

Options Knowledge Center

An option is a contract between a buyer and a seller, and its value is derived from an underlying security. These contracts are part of a larger group of financial instruments called derivatives. On Robinhood, options contracts are traded on stocks and ETFs.

Generally speaking, options are quite flexible, and they can be used in different ways depending on a person's goals. Some people use options to hedge the risk of losses (for instance, helping protect the value of their portfolio from a downturn). Others may use options to pursue additional income by monetizing the stocks they own. However, it's important to note that trading options is generally riskier than investing in stocks. When trading options, potential losses can accrue at a much faster rate, and it's possible to lose your entire initial investment (or more). Trading options requires approval on Robinhood, and it isn't appropriate for everyone.

Want to learn more before diving in? Our Options Knowledge Center helps explain key terminology, [basic](#) and [advanced](#) trading strategies, and how to place an options trade on Robinhood.

Options Versus Stocks

Options are a way to actively interact with stocks you're interested in without actually trading the stocks themselves. When you trade options, you can control shares of stock without ever having to own them.

Leverage

With options, an investor can magnify their potential gains or losses, relative to their initial investment. This is known as leverage. When a person buys an option, they gain exposure to the movement of a stock, and that contract represents a potential trade of 100 shares (that is, without the investor necessarily owning the

underlying shares at any point in time). As a result, even small changes in a stock price—up or down—can have a dramatic effect on the value of an options position. Leverage can provide the opportunity for outsized gains, while exposing an investor to outsized losses. Leverage is part of what makes options strategies risky.

The Ask Price

The ask price is the amount of money sellers in the market are willing to receive for an options contract. The ask price will always be higher than the bid price.

The Bid Price

The bid price is the amount of money buyers in the market are willing to pay for an options contract. The bid price will always be lower than the ask price.

The Strike Price

The strike price of an options contract is the price at which the options contract can be exercised.

Think of the strike price as the anchor of your contract: If you're buying a call, your call is profitable if the value of the stock goes above the strike price (plus whatever premium you paid). If the value of the stock stays below your strike price, your options contract will expire worthless. Remember, you're not actually buying shares of the stock unless you exercise your contract. This is because the contract gives you the option to buy the actual shares of the stock at the strike price.

Buying and Selling an Options Contract

Options can be tricky, so it's important to know exactly how the actions you take will get you closer to your goal:

- **Buying to open** an options position means that you're purchasing the contract. You're the owner, and have the *right* to place an order to sell the contract back into the market, to exercise the contract, or to let it expire.

- **Selling to close** a position means that you're selling a contract that you own back into the market.
- **Selling to open** an options contract means that you're selling the contract to a buyer to collect a premium. You have the obligation to make good on the contract if you're assigned, or you could buy it back in the market.
- **Buying to close** an options position means that you're buying back a contract that you sold. In this case, you cannot be assigned on the contract you initially sold.

Exercise and Assignment

The owner of an options contract has the right to exercise the contract, let it expire worthless, or sell it back into the market before expiration. The owner of the contract is likely to exercise the contract if it's "in the money." On the other hand, the person who sold the contract to collect the premium is assigned when the owner of the contract exercises it.

For more information on exercise and assignment, check out our article [Exercise, Assignment, & Expiration](#).

The Premium

Since the owner has the right to either exercise the contract or let it simply expire worthless, she pays the premium—the per-share cost for holding the contract—to the seller. As a buyer, you can think of the premium as the price to purchase the option. If you buy or sell an option before expiration, the premium is the price it trades for. You can trade the option in the market similar to how you'd trade a stock. The premium is not arbitrary, as it's tied to the value of the contract and the underlying security. The underlying stock's price, the underlying stock's volatility, and the amount of time left until expiration all influence an option's premium.

Liquidity

Liquidity refers to the ability for a trader to open or close an option position at a given price and time. This is based on supply and demand in the marketplace. Low liquidity can hinder or prevent a trader from being able to buy or sell a contract. For instance, if there isn't a buyer interested in purchasing an options contract you'd like to sell at a specific price, you may not be able to sell the contract when you'd like to, which can affect your potential gains or losses.

Call Options

Owners of call options generally expect the stock to increase in value, while sellers of call options generally expect the stock's value to decrease or remain the same.

Buying a call option gives you the right, but not the obligation, to buy 100 shares of the underlying stock at the designated strike price. The value of a call option tends to appreciate as the value of the underlying stock increases.

Selling a call option allows you to collect the premium while obligating you to sell 100 shares of the underlying stock to the owner at the agreed-upon strike price if the owner of the contract chooses to exercise the contract.

EXAMPLE

What if you think the price of the stock is going up?

In this case you'd **buy to open** a call position. Buying a call gives you the right to purchase the underlying stocks from the option seller for the agreed-upon strike price. From there, you can sell the stocks back into the market at their current market value if you so choose.

For example, you think MEOW's upcoming product release is going to send the price of the stock soaring, so you buy a call for MEOW at a \$10 strike price with a \$1 premium (the cost of the contract) expiring in a month.

Let's break that down.

Symbol: MEOW

Expiration: A month from now

Strike Price: \$10

Premium: \$1

The product release gave the stock a bump, and the day your contract expires, MEOW hits \$15. Great! This means you can sell the contract in the market for at least \$5 and earn at least a \$4 profit per share.

The reason the contract is worth at least \$5 is that you could exercise the contract to buy the shares at \$10, then sell the stocks in the market at their current trading price of \$15. You'd earn \$4 per share if you exercised the contract instead of selling it.

Put Options

Owners of put options generally expect the stock to decrease in value, while sellers of put options generally expect the stock's value to increase or remain the same.

Buying a put option gives you the right, but not the obligation, to sell 100 shares of the underlying stock at the designated strike price. The value of a put option tends to appreciate as the value of the underlying stock decreases.

Selling a put option allows you to collect the premium, while obligating you to purchase 100 shares of the underlying stock from the owner at the agreed-upon strike price if the owner of the contract chooses to exercise the contract.

EXAMPLE

What if you think the price of the stock is going down?

In this case, you could **buy to open** a **put** option. Buying a put gives you the right to sell the underlying stock back to the option seller for the agreed-upon strike price if you so choose.

For example, you think MEOW's upcoming earnings call is going to tank the price of the stock, so you buy 1 MEOW put option expiring in a week with a strike price of \$10 for a premium (the cost of the contract) of \$2.

Let's break that down.

Symbol: MEOW

Expiration: A week from now

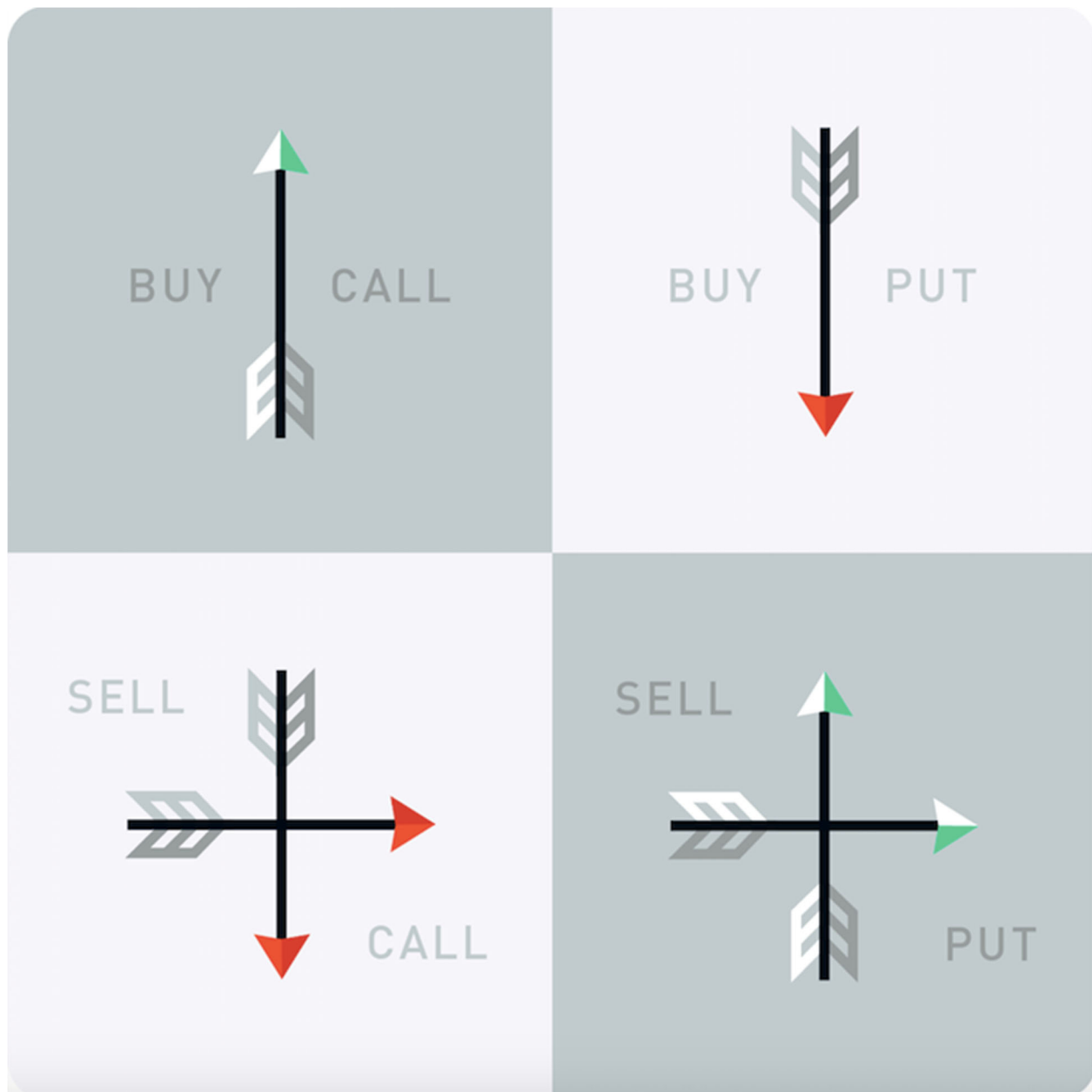
Strike Price: \$10

Premium: \$2

Your prediction is right, and within the week MEOW is trading at \$6. Your put option is now worth at least \$4, so you can sell it in the market for a profit (less the cost of your \$2 premium). You've just made \$200 on MEOW's decrease in value.

