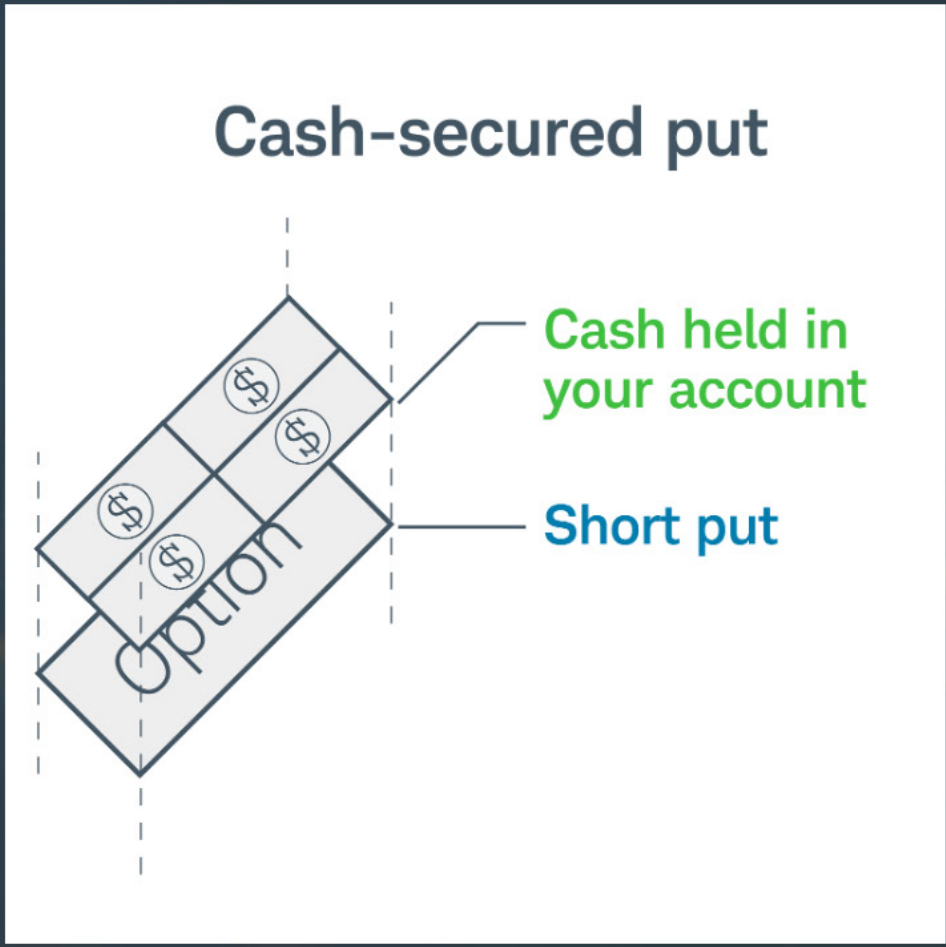
Sample exit considerations

- Option is ITM within four days of expiration:
  - Consider accepting assignment, or
  - Consider rolling the option to the next month.
- Option looks like it will expire OTM:
  - Let it expire worthless.
  - Close trade positively prior to expiry.



Goals recap:

- ✓ Search for and evaluate securities that meet sample criteria.
- ✓ Calculate position size and plan exits.
- ✓ Practice placing cash-secured put paper trades.