Knowing When to Buy or Sell

When opening a position, you can either buy a contract with the intention of exercising it when it reaches its strike price, or you can sell a contract to collect the premium and hope to not be assigned. Buying an options contract makes you the owner/holder of the contract, and in return for paying the premium, you have the right to choose to either exercise the contract, let it expire worthless, or sell it back into the market before expiration. The seller of an options contract collects the premium paid by the buyer, but is obligated to buy or sell the agreed-upon shares of the underlying stock if the owner of the contract chooses to exercise the contract.



- **Buying to open a call:** You expect the value of the stock to rise; you pay the premium; you have the right to buy 100 shares at the strike price if you exercise.
- **Selling to open a call:** You expect the value of the stock to drop or stay the same; you collect the premium; you have the obligation to sell 100 shares at the strike price if you're assigned.

- **Buying to open a put:** You expect the value of the stock to drop; you pay the premium; you have the right to sell 100 shares at the strike price if you exercise.
- **Selling to open a put:** You expect the value of the stock to rise or stay the same; you collect the premium; you have the obligation to buy 100 shares at the strike price if you're assigned.

Rights and Obligations

The owner has the right to exercise the contract or not, whereas the seller has the obligation to make good on the contract if she's assigned. When the owner of the contract exercises it, the seller is assigned.

Time Value

The closer an option is to expiring, the less time value the option will have. The further away a contract is from its expiration date, the more potential there is for price movement, which generally would make the contract trade at a higher price.

The Break-Even Point

The break-even point of an options contract is the point at which the contract would be cost-neutral if the owner were to exercise it. It's important to consider the premium paid for the contract in addition to the strike price when calculating the break-even point.

Contracts

It's important to also keep in mind that contracts are typically for 100-share blocks. In the above example, you'd be entitled to buy 100 shares of MEOW at the agreed-upon strike price. All contracts on Robinhood are for 100 shares.

Though options contracts typically represent 100 shares, the price of the option is shown on a per-share basis, which is the industry standard.

Options Levels on Robinhood

Depending on your experience and other factors, you might be eligible for different levels of options trading on Robinhood. With **Level 2 approval**, you'd have access to the following strategies:

- Buy Calls and Puts
- Sell Covered Calls
- Sell Cash Covered Puts
- Exercise Options

With **Level 3 approval**, you'd have access to everything available with Level 2 approval and the following strategies:

- Credit and debit spreads
- Iron condors
- Iron butterflies
- Calendar spreads

You can find deeper dives on our [Basics Options Strategies \(Level 2\)](#) and [Advanced Options Strategies \(Level 3\)](#).

It's helpful to note that Robinhood doesn't allow selling uncovered options, because there's no limit to the amount of money you could lose with some strategies.

Disclosures

Options trading entails significant risk and is not appropriate for all investors. Certain complex options strategies carry additional risk. Robinhood Financial does not guarantee favorable investment outcomes and there is always the potential of losing money when you invest in securities, or other financial

products. Investors should consider their investment objectives and risks carefully before investing. To learn more about the risks associated with options, please read the [Characteristics and Risks of Standardized Options](#) before you begin trading options. Please also be aware of the risks listed in the following documents: [Day Trading Risk Disclosure Statement](#) and [FINRA Investor Information](#). Examples contained in this article are for illustrative purposes only. Supporting documentation for any claims, if applicable, will be furnished upon request.

Reference No. 1392734

Placing an options trade

Robinhood empowers you to place your first options trade directly from your app.

Placing an options trade (in app)

1. Tap the magnifying glass on your home page
2. Search the security you'd like to trade options for
3. Tap the name of the security you're looking for
4. Tap **Trade** in the bottom right corner of the stock's or ETF's Detail page
5. Tap **Trade Options**

You can learn about different options trading strategies by checking out [Basic Options Strategies \(Level 2\)](#) and [Advanced Options Strategies \(Level 3\)](#).

Things to consider when choosing an option

There are many things to consider when choosing an option:

- **The expiration date** is displayed just below the strategy and underlying security. You can scroll right to see expirations further into the future.
- **The strike prices** are listed high to low; and you can scroll up or down to see different strike prices
- **The premium** (price) and percent change are listed on the right of the screen
 - What's the price and percent change?

- The value shown is the mark price (see below)
- The +/- % change is today's cost movement for the contract
- **The break-even point** is where the underlying security needs to trade at expiration for you to break even on your investment, taking into account the current value (premium) of the option
- **The break-even percentage** is the percentage change the underlying security would need to move for you to break even on the option at expiration
- **The chance of profit percentage** is the probability your investment could be profitable if you've chosen the "sell" strategy

KEEP IN MIND

"Chance of profit" is an estimate based on model assumptions and does not guarantee future results. Numerous factors that are not reducible to a model determine the actual chance of profit for a particular option contract or strategy.

Good-Til-Canceled versus Good-For-Day orders

You can place Good-Til-Canceled (GTC) or Good-For-Day (GFD) orders on options. A GTC order remains open for 90 days until you cancel it, or it's filled. A GFD order is automatically canceled at market close on the day it's placed if it doesn't execute.

Natural price versus mark price

There are two different ways to display the price (and determine the theoretical value) of an options contract: natural price and mark price.

- **Natural price** is either the ask price (if you're buying an option), or the bid price (if you're selling an option)
- **Mark price** is the midpoint between the ask price and the bid price, and is sometimes used for simplicity

As a reminder, the bid price is the highest price other traders in the market are willing to pay for an asset at a moment in time, and the ask price (also known as "offer") is the lowest price traders are willing to accept for an asset at a moment in time.

By default, we display the "natural price" when buying and selling options, but you can change this by going to settings within options.

Note: Regardless of your default setting, mark price will still be used for a) multi-leg orders, b) options rolling, and c) calculating "Current Price," "Total Return," and other information regarding contracts you currently hold (e.g. your portfolio return).

NOTE

If no buyers are currently available in the market, the mark price will display as \$0.01.

Levels

We're required to evaluate whether various levels of options strategies are appropriate for customers, based on information such as their trading experience, investment objectives, and financial situation. Each brokerage has the discretion to set the specific parameters for their customers. At Robinhood Financial, if you're given a Level 2 designation, you can execute the following options trades:

- Long Calls, Long Puts

- Covered Calls
- Cash-Covered Puts

If you're given a Level 3 designation, you can execute all of the above trades, along with the whole collection of limited risk spreads, including Iron Condors, Iron Butterflies, and Credit Spreads.

Day trades

Just like stock or ETF trading, buying and selling (or selling and buying) the same options contract on the same day will result in a day trade. It's the same contract if the ticker symbol, strike price, expiration date, and type (call or put) are all the same.

KEEP IN MIND

Because of [pattern day trade restrictions](#), you're generally limited to no more than 3 day trades in a 5 trading day period, unless you have at least \$25,000 of portfolio value (minus any cryptocurrency positions) in your Instant or Gold account at the end of the previous day.

If you have a cash account, you are not subject to pattern day trading restrictions, but you cannot access certain features, like Instant Deposits and trading with unsettled funds.

A big, little primer on options



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Democratize finance for all. Our writers' work has appeared in The Wall Street Journal, Forbes, the Chicago Tribune, Quartz, the San Francisco Chronicle, and more.

A big, little primer on options

What's an option, you ask?

Let's start with the simple definition: a "stock option" is a contract to buy or sell a particular stock at a specified price for a limited period of time.

Now, in human speak: think of an option like a mini version of the stock that it's attached to—it's tradable and some of its value is tied directly to the stock itself.

And like stocks, options also trade in an auction style market—meaning they have an "ask" (the price you can buy it) and a "bid" (the price you can sell it). Like stocks, you can make or lose money on the options you trade as prices change.

But that's where the similarities begin and end. Options have many nuances which we'll cover both here and in other articles. Not to mention, for any one particular stock there could be thousands of different options. "Why," you ask? Well, there are two kinds of options—"call" and "put" contracts. *Calls* (aka call options) lock in a price to buy stock. *Puts* (aka put options) lock in a selling price. Calls and puts move in opposite directions, kind of like traffic on a two-way street. You can buy calls when you think the stock will go up, or buy puts when you think it'll go down.

Just like the milk in your fridge, options expire. Some expire in a day or a week, while others expire in a month, many months, or even years. But, option contracts *don't have to be held all the way to expiration*. In fact, most options traders close their position before it reaches its expiration date.

Look at these option chains of calls (left) and puts (right) of the hypothetical company, Tiger, Inc. (Stock symbol MEOW).

It's important to know that there are many "strike prices." Since options are contracts, "call strikes" lock in a buy-price of the stock and "put strikes" lock-in the sell-price of a stock. There are many strikes above and below the price of the underlying stock—the further away from the stock price, the more expensive or cheaper the options get depending on whether they are "in the money" or "out of the money."

The "in, at, and out of money" options

Even though there are a ton of different strikes, you'll hear traders referring to three groups: "in the money" (ITM), "at the money" (ATM), and "out of the money" (OTM) options.

In the money: options with strike prices that would give you the right to trade the stock at a better price than the current price of the stock.

- For calls, it's the options with strike prices that are lower than the stock price.
- For puts, it's options with strike prices that are higher than the stock price.

At the money: options with a strike price that's either right at (or very close to) the stock price. This can include the nearest ITM and OTM options since the stock is rarely exactly at the money.

Out of the money: options with strike prices that would give you the right to trade the stock at a worse price than the current price of the stock.

- For calls, it's the options with strike prices that are higher than the stock price.
- For puts, it's options with strike prices that are lower than the stock price.

There's nothing inherently good or bad about any of these types. What's important to note is the difference in which their prices change as the stock moves. The very deep ITM options (calls with very low strike prices, or puts with very high strike prices) may change nearly dollar-for-dollar with the stock. The super far OTM options (calls with very high strike prices, or puts with very low strike prices) will move slowly (if even at all). The rest of the options will change price on a continuum between the two extremes (think of a slope that is gradually changing), with the ATM options changing price at about 50% of the change in the stock price.

Even though option prices don't change as quickly as the stock does in dollar terms, the percentage change in an option's price can be huge. But option prices

can also go to zero, whereas that's tough to do with the stock of a major company (although, it can happen, too).

Why consider buying calls?

Because you think the stock that it's attached to (the "underlying" stock) is going up. Period.

Here's an example (stay with us—we'll explain each piece). Let's go back to our theoretical company, Tiger, Inc. Its stock (ticker symbol MEOW) is trading at \$128, and you pay \$2 to buy one MEOW **January 29th 140 call option**. **January 29th is the expiration date**, and *140 is the strike price*. The \$2 price you paid is called the "premium" and it's the price per share. Since each option controls 100 shares of stock, your cost to buy this call is actually \$200. Compare that to shelling out \$12,800 to actually buying 100 shares of MEOW.

Why would you buy a call option that gives you the right to lock in a buying price that's \$12 *higher* than the current price \$128? Because there's a chance it could get there *before* expiration. As an options trader, you don't really care if it does get there, but the price of the option reflects that probability. If there's a chance that the stock could be *above* the strike price at expiration, then the option will have value. That probability increases when the stock goes up, which is what drives the option price higher. And that's how profits are made—you don't need the stock to reach the strike price in order to have a profitable trade, but it certainly helps.

But here's the rub: even if MEOW goes higher, it might not be enough to profit because it took too long to get there. The key here? Time. *Time is also a factor* and is the arch nemesis of long options traders because time erodes options premiums. Let's say that again: *time erodes options premiums*. If MEOW is below \$140 at expiration, the option goes poof—and it ain't worth a penny. At \$142, you breakeven. But again, you do not need, nor likely want, to hold the option that long, since the stock doesn't need to reach the strike price in order for you to profit.

On the other hand, assume that MEOW jumps to \$150. A call option that has a strike price that's lower than the current stock price is said to be "in the money." A call with a 140 strike price is worth at least \$10 (\$1,000 per option). That's an \$8 profit on a \$2 trade, which is a 400% return, and it might be smart to close the trade in this situation.

But what if you still own this call and it expires in the money (remember, in the money is when a call option has a strike price that's lower than the current stock price)? This is the only time you would be forced to exercise your call to capture its value, and if you don't want to be on the hook to buy \$14,000 worth of stock (for each call you own), you need to sell the option before it expires.

What about puts?

"Put options" work very much the same, except in the opposite direction. If you think a stock is going down, you can buy "puts." Whereas calls let you lock into a buy price, buying a put option gives you the right to lock-in a selling price for the stock. This means that put options usually increase in value when the stock moves lower.

Buying puts is a less risky way to root for a stock's tumble than shorting a stock because you can only lose what you pay for the put, whereas the risk of loss when shorting stocks is unlimited (remember, shorting stock isn't actually allowed on Robinhood).

Let's go back to the example of MEOW, which is trading at \$128. Suppose you buy the February 19th 120 put for \$3.00 because you think MEOW is moving lower. You've got a maximum risk of the \$300 you paid for the option. If MEOW moves lower between now and expiration, the 120 put could increase in price, and you could sell your put option for a profit. Or, worst case scenario, the option loses all of its value and you're out the \$300.

The big three of options pricing

Despite what it may look like, there is a method behind the madness of option pricing—it isn't arbitrary. The good news is that all the heavy math has already been done for you when you see a price quote. But since we're here, let's geek out a little and break it down a bit.

The three biggest influences on option prices are:

- **Price** - stock price compared to strike price
- **Time** - number of calendar days until expiration
- **Implied Volatility** – how much the stock is expected to move in a given timeframe

There are others, such as interest rates, and dividends, but they don't have as much of a material impact. For now, let's focus on the big three.

Stock price vs. strike price: comparing the stock price to the strike price determines if the option has any "real value." Real value (also commonly referred

to as Intrinsic Value) is the amount that an option is in the money (remember, we can also shorten this to ITM). If a call option is already \$5 ITM, you're not getting that for free. That \$5 will be baked into the option price and that ITM amount is called the "real value" of the option. ATM and OTM options don't have any real value. All option prices have another component which is the "time value"—composed of time itself and "implied volatility."

Days until expiration: the more time there is until expiration, the more time there is for the stock to move. This means there's more time for the option to move ITM (or OTM for that matter). The more time, the more expensive the option. No complex formula on this one—it is that simple. When you look at the same strike price across expiration periods, you'll see that options get more expensive with longer time frames.

Implied Volatility: a big part of expressing the cost of an option's premium is in the implied volatility (IV), which is an expression of how much the stock is expected to move as a percentage. The more a stock is expected to *move*, the *greater* the time value component is going to be. This is where "implied volatility" comes in. An option with low IV will be cheaper than the same option with high IV. In practical terms, it's a way of expressing the "relative" cost of an option.

The clock is always ticking

Looking at options across all expiration cycles, the lower priced options (relatively speaking) are those that expire first. Just because something is lower in price doesn't necessarily make it better—they're cheaper for a reason. Based on all the other inputs of an options price, including volatility, time, and stock price, a "cheap" OTM option has a low probability of ending up ITM by expiration. This is in part because a stock's move higher might not be fast or far enough to offset something called "time decay," or the cost of holding an option per day (in trader geek-speak, this is called "*theta*").

Time decay can happen slowly (in the case of longer-term options) or very quickly (short-term options). Let's take a look at this graph:

Notice that the time decay of a 90-day option barely registers—the line looks relatively flat and there's little change. 60-day option picks up steam and starts to

have a material impact on the option premium. 30-day option that is headed into expiration is often greater than the impact of the stock price moving higher. Add to that a drop in IV (implied volatility), and a lower priced OTM option will likely get crushed—a numbing frustration to option traders all over. To trade short-term options, you have a much smaller window of time for the stock to move higher, whereas, buying longer-term options, you have some breathing room should the stock stall or take its sweet time moving higher.

When it comes to options, there's a lot to unpack. Take your time and get to know the ins and outs of calls and puts before you jump in. Once you understand the basics, you can start to grasp and see the bigger picture. Once you've mastered calls and puts, you can then begin to piece different options together across price, strikes, time, and volatility to accomplish seemingly endless possibilities to trade up, down, sideways, and dunno markets.

Next up: [Let's talk about volatility](#)

Disclosures:

Any hypothetical examples are provided for illustrative purposes only. Actual results will vary.

Content is provided for informational purposes only, does not constitute tax or investment advice, and is not a recommendation for any security or trading strategy. All investments involve risk, including the possible loss of capital. Past performance does not guarantee future results.

Options trading entails significant risk and is not appropriate for all customers.

Customers must read and understand the [Characteristics and Risks of Standardized Options](#) before engaging in any options trading strategies. Options transactions are often complex and may involve the potential of losing the entire investment in a relatively short period of time. Certain complex options strategies carry additional risk, including the potential for losses that may exceed the original investment amount.

Robinhood Financial does not guarantee favorable investment outcomes. The past performance of a security or financial product does not guarantee future results or returns. Customers should consider their investment objectives and risks carefully before investing in options. Because of the importance of tax considerations to all options transactions, the customer considering options should consult their tax advisor as to how taxes affect the outcome of each options strategy. Supporting documentation for any claims, if applicable, will be furnished upon request.