Workshop agenda

04

Cash-secured puts

05

Short vertical spreads

Session 4

Options Strategies Workshop

04

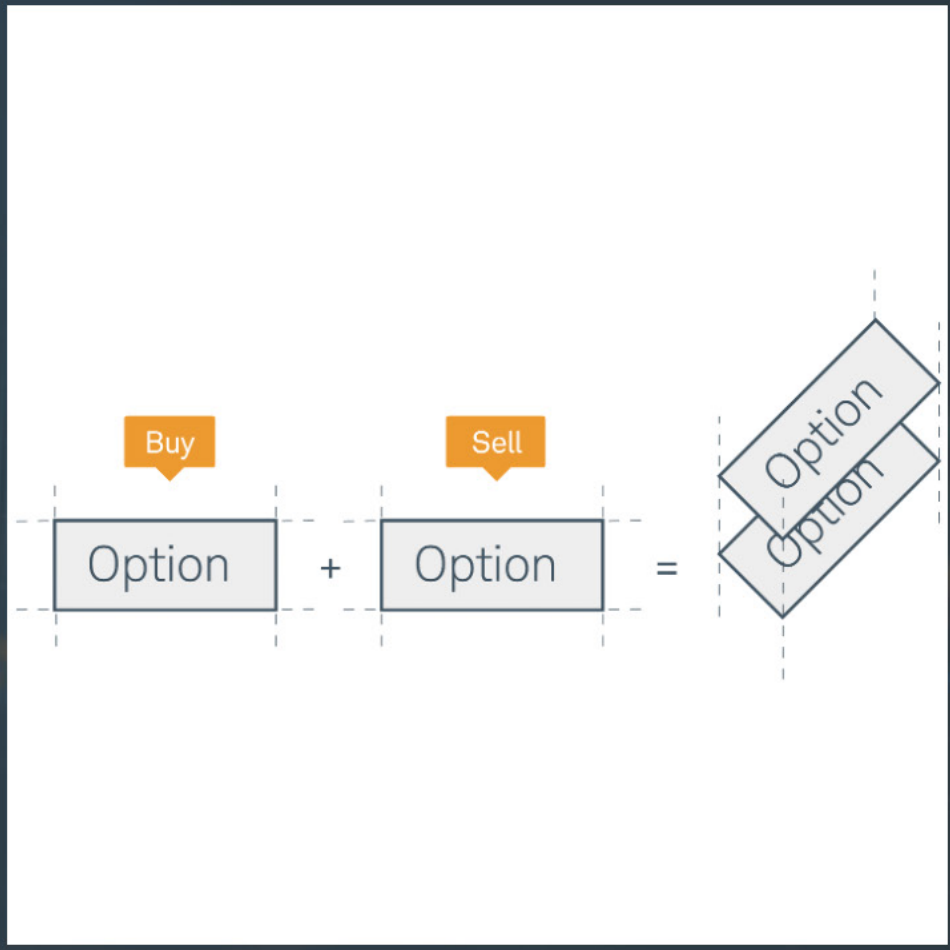
Cash-secured puts

05

Short vertical spreads

Goals for this session:

- Search for and evaluate securities that meet sample criteria.
- Calculate position size and plan exits.
- Practice placing short vertical paper trades.

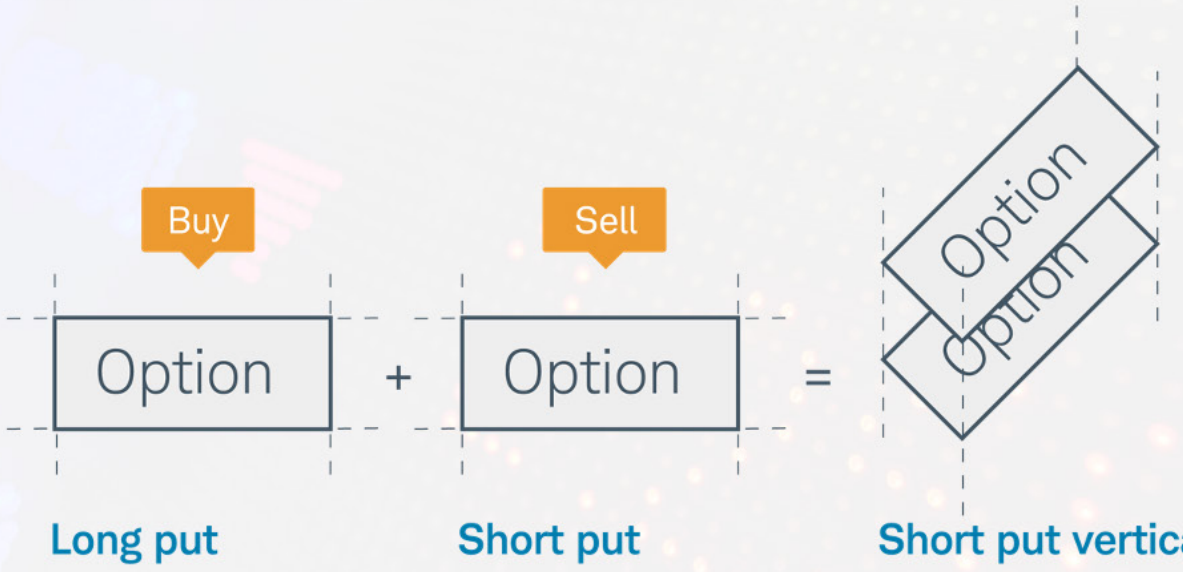


Spreads and other multiple-leg options strategies can entail substantial transaction costs, including multiple commissions, which may impact any potential return.