Trading calls & puts



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Democratize finance for all. Our writers' work has appeared in The Wall Street Journal, Forbes, the Chicago Tribune, Quartz, the San Francisco Chronicle, and more.

Single option strategies: the four horsemen

Stocks are a two-way street—up and down, that's it. With the exception of a stock that pays a dividend, there's no other way to make (or lose) money.

But options? That's a different story. Not only can you trade options on stocks moving up and down, but sideways, too. You can even trade time and volatility regardless of a stock's direction, as long as it *doesn't* really move.

But before you learn complex strategies that capitalize on Mercury in retrograde (don't worry, we'll leave astrology out of this article), there are four basic option strategies that serve as the primary tools in the option-trading toolbox. Many refer to these as "single" option strategies, because they only require one option. They are:

1. Long call
2. Long put
3. Covered call
4. Cash-secured puts

Long calls and puts are *the* most basic of all the options strategies, and perhaps the easiest to execute because, well, they're generally a lot cheaper than the stocks they're attached to (and simpler to understand). Like stocks, you buy a call or put based on your opinion of the stock's trend, and then sell them at some point, hopefully for a profit. (Remember, buy low, sell high.)

Simple right? Well, there's more to it. Not only do you have to be right on direction, but you have to guess correctly on time and volatility, too—which

could work against you even if the stock behaves exactly as you want it to. Another way to think about this is when you buy a stock, you only have to be right about it's direction (i.e., that it's going up). But with options, the degree of difficulty is a bit higher because you must correctly guess the:

- *direction* of the stock
- *how far* it will go
- *when* it will get there

Before you jump into buying a call, remember that someone is going to take the other side of your trade for all the opposite reasons you're taking yours. Only one of you will be right so in many ways, the difference here comes down to your personal interpretation of information at hand. If you think that time and volatility are working **against** you on a long option position, it stands to reason that time and volatility are working in their **favor** *because they sold it*.

For many, single option buy strategies may be just fine, but are they right for you? That's for you to decide. But first, it's worth learning as much as you can about as many strategies as you can so that you recognize the role that options could play in your trading (beyond just up and down).

So, let's take a look under the hood of the two single-option buy strategies—the *long call* and *long put*.

NAME: LONG CALL

PROFIT GRAPH:

WHY TRADE IT? You think the stock is going up within a certain time frame.

OPTIMAL CONDITIONS: Low volatility, bullish stock, sector, market

SETUP: Buy a call. That's it.

EXAMPLE: Buy Aug 100 Call for \$3

COST: What you spent on the call (In this example, $\$3 \times 100 = \300 total). This is called the "premium".

THEORETICAL MAX PROFIT: The sky's the limit. (Although it's not likely the stock will go up to infinity, long calls have unlimited profit potential because the stock can go up forever.)

THEORETICAL MAX LOSS: The price you paid for the call (In this example, \$3)

BREAKEVEN AT EXPIRATION: There's one breakeven point at the strike plus the price you paid for the call ($100 + \$3 = \103 breakeven)

BEST CASE TO NAIL IT: The stock moves higher right away, resulting in a profit. Though a simultaneous rise in implied volatility could help inflate the call premium, too, it's not as common with options on rising stocks.

WHAT CAN GO WRONG? Your stock doesn't rise quickly enough or is below the breakeven point as expiration nears.

The rate of time decay or a drop in volatility could exceed the benefit of any stock price appreciation. This is why many options traders seek out long calls that have low historical volatility and longer expirations.

CLOSING THE TRADE: If the trade is profitable, you can close it prior to expiration. Remember, try to keep things simple here. Buy low, sell high. Don't forget, even if you get a big move early in the life of the trade, time will begin to decay the value of the long call the closer you get to expiration. A good trader knows when to stay in a trade, but also when to get out. Sometimes, it can be better not to be greedy and "ring the register" (meaning, take profits).

Of course, the stock might not go high enough to be profitable at expiration, it might stay where it's at, or go down. In these cases, the long call will lose value. You can either cut your losses and sell the option for less than you bought it prior to expiration, or take the max theoretical loss and let the option expire worthless. In this case, the option will automatically be removed from your account after expiration.

If you want to exercise the long call and buy shares of the stock, that's up to you—it's your right under the contract. This is typically only done if the long call is in the money. At this point, you're willing to take on the risk of owning 100 shares of the stock *and* have the money to buy the stock. In our example, the August 100 call, you'd need \$10,000 to buy 100 shares. This is why most options traders simply close the position by selling the option back into the market. And remember, at this point, the theoretical max loss (the cost of the call option) no longer holds true. Once you own 100 shares of stock, your risk is the price you paid for the stock all the way down to 0. In our example, that would be $\$100 + \3 (the cost of the call), for a total risk of \$10,300.

KEEP AN EYE OUT FOR... Your call will "auto-exercise" without your say-so if it's in the money by just \$0.01 or more, if you hold it to expiration, and you have the available assets to exercise. When you exercise a call, you're on the hook to purchase 100 shares of the stock at the strike price. Some brokers will

automatically close your call option prior to expiration if you do not have the money to buy the stock. It's important to read and understand your specific broker's options agreement to know if that is the case. But DON'T depend on this—always keep an eye on your positions, particularly the week of expiration. A broker will simply look to get you out of the position, but not necessarily care when, or at what price. It's best that YOU manage your trade prior to expiration. Nobody will care more about your position than you!

NAME: LONG PUT

PROFIT GRAPH:

WHY TRADE IT? You think the stock is going down within a certain time frame.

OPTIMAL CONDITIONS: Low volatility, bearish stock, sector, and market

SETUP: Buy a put. Nothing more to see here.

EXAMPLE: Buy August 100 Put for \$3 ($x100 = \300 total)

COST: What you spent on the put (In this example, $\$3 \times 100$; \$300)

THEORETICAL MAX PROFIT: If the stock goes to zero (not likely, but possible), you make the difference between zero and the strike, minus what you spent on the trade. ($100 - \$3 = \$97 \times 100 = \$9,700$)

THEORETICAL MAX LOSS: The price you paid for the put (In this example, $\$3 \times 100$; \$300)

BREAKEVEN AT EXPIRATION: There's one breakeven point at the strike minus what you paid for the put. ($100 - \$3 = \97 breakeven)

BEST CASE TO NAIL IT: Stock moves lower immediately, resulting in a profit. A simultaneous rise in implied volatility could help, too.

WHAT CAN GO WRONG? Stock doesn't fall quickly enough, or the stock is above the breakeven point as expiration nears.

The rate of time decay or a drop in volatility could exceed the benefit of any stock depreciation. This is why traders generally seek out long puts that have low historical volatility and longer expirations.

CLOSING THE TRADE: If the trade is profitable you can close it prior to expiration. Remember, try to keep things simple here. Buy low, sell high. Don't forget, even if you get a big down move early in the life of the trade, time will begin to decay the value of the long put the closer you get to expiration. A good

trader knows when to stay in a trade, but also when to get out. Sometimes, it can be better not to be greedy and, “ring the register,” (meaning take profits). Of course, the stock might not go down enough to be profitable at expiration, stay where it’s at, or go up. In these cases, the long put will lose value. You can either cut your losses and sell the option for less than you bought it prior to expiration, or take the max theoretical loss and let the option expire worthless. In this case, the option will automatically be removed from your account after expiration.

If you want to exercise the long put and sell shares of the stock, that’s up to you—it’s your right under the contract. This is typically only done when the long put is in the money. At this point, you must either have 100 shares of the stock to sell, or be trading in an account that allows you to short shares of stock (Reminder: Robinhood Financial does not allow you to short stock). Don’t forget, being short stock has unlimited risk to the upside, because a stock can theoretically go up forever.

KEEP AN EYE OUT FOR... Your put will “auto-exercise” without your say-so if it’s in the money by \$0.01 or more, if you hold it to expiration, and you have the available assets to exercise. When you exercise a put, you sell 100 shares of the stock at the strike price. If you don’t have the shares or are unable to short stock in your account, it’s possible that your broker could close your trade prior to expiration. It’s important to read and understand your specific broker’s options agreement to know if that is the case. But DON’T depend on this— and always keep an eye on your positions, particularly the week of expiration. A broker will simply look to get you out of the position, and not necessarily care when, or at what price. It’s best that YOU manage your trade prior to expiration. Nobody will care more about your position than you!

Selling time as a strategy

If you’ve been trading options for a while, you may have watched a stock move in the right direction, but your long option lost money anyway. Why? Time. Or more specifically, “time decay”—like a tax you pay daily when you’re holding an option. The longer you hold it, the bigger this tax gets each day and accelerates as you approach expiration.

All things being equal, no matter how much a stock moves, the option’s time premium loses a little each day because of time decay, as the graph below shows.

But what if you could flip the chart and with each passing day, time decay works in your favor? In fact, you can.

Shorting options revisited

Before diving further into these strategies, let's touch on what it means to "short" an option. If you recall, **shorting something** means to sell it first, and buy it back later, hopefully for less than you sold it for. It can be done with stocks (just, not at Robinhood Financial) or options (yes, at Robinhood Financial, but with restrictions). When it's done with options, you may never have to "buy back" the option because the aim is for the option to decay to zero on its own and expire worthless.

You'll recall, being "long" (owning) an option contract allows you to either buy stock (if you exercise a call) or sell stock (by exercising a put) before expiration. The other side of that trade could be someone who is selling you that call or put short, which makes them obligated to sell the stock to you (if they're short the call) or buy the stock from you (if they're short the put). The table below breaks it down:

Selling single options

With certain "income" strategies, like the covered call and the cash-secured put (aka cash-covered put), you could sell options first (typically OTM options), which are "covered" by the stock you own (in a covered call) or the cash you set aside (in a cash-secured put). In either strategy, you collect the option premium up front, with the hope the stock doesn't cross into the money on your strike. Meanwhile you're letting time and volatility decay your option to lower prices or even zero at expiration.

There are four primary single-option selling strategies that most option traders learn at some point—short call, short put, covered call, and cash-secured put. The first two—the short call and put—are known as "naked" strategies because you're exposed without a hedge (protection in case something goes awry). Since Robinhood Financial doesn't allow naked option selling, we'll focus on the covered call and the cash-secured put (both of which happen to be bullish strategies).

Both the covered call and cash-secured put allow you to sell (aka short) an option up front and collect the premium, as long as you own the stock (for a covered call), or have enough cash in your account (for a cash-secured put) to buy the stock. The goal is for the option to decrease in value or expire worthless on or before expiration, without much movement in the stock.

Since the risk profiles of these two strategies are essentially the same, whether you own the stock or not typically serves as the basis for your decision of which one to trade.

NAME: COVERED CALL

PROFIT GRAPH:

WHY TRADE IT? You think a stock is going up imminently, is going to trend sideways, or possibly take a small dip in price

OPTIMAL CONDITIONS: Medium to high volatility, bullish to sideways stock

SETUP: Long 100 shares of stock + short higher strike call (usually with a short-term expiration; ~20-45 days to expiration)

(On the Robinhood platform, this requires "legging" into the covered call by buying 100 shares of stock first, then selling the short call. Remember, to sell a covered call, your stock position must be in increments of 100 shares)

EXAMPLE: Buy +100 Shares at \$50; Sell -1 August 55 Call for \$2 (x100 = \$200 credit received). Net cost = \$5,000 - \$200 = \$4,800)

COST: Cost of long stock, less premium received for short call (In our example \$48 per share, or \$4,800)

THEORETICAL MAX PROFIT: Limited to the distance between purchase price of stock and the short call + short call premium received. The caveat of this is that if the stock moves far above that short call, you don't get to keep any of it. It belongs to someone else at the strike you sold.

In our example, if stock is bought at \$50 and a 55 call is sold for \$2, the trade can profit a maximum of \$7 ($55 - 50 + \$2 = \$7 \times 100 = \700)

Note: This also assumes that you are entering the stock and call at the same time. Sometimes, traders sell covered calls on stocks they have owned for some time. In this case, you could already have an unrealized profit or loss on your stock adding to your potential gains by selling the call, but also locking in a loss on a stock

position. It's important that you take into account the short call relative to the cost basis of your stock when calculating the long-term profit or loss of a stock that you have sold covered calls against.

THEORETICAL MAX LOSS: The price of the stock (stock could go to 0) minus the short call premium (In our example, $\$50 - \$2 = \$48 \times 100 = \$4,800$)

BREAKEVEN AT EXPIRATION: There's one breakeven point (at expiration) at the stock price minus the short call premium (in our example, $50 - \$2 = \48 breakeven price)

BEST CASE TO NAIL IT: The stock moves to the short strike by expiration, resulting in a profit in both the stock and the option. A simultaneous rise in implied volatility could help, too, but the rise in the short option would somewhat offset the rise in the long option.

CLOSING THE TRADE: The ideal scenario is for the stock to trade right up to and "pin" the short strike. This would allow you to keep the credit you received on the short call while participating in gains on the long stock position. If the call expires worthless, you keep the credit and the stock.

You can also buy in order to close the short option anytime before expiration. If you buy the call back at a lower price, you'll have a realized gain on the short call. If you buy it back for more than you sold it, you'll have a realized loss on the short call. Keep in mind that although you might lose money on the short call, the unrealized gains on your long shares of stock may be larger than the losses on the short call. The two could net together to create a net profit, which is why the covered call is actually a bullish strategy. Keep in mind however, you only realize gains on your stock when you decide to sell your shares.

If the stock shoots up in price, past your short call, you will be at max gain for the entire covered call. In this scenario, you can also let your stock get called away from you at the strike price. This would close your stock position and realize any gains or losses on the underlying stock. Don't forget, you don't participate in any stock gains above the strike price of your short call.

WHAT CAN GO WRONG? The stock drops more than anticipated and is below the breakeven point as expiration nears. This would allow you to keep the credit for selling the covered call, but the losses on the shares of stock would outweigh the small profits on the short call.

KEEP AN EYE OUT FOR... Stock and underlyings that are due to pay a dividend. One of the biggest risks of short calls is dividend risk. Dividend risk is the risk that you'll get assigned on your short call option before the dividend's ex-date. This

includes short calls that are a part of a covered call. When this happens, your shares may be called away from you prematurely, taking you out of the position, and thus missing out on the dividend you would have received if you were simply long shares of the stock.

NAME: CASH-SECURED PUT (aka cash-covered put)

PROFIT GRAPH:

WHY TRADE IT? You think a stock is going up imminently, staying where it is, or only going down a little. Also, you're willing to own shares of the underlying stock at the strike price of your short put.

OPTIMAL CONDITIONS: Medium to high volatility, bullish to sideways stock and market

SETUP: Sell a put short (you must have the money in your account equivalent to buy 100 shares at the strike price of the put, aka "cash-secured")

EXAMPLE: Sell the \$50 August put for \$2

$100 \times \$50 = \$5,000 - \$200 = \$4,800$ cost (what your broker withholds in your account)

COST: The strike x 100 shares, minus the premium received from the put (In our example, \$4,800). (Remember, you're collecting a credit for selling the put, but the amount of money required to buy the stock is set aside. Although you haven't bought anything, think of the cash as a future potential cost.)

THEORETICAL MAX PROFIT: Limited to credit received for selling the put (in our example, $\$2 \times 100 = \200)

THEORETICAL MAX LOSS: The total between the strike and the stock going to zero, minus the credit you receive from the put ($\$50 - \$2 = \$48$ to zero; $\times 100 = \$4,800$)

BREAKEVEN AT EXPIRATION: There's one breakeven point at the short strike minus the credit received (in our example, $50 - \$2 = \48)

BEST CASE TO NAIL IT: Stock stays above strike at expiration, the put expires worthless, and you keep 100% of the premium taken in (in our example, $\$2 \times 100 = \200)

WHAT CAN GO WRONG? The stock sinks or is below the breakeven point as expiration nears.

If the stock goes in the money on the short put, you could be assigned and the cash you put up to sell the option would then be used to buy the stock. Not a big deal if you wanted to own the stock anyway, but if you don't want to own a pile of stock in your account, be sure to exit your position before expiration!

CLOSING THE TRADE: Ideally, the stock stays above your short put and it expires worthless. You keep the credit and the option will be removed from your account after expiration.

You can also buy back the short put before expiration. If the stock rises, the short put will lose value and you can attempt to buy it back for a profit (sell high/buy low).

If the stock drops, the short put will gain value and if you want to avoid owning shares of stock, you can buy the put back at a more expensive price, realizing a loss.

Remember, many traders use the selling of puts as a way to get long the stock. Read that again. Many traders use cash-secured puts hoping to keep the premium, but also if they get put the stock, they don't mind it, because it is a way to potentially buy shares at a lower price than what the stock was trading at when they sold the put.

KEEP AN EYE OUT FOR... As the stock climbs, the change in the value of the put will decrease, meaning the option will be less sensitive to the rising stock price. This means that although your short put will have an unrealized profit, you'll be risking the chance that the stock turns around, in exchange for squeezing out the last few pennies of premium in the short put. To avoid this, some traders look to "roll" their short puts up, which is trader-speak for buying back the profitable short put (at less than max profit) and establishing a new short put at a higher price.

Congratulations. You've made it through the first four options strategies. It's a lot of information to take in, so take your time and go back to make sure you understand these strategies before considering them in your account. Options take time and practice to learn and grasp. Pat yourself on the back, you're well along the educational journey now!

Next Up: [Spreads: the building blocks of Options trading](#)

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Updated March 11, 2021

What are Options Greeks?








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DEFINITION:

Option Greeks are used to measure the risk of an option and to gauge an option's sensitivity to the variables that make up that risk — The variables are represented by the Greek letters Delta, Gamma, Theta, Vega, and Rho.

The Five Main Greeks				
				
Delta (Δ) Represents the sensitivity of an option's price to changes in the value of the underlying security.	Theta (Θ) Represents the rate of time decay of an option.	Gamma (Γ) Represents the rate of change of Delta relative to the change of the price of the underlying security.	Vega (V) Represents an option's sensitivity to volatility.	Rho (ρ) Represents how sensitive the price of an option is relative to interest rates.

Understanding Options Greeks

The Greeks represent the different dimensions of risk that go into options trading. These dimensions are referred to collectively as "the Greeks." The Greeks include variables represented by the Greek letters Delta, Gamma, Theta, Vega, and Rho. There are also "minor Greeks," which are not used as often to measure risk factors. The Greeks are essential tools in risk management that can help options-traders make informed decisions about what and when to trade. They help to look at how different factors such as price changes, **interest rate** changes, volatility, and time affect the price of an option contract.