Objective

Short put spreads

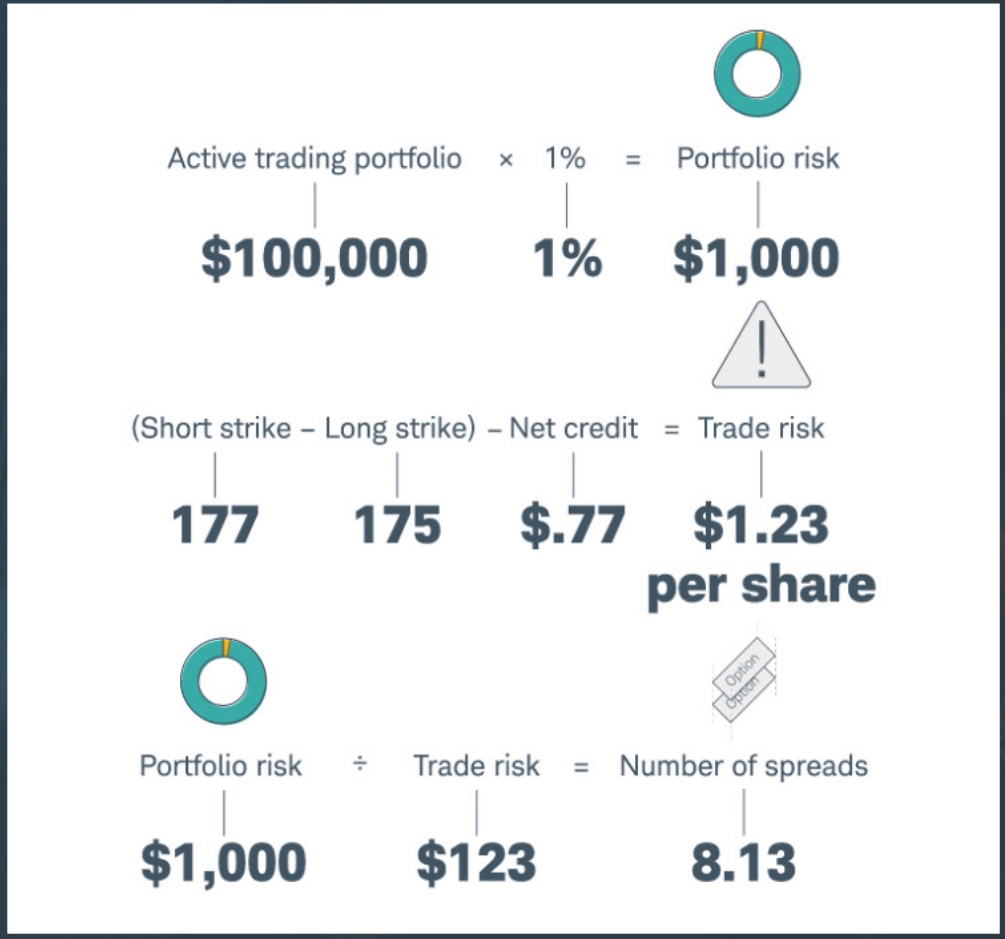
To potentially profit from sideways-trending and uptrending stocks or ETFs by selling a put option at one strike to capture time decay and also buying a put option at a lower strike to limit risk.



Money management

Short vertical spreads

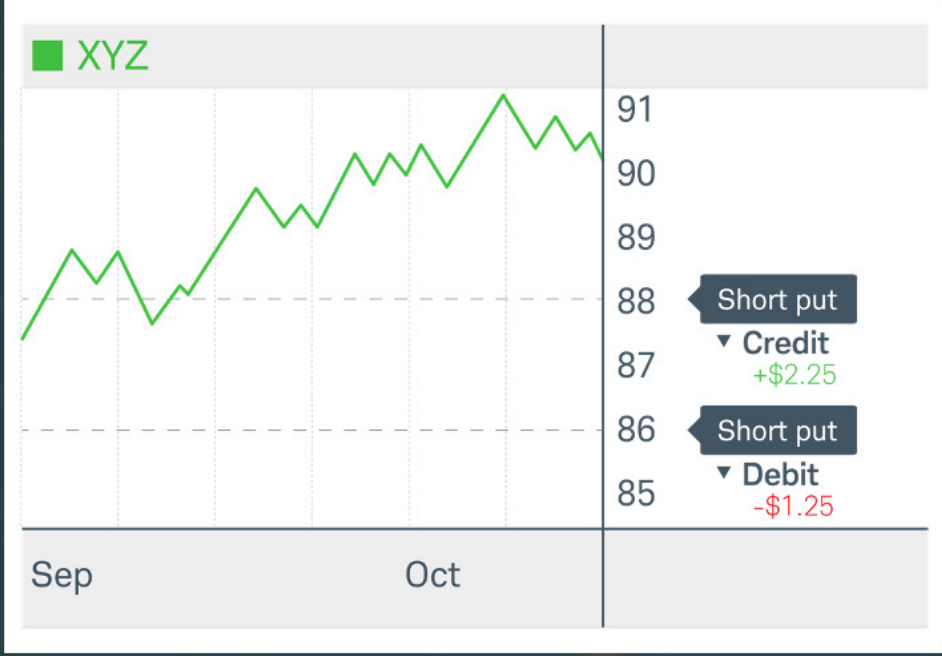
- Consider a portfolio risk of 1% to 2%.
- Calculate the trade risk.
- Use portfolio risk and trade risk to calculate the number of spreads.



Risk profile

- Max gain:
  - Net credit (difference between two premiums)
- Max loss:
  - (Short strike – Long strike) – Net credit
- Break-even point:
  - Short strike – Net credit

Example

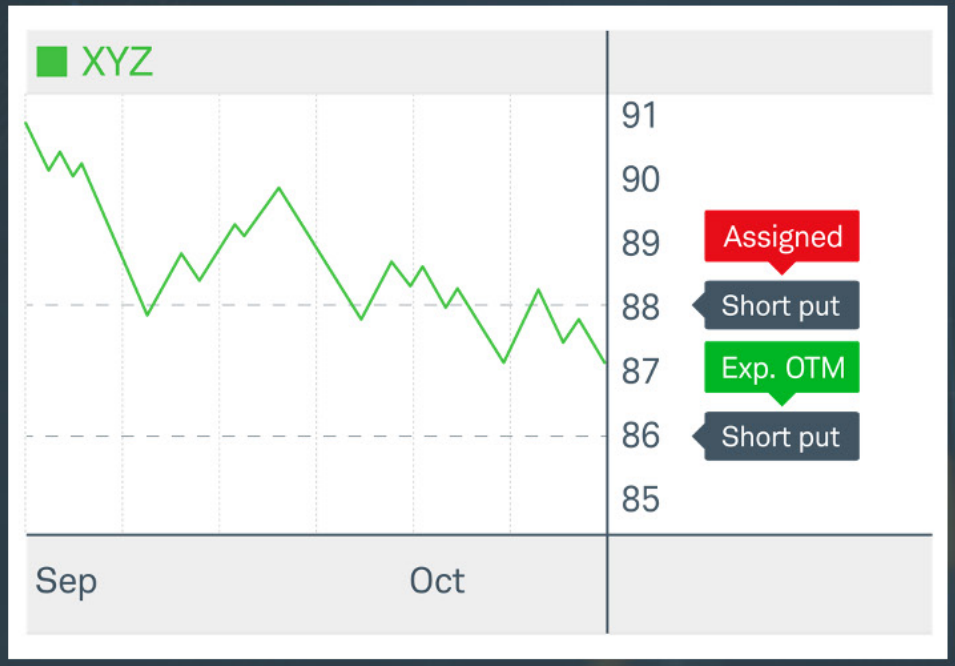


- XYZ is trading at $90 per share.
- You sell the 88-strike put option for a premium of $2.25.
- You buy the 86-strike put for $1.25.
- You collect a total premium of $100 ($1 credit x 100).

What if the stock goes up?