EXAMPLE

Let's consider the Greek Delta, which is used to estimate how much we can expect an option price to increase or decrease based on a change of \$1 for the underlying **security**. Delta can be positive or negative, depending on whether the option is a **call option** or a put option. An investor might use Delta to help determine how much the option would be worth if the underlying **stock** increased or decreased in price by a certain amount.

Takeaway

The Greeks are like chemicals in a science experiment...

In a science lab, you might experiment by adding different chemicals to your mixture to see how they impact the outcome. In options trading, you might add different variables into the mix to see how they might affect the final result (in this case, the premium of an option).

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Tell me more...

- What are the Greeks?
 - - Delta
 - Gamma
 - Theta
 - Vega
 - Rho
- What are the Minor Greeks?
- How do Greeks help you understand options?

What are the Greeks?

The Greeks are measurements of an **option's** sensitivity to certain variable factors in the marketplace, such as price changes, **interest rate** changes, and the passage of time. The Greeks help determine how options may react to a given change in some of these factors.

There are five primary Greeks (and a handful of minor Greeks). These are the five primary Greeks:

Delta

Delta (Δ) represents the sensitivity of an option's price to changes in the value of the underlying **security**. In other words, how much does the price of the option go up or down as the price of the security goes up and down? Delta measures how much the price of the option will change as a result of a \$1 change in the price of the asset. The Delta of an option varies over the life of that option, depending on the underlying stock price and the amount of time left until expiration.

Delta usually appears as a decimal number. Put options have a negative relationship with Delta due to a negative relationship with the underlying security. Premiums are expected to go down as the price of the security goes up. Therefore, the Delta will range from zero to negative one for put options.

Call options, on the other hand, have a positive relationship with Delta due to a positive relationship with the underlying security. Premiums are expected to go up as the price of the security goes up. Therefore, the Delta will range from zero to one for call options. For example, if a call option has a Delta of .50, we know that the price of the option changes by an average of 50 cents when the price of the security changes by \$1.

Delta also represents an approximation of the probability that an option will be in-the-money (aka worth money) at the time it expires. An option with a Delta of .50 is at the money, meaning it's neutral. Anything lower probably won't be in-the-money, while anything higher probably will be in-the-money. Keep in mind this is an approximation and does not guarantee that these results will hold true.

Gamma

Gamma (Γ) represents the rate of change of Delta relative to the change of the price of the underlying security. It measures how much Delta changes if the value of the security increases or decreases by \$1. Investors use Gamma to help forecast changes in an option's Delta and determine how stable Delta is. Gamma will be a number anywhere from 0 to 1.00.

As an example, let's go back to our example of the Delta of .50. Let's say that the option's Gamma is .10. So if the price of the security goes up or down by \$1, then the Delta would probably go up or down by .10, all else being equal.

Gamma is a helpful tool because the Delta value of an option can change over time. So if you look at two securities with the same Delta, you don't necessarily know which is more likely to stay at the same Delta. Gamma helps to determine how stable Delta is.

Gamma is higher for options that are at-the-money and closer to expiration. The higher Gamma is, the more unstable Delta is as the price of the underlying stock changes. Let's look again at our example of the option with the Delta of .50.

We've already said the Gamma is .10. That's pretty stable, and it's unlikely Delta will change drastically. But if that same option had a Gamma of .90, it would be pretty likely that Delta would change dramatically as the price of the underlying stock changes.

Theta

Theta (Θ) represents the rate of time decay of an option. Specifically, it describes how much the value of an option changes each day as expiration nears. An

example of this is that an option with a Theta of $-.50$ would decrease by an average of 50 cents every day, all else being equal.

Options tend to lose value as the expiration date nears, so Theta is usually a negative number. As the expiration date nears, Theta is likely to increase because the time left to earn a **profit** from the option decreases.

Time decay is good for the seller of an option because as time passes, the chances increase of the option expiring with no action taken. Likewise, it's bad for the buyer of an option because as time passes, the chances decrease of them making money from their option.

Vega

Vega (v) represents an option's sensitivity to volatility. It measures the rate of change of an option's value relative to the security's volatility. More specifically, it measures how much the price of an option changes based on a 1% change in the volatility of the underlying security. A decrease in Vega usually represents a decrease in the value of both put options and call options. An increase in Vega usually represents an increase in the value of both put options and call options. Vega is an essential measurement because volatility is one of the more important factors affecting option values. So all else being equal, it makes sense to purchase an option that is less sensitive to volatility, or with a higher Vega.

Rho

Rho (p) represents how sensitive the price of an option is relative to **interest rates**. It measures the rate of change in an option's value based on a 1% change in the interest rate (based on the risk-free interest rate, or the rate of U.S. **Treasury bills**). For example, if an option has a Rho of $.50$, then the value of the option would increase or decrease by an average of 50 cents when the interest rate increases or decreases by 1%. Rho is the least significant of the factors we've discussed since the interest rate does not affect the value of an option as much as other determinants. However, it should be considered if current interest rates are expected to change.

What are the Minor Greeks?

Delta, Gamma, Theta, Vega, and Rho are the Greeks most often discussed in terms of options-trading, but they aren't the only ones. There are a handful of Greeks that investors don't use as often — we'll refer to these as the minor greeks.

The minor Greeks include:

- Lambda measures how sensitive the price of a **stock** is to a 1% change in implied volatility.
- Epsilon measures how sensitive the value of an option is to a change in the **dividend yield** of the underlying stock.
- Vomma measures how sensitive Vega is to changes in volatility.
- Vera measures how sensitive Rho is to volatility.
- Speed measures how sensitive Gamma is to changes in the price in the underlying stock.
- Zomma measures how sensitive Gamma is to changes in volatility.
- Color measures how sensitive Gamma is to the passage of time.
- Ultima measures how sensitive Vomma is to changes in volatility.

How do Greeks help you understand options?

The Greeks are a valuable tool for options traders to help them evaluate the risk of different options. Investors use them both to make new investment decisions and to analyze the risk of their current **portfolio**. Ultimately, the Greeks provide information that allows investors to make informed decisions.

The price of an option is often determined by a pricing model, such as the Black-Scholes Model. This model takes into account different factors, such as volatility, to price options. However, the Black-Scholes Model is a European model and operates based on the assumption that the option will not be exercised before the expiration date.

It's important to remember that the Greeks are based on mathematical formulas. Given these complicated formulas used to determine the Greeks and the importance of accurate results, they are most often calculated using a computerized solution. You can also usually get the values from a **broker** or brokerage firm since they are set up to run those formulas. While the Greeks can be used to assess possible future prices, there's no guarantee that they'll hold true.

Ultimately, the Greeks are there to help take some of the guesswork out of options-trading. It can be a complicated realm of investing for those who don't have experience with options. It is important to know that the Greeks do not work in isolation and are constantly changing — A change in one Greek can

affect all of the other Greeks. The Greeks are one tool that can be used to help you determine the risk you're getting yourself into before you make significant investing decisions.

Keep in mind options trading entails significant risk and is not appropriate for all investors. Certain complex options strategies carry additional risk. To learn more about the risks associated with options trading, please review the options disclosure document entitled Characteristics and Risks of Standardized Options, available [here](#) or through <https://www.theocc.com>. Investors should consider their investment objectives and risks carefully before trading options. Supporting documentation for any claims, if applicable, will be furnished upon request.

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y buy shares at a lower price than what the stock was trading at when they sold the put.

KEEP AN EYE OUT FOR... As the stock climbs, the change in the value of the put will decrease, meaning the option will be less sensitive to the rising stock price. This means that although your short put will have an unrealized profit, you'll be risking the chance that the stock turns around, in exchange for squeezing out the last few pennies of premium in the short put. To avoid this, some traders look to "roll" their short puts up, which is trader-speak for buying back the profitable short put (at less than max profit) and establishing a new short put at a higher price.

Congratulations. You've made it through the first four options strategies. It's a lot of information to take in, so take your time and go back to make sure you understand these strategies before considering them in your account. Options

take time and practice to learn and grasp. Pat yourself on the back, you're well along the educational journey now!

Next Up: [Spreads: the building blocks of Options trading](#)

Disclosures

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Actual results will vary.

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Is this article helpful?

235 of 265 people said that this answered their question.

 **Yup!**  **No**

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Navigating exercise & assignment



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Democratize finance for all. Our writers' work has appeared in The Wall Street Journal, Forbes, the Chicago Tribune, Quartz, the San Francisco Chronicle, and more.

Exercise & assignment: a cautionary tale

You shake your Magic 8 ball and the screen reads, *"Just because you can, doesn't always mean you should..."*

Sage advice, especially when it comes to exercising your options. If you buy calls or puts and decide to do what the option gives you the right to do—buy stock for call options or sell stock for put options—it sets off a process called "exercise and assignment." Normally, this isn't the road most traders go down. Rather, most traders open options positions with the intent to close them later for a profit—un-exercised. Let's break things down and take a closer look at the mechanics of exercise and assignment.

The mechanics of exercise & assignment

When you exercise a long call, you convert your call into stock. You'll actually get 100 shares of the stock for every call you exercise...along with a bill for the cost of the stock, dictated by the strike of the call you're exercising. For example, if you exercised a call with a strike price of \$50, you would buy 100 shares of the underlying stock at \$50 per share, for a total cost of \$5,000.