Let's say the stock closes at $91 at expiration:

- Both options are OTM.
- Both expire worthless.
- The profit is capped at $100 (the credit received minus transaction costs).



What if the stock goes down a little?

Let's say the stock closes at $87 at expiration:

- The short put is likely ITM and likely gets assigned.
- The long put is OTM and expires worthless.
- You'll have to buy the stock at $88 and either hold it or sell it back at whatever price the market gives you.
- The short option can be assigned at any time up to expiration regardless of the in-the-money amount.

What if the stock goes down a lot?

Let's say the stock closes at $85 at expiration:

- The short put is ITM and gets assigned.
- The long put is ITM and is automatically exercised.
- Your total loss is $100 (distance between the spread minus the net credit).
- The short option can be assigned at any time up to expiration regardless of the in-the-money amount.

Example

- FAMB is trading at $30 per share.
- You sell a 32 call for a premium of $1.50.
- You buy a 35 call for $0.60.
- You collect a total premium of $90 ($0.90 credit x 100).

What if the stock goes up a little?

Let's say the stock closes at $31 at expiration:

- Both options are OTM.
- Both expire worthless.
- The profit is capped at $90 (the credit received).

What if the stock goes up a bit more?

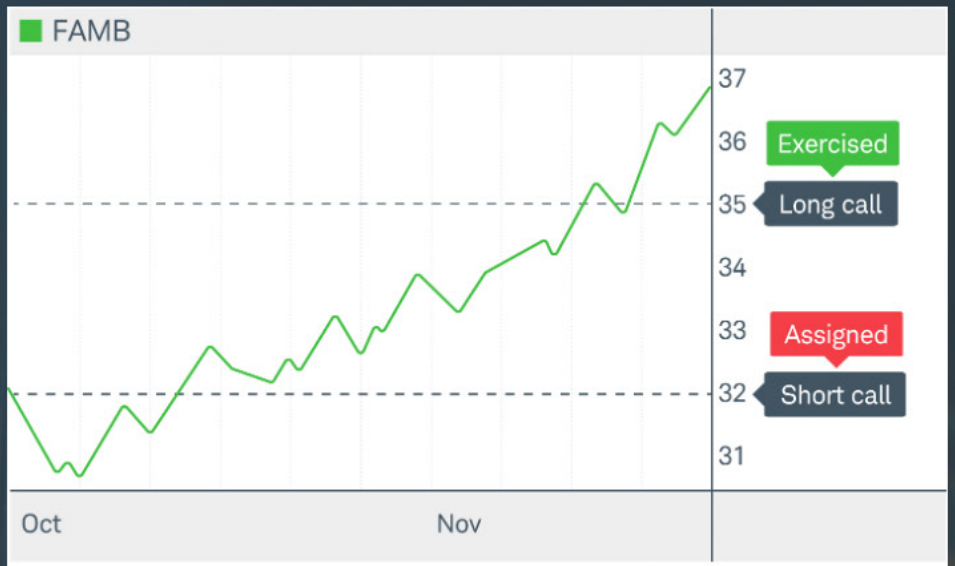
Let's say the stock closes at $33 at expiration:

- The short call is ITM and gets assigned.
- The long call is OTM and expires worthless.
- You'll have to sell the stock at $32 if assigned.
- The short option can be assigned at any time up to expiration regardless of the in-the-money amount.

What if the stock goes up a lot?

Let's say the stock closes at $37 at expiration:

- The short call is ITM and gets assigned.
- The long call is ITM and is automatically exercised.
- Your total loss is $210 (distance between the spread minus the net credit).
- The short option can be assigned at any time up to expiration regardless of the in-the-money amount.



Distance between the spread	–	Net credit per spread	=	Loss per spread
$300		$90		$210

Common pitfalls: Short put verticals

- Traders may fail to understand the risks of expiration with stock price between the strikes.
- Traders may fail to understand how price volatility may impact trade success.
- Traders may fail to understand the impact of implied volatility on option premium and probability.

Common pitfalls: Short call verticals

- Traders may fail to understand the risks of expiration with stock price between the strikes.
- Traders may fail to understand how price volatility may impact trade success.
- Traders may fail to recognize the bearish bias of this spread.