Now, your exercise is *someone else's assignment*. A randomly selected person who is short that call option receives a notice that they've been "assigned" and are required to sell 100 shares of stock for every option they're assigned.

If we're talking about put options, when you exercise your put, you're selling ("putting," actually) the stock to someone (also nameless) who is short a put on the other side of the trade. They have to buy it.

This great power to exercise is always in the control of the option owner, except at expiration. At that point, options that are in the money, even by just one cent, will be exercised automatically (this is common, but always check with your broker regarding automatic exercise policies).

The good, the bad, the ugly (of exercising)...

First, here are a few scenarios where exercising might be a good idea.

1. You were assigned on the short leg of a **spread**. (More on this below.)
2. You really, really want to buy or sell the stock, and you can afford to.
3. The option you own is illiquid and the bid/ask spread (the difference between the bid and the ask) is very wide. If you stand to lose more selling the option than simply exercising, it makes sense to go ahead and exercise. You don't want to sell an option for less than its real value (the value that's **in the money**).
4. Sometimes it is worth exercising your long call to collect a dividend. Remember, options owners do not take part in collecting dividends, only stockholders.

Then, here's why you may not want to exercise.

1. Long options are cheaper than long or short stock.
2. Long options are lower risk in that only the premium spent is the maximum you can lose when compared to being long or short stock. Even if you can afford the stock position, make sure you want to take on that type of risk.
3. You're simply giving away your money if your option has any time value. Rather than exercise, if you sell your option in order to close, you not only keep that time value, but you can also mitigate the loss due to an early assignment (in the case of a long option that was previously a part of a spread).

4. You're giving away even more money if you exercise an out of the money option. If an option is OTM and you don't want it anymore, you try to sell it. If there is no value to it, you may want to just let it expire worthless. Who knows, the stock could make a comeback before expiration.

...and now for the Ugly (of Assignment)

Where new options traders can get in a lot of trouble is misunderstanding assignments—particularly when they're trading spreads, which contain both a long and a short option. Whereas exercising is something you control in a long position, assignment is something that can happen to you at any time while you're in a short position.

If your short put option goes in the money and you're assigned, the cash balance in your account might show a large loss equal to the size of the assigned position. If your short call option gets assigned, you might see a short stock position resulting from selling shares you didn't already own. But fear not! That's where your long option comes to the rescue.

As soon as you exercise the long option from the spread, you'll immediately offset the loss, minus the maximum loss of the spread (which is usually the distance between the short and long strikes of the options).

Closing time, time for you to go out...

If you're speculating with options, exercising is rarely the optimal choice to close your position. However, it's worth knowing when you should or shouldn't and what to do when faced with the decision.

If you have a short, deep-in-the-money option and are at risk of being assigned, it's usually best to close the position and move on prior to expiration.

Assignment doesn't happen all the time, but it's the reason you never want to "set and forget" about your options trades, particularly spreads with short options. When your short options go in the money, the longer you remain in the position, the greater the chance you have of being assigned.

The Step-by-Step to Exercise

If you need to exercise your long options:

1. Open Robinhood, and go to your positions screen by tapping the chart icon in the lower left
2. Tap "Exercise," and follow the instructions

Next up: [Risk management](#)

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Risk management



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Risk, it's not just a board game

There's something about the deceptively low price of some options that can lure some new traders into buying too many at once. After all, the math is so simple. If you have just \$2,000 and a call option costs \$2, you can afford to buy 10 calls, right? Whoa, pump the breaks.

Technically, yes, you can afford the *transaction*, but if the extent of your trading plan is shooting from the hip—your trading days are likely numbered.

When you're in a position, there are too many things outside of your control to keep track of, so let's focus on the things you can better control. One of them is risk management. You have the most control over your risk the moment *before* you place the trade.

Plan your trade, trade your plan

Think of your trading account like a business, and your role is the Chief Risk Officer. Now, let's activate our spidey senses and come up with a plan to help protect our capital (that's CFO speak for cash).

The amount of information out there about risk management and trade planning could fill volumes of books (trust us, we've read them). But it boils down to asking yourself a few critical questions:

- What will I trade?
- What strategy will I use?
- How much capital should I risk?
- When do I get in?
- What do I do when things go wrong?
- What do I do when things go right?

- When do I get out?

Get in the habit of jotting all this down in a trading journal (thank you, Evernote) before every trade, and update the journal with your results. Then, rinse and repeat. We've covered some of these bullet points in other articles ([Trading calls & puts](#), [Spreads](#)), so let's focus on two: what to trade, and how much capital should you risk?

Underlying matters

One of the single most important decisions when trading options is selecting an underlying (stock, etf, etc.) to trade. It's usually the first pitfall new traders come across in their trade selection process. Now, we can't tell you what stock or underlying to trade (it's against the rules), but we can share some information to help you find one that's appropriate for you. While we can spend an entire article on this (and we will), here are some crucial things to consider:

1. Trade underlyings with good liquidity No, we're not talking about water. *Liquidity* is the ease with which you can get in and out of a position. This can usually be spotted when an underlying stock or ETF has a tight "[bid/ask spread](#)," and at least a million or more shares traded per day (unlike say some "penny" stock you heard about on an online forum—spidey senses activated).

2. Trade options with great liquidity If the underlying is more liquid, the options tend to be as well. Options with good liquidity usually have tight bid/ask spreads (ie. 1.00 bid x 1.01 ask; 2.25 bid x 2.30 ask; 35.50 bid x 35.80 ask) and plenty of volume (contracts traded) and open interest (contracts open).

What does an illiquid option's price look like? .50 bid x 4.25 ask; 1.00 bid x .5.25; .05 bid x 5.00. If an option is 0 bid (zero bid), this means at the moment there are no willing buyers for this option. So if you see 0.00 bid x 5.00 and you pay 5.00 or less for that option, you will have no one to turn around and sell it to. You can get into the position, but you can't get out unless someone places a bid to buy the contract. Illiquid options are like the Hotel California: You can check out anytime you like, but you may never leave. (Did I just date myself?)

3. Trade underlyings you're familiar with Stocks are like fingerprints—their patterns, movements, and identities are unique. Trading options on a stock you're not familiar with is like walking into a dark room you've never been in and trying to draw your surroundings. Get to know a stock before you commit. Keep your watchlist small at first. Avoid products that are too complex, like tripled levered this, and inverse that. Options are complex enough. There's no need to

introduce unnecessary risk into your portfolio (now pat yourself on the back and repeat these mantras daily).

“How much should I risk?” for \$200, Alex

When you’re ready to place a trade, this is the million dollar question. Because, in trading, your capital is everything. In fact, it’s the only thing that matters at the end of the day. If you don’t have capital, you can’t trade.

For the most part, your goal isn’t to win. Your goal is to lose less than you win. Another way traders phrase this is, “it’s not about how much you make, it’s about how much you *don’t* lose.” Losses are inevitable, so controlling how much you could lose *before* you enter into a trade could be the single most important decision you make before each trade.

Determining how much capital you put into each trade is called “position sizing.” And the first thing to think about is how much of your capital you’re willing to lose. What if you lose five trades in a row? What if you’re completely voodoo-hexed and you lose 10 trades in a row? No matter what happens, preserving your capital to make it to another trade is your first goal.

So how much is just right? That’s up to you. But, for starters, putting all of your capital into one trade on something like long calls may not be a viable, long-term strategy. You might get lucky and make money at first, but if that’s your trade management strategy, eventually what the market giveth, the market will taketh. Take it from veteran traders, you’re only as good as your last trade.

Trust the math (and your gut)

Position sizing comes down to a couple of things—how much you have, how much you’re willing to lose, and some math. None of these are arbitrary, but they don’t take rocket science to figure out, either.

You should already know what you have, so how much you’re willing to lose is more of a gut check.

Is risking 100% of your account on one trade a bad idea? Probably. But what about 10%? How about 5%, or 2%? Check your pulse as the numbers go down and imagine losing that amount. Let that sink in, it’s important. If you lost a certain percentage of your account on one trade, is that a loss you can absorb? If 10% is too hot, and 2% feels too cold, but 5% feels just right, lock it in your plan and promise Goldilocks you’ll never break your “5% rule” again. (Not a recommendation here, simply for illustrative and educational purposes. It is up to you to gauge and consider. Actual values will vary.)

From there, the math with options is simple.

Sizing up a long option trade: If you're trading a buy strategy like **long calls and long puts** or **debit spreads**, it's the cost of the trade divided into your total risk per trade.

For example, if Savvy Savannah has \$10,000 in trading capital and applies the 5% rule, that's \$500 in max risk per trade. If the price of an option is \$2.50, (\$250 total per option), Savannah could buy 2 of those options. If a debit spread also costs \$2.50, the formula is the same and Savannah could buy 2 spreads. (Note: It doesn't have to be all at once. Savannah can scale into positions through multiple purchases or sales of a contract or spread).

Sizing up a short option trade: For short strategies like credit spreads, the risk in each spread is the difference between the strikes minus the credit you receive. For example, same \$10,000 account, and same 5% rule. If you received \$2 on a credit spread that is \$5 between strikes, your risk is \$3 (\$300 total per spread). Since you can't go over \$500 risk, you can only trade one spread.