Sample entry considerations: Put spreads

- Expiration selection:
  - 20 to 50 days to expiration may balance time decay and premium.
- Strike selection:
  - Short strike:
    - Low deltas can potentially increase probability of success.
  - Long strike:
    - Below but close to the short strike to potentially balance
    - risk and return.

Sample entry considerations: Call spreads

- Expiration selection:
  - 20 to 50 days to expiration may balance time decay and premium.
- Strike selection:
  - Short strike:
    - Low deltas can potentially increase probability of success.
  - Long strike:
    - Above but close to the short strike may balance risk and return.

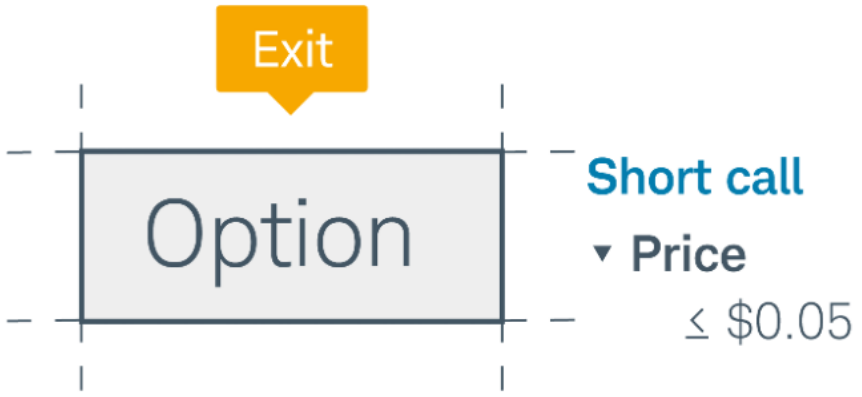
Sample exit considerations: Put spreads

- Near expiration:
  - If both options are OTM:
    - Consider closing the position when the bid price of the short strike is $0.05 or less.
- On last trading day before expiration:
  - If only the short strike is ITM:
    - Consider buying back the short strike.
    - Consider letting the long strike expire worthless.
  - If both strikes are ITM:
    - Consider letting the trade go to assignment/exercise.
    - Commissions, exercise, and assignment fees will impact potential returns.

Sample exit considerations: Call spreads

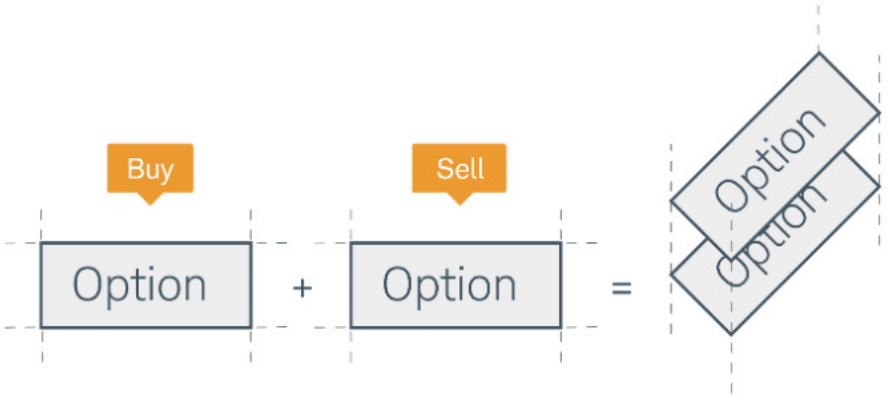
- Near expiration:
  - If both options are OTM:
    - Consider closing or rolling the position when the bid price of the short call is $0.05 or less.
- On last trading day before expiration:
  - If only the short option is ITM:
    - Consider closing both sides of the trade.
    - Consider closing the short option and letting the long option expire worthless.
  - If both strikes are ITM:
    - Consider letting the trade go to assignment/exercise.
    - Commissions, exercise, and assignment fees will impact potential returns.

There is no guarantee of a secondary (liquid) market for any option at any given time. Rolling can entail substantial transaction costs, including multiple commissions, which may impact any potential return.



Goals recap

- ✓Search for and evaluate securities that meet sample criteria.
- ✓Calculate position size and plan exits.
- ✓Practice placing short vertical paper trades.



Workshop Agenda

01

Options basic

02

Greeks

03

Covered calls

Workshop Agenda

04

Cash-secured puts

05

Short vertical spreads

Thank you!