Cool. I'm a position sizing Jedi now. What can go wrong?

Well, a lot, Padawan. It's worth mentioning that someone reading this (you might be one of them) might be thinking, "5%? No problem. I'll just cut up my account into 20 trades at 5% each." It doesn't work like that.

As a general practice, you don't necessarily want to use all of your capital just because it's there. Consider starting with one at a time, at least while you're learning and work your way up to a level that's comfortable. The 5% rule isn't about 5% dispersed across 20 trades, it's 5% of what's left in your account after you close this one. This means if the account goes down in value, your trade size also goes down. If your account increases, your trade size could go up. For many people, it can be good to continually reassess if 5% of a larger portfolio still fits your risk appetite.

Think of it this way: if Savannah spent 5% of \$10,000 on 20 trades and all of them went to zero, she would be left with zero (assuming she's not trading on margin, she'd probably hit zero quicker). However, if Savannah placed 20 trades, one trade at a time, and spent 5% on the remaining capital, she could lose 100% of 20 trades in a row and still have \$3,774 left in her trading account.

That's an example of how proper trade management can work—lowering your risk per trade if your account falls, while reducing your overall risk so you don't

blow up your entire account (trader speak for going broke). Position sizing is just one way to control some of the risk that exists between your ears.

Delta, delta, delta

One last thing. Just because you've allocated a smaller loss per trade, doesn't mean your work is done. There's still strike selection, and more importantly, what strikes to consider avoiding. Just as risking all of your capital on one trade is a recipe for disaster, buying a bunch of cheap, **out of the money** calls for \$0.10 each can be just as bad. One way to gauge your odds of potential risk is to look at the option's *Delta*.

Delta is one of those fancy "options greeks" you might have heard about somewhere. We'll spend some time in other articles discussing greeks, but delta is worth highlighting here. Delta is like a swiss army knife for analyzing risk. Let's quickly break it down:

- Delta is the option's price sensitivity to price changes in the underlying stock. If a call has a .10, or "10 delta" and the stock moves up \$1.00, the option will only increase .10 cents in value. Not so great if you thought the option was going to move in lockstep with the stock.
- Another way traders use delta is as a back of the napkin calculation for probability of the option expiring in the money at expiration. Our example call with a .10 delta has roughly a 10% chance of expiring in the money. Another way of thinking about this is the seller has about a 90% chance of keeping the credit you paid them. Think about that.
- And finally traders use delta to calculate the equivalent "shares" that the option is acting like. So, even though you may be buying a 10 delta option, a lot of small deltas add up to big deltas, and before you know it, you're long thousands of deltas. That would be the equivalent of owning thousands of shares of stock (spidey senses activated, call the Risk Officer!).

Bottom line, deep, out of the money options are cheaper for a reason. They have a very low probability of success. In fact, many veteran traders call them "lottery tickets" because they are cheap, and rarely pay off. Of course when they do, you're sure to hear about it, but trust us, it's the exception that proves the rule. You can find delta on Robinhood by following the steps below:

1. Tap the Search icon at the bottom of your app
2. Search for a stock symbol
3. In the Stock Information Page, tap Trade, then Trade Options

4. Select the expiration at the top of the screen
5. Select the option from the chain you want to trade
6. Under "Limit Price," select the bid/ask and you'll see this:

The delta in this image is 0.3956, but that can be read as "39 deltas"—the equivalent of 39, almost 40 shares of stock. The option has roughly a 39% chance of expiring in the money by expiration.

At the money options hover right around 50 deltas, which means they're expected to move \$0.50 for every \$1 move in the stock. So, if you'd like to emulate a similar profit/loss profile of 100 shares of stock, you could buy two at the money options. When the stock moves up \$1, the two contracts that are at the money are expected to move up \$1 as well. The reverse is true if the stock moves lower by \$1.

The why of delta is for another article, but the important point to understand is that it's not linear. Delta changes, like the slope of a curve, and cheap out of the money options have an extremely low delta. There's a sweet spot between the at the money and cheaper out of the money options that may offer a balance of cost and a higher probability of success.

Also, keep in mind, whenever you buy an option (no matter whether it is ITM, ATM, OTM), your theoretical probability of success is less than 50/50. It's just how the math works out. And remember, the higher the delta, the greater the probability that the option could be in the money at expiration. For now, let that be your guide.

And that's a wrap

Remember, you are the Chief Risk Officer of your trading account! Risk management starts with you and the decisions you make *before* you place a trade. Manage your capital and manage your risk, accordingly. The single most important tip we've learned from veteran traders over the years is to ask yourself, always, "what is my risk?" Once you take some time to assess and reflect on your risk management approach, Tom Cruise won't be the only one dancing.

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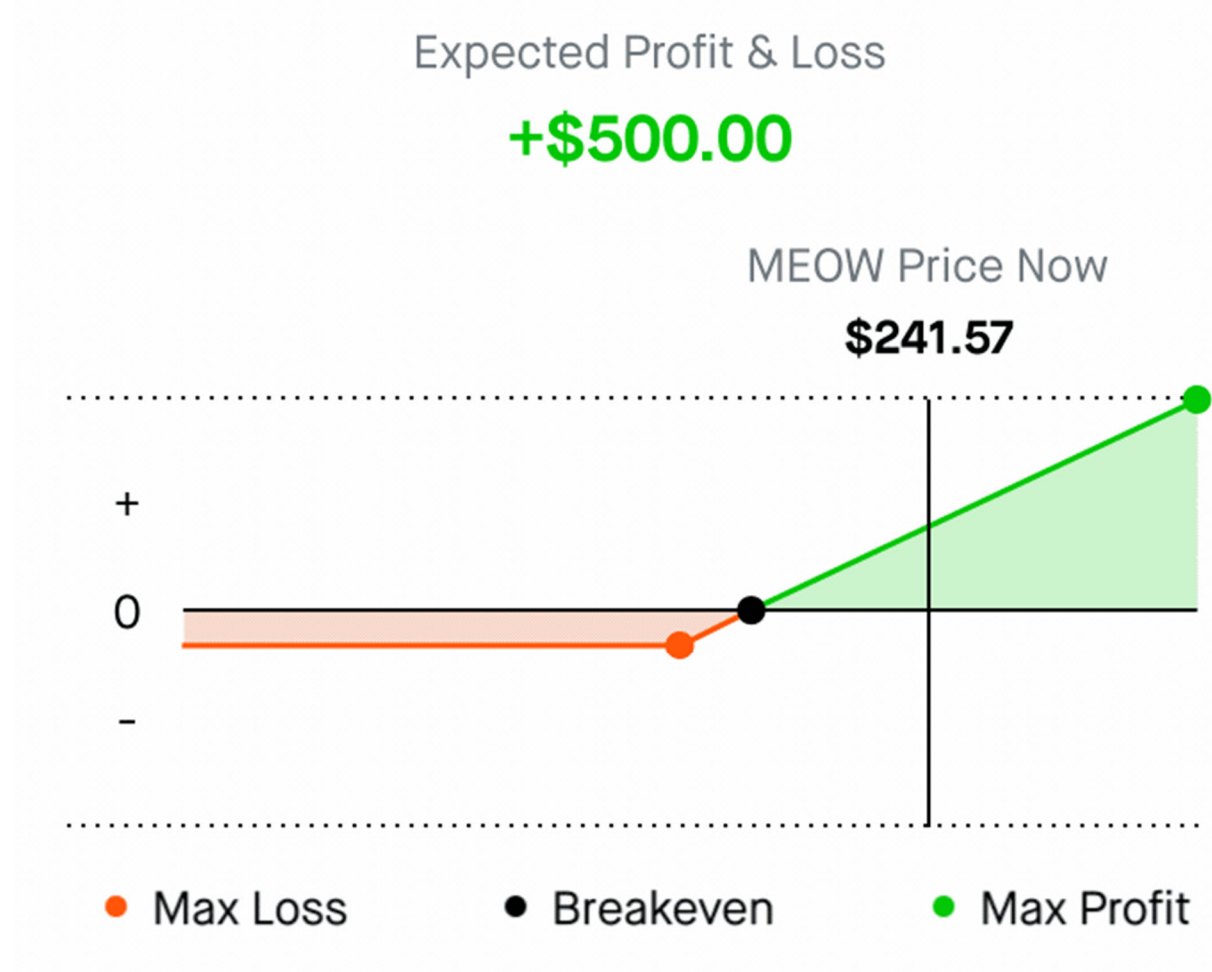
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The P/L Chart

What is a Profit & Loss chart?

The P/L (Profit & Loss) chart helps you visualize an option strategy's theoretical profits or losses at expiration. This is a great way to gain some insight into any particular options strategy before you enter into a position.

How does it work?



The **vertical Y-axis** represents the theoretical profit (+) and loss (-) range. Anything above zero represents theoretical profit while the area below represents theoretical loss. Both values assume the option is held until expiration.

The **horizontal X-axis** represents the stock price at expiration. When it comes to a calendar spread, which contains both long and short options at identical strike prices across two different expiration dates, the expiration of the front month option is the assumed expiration date.

How can it help me make informed decisions for my options trading?

The chart can help you gauge the theoretical risk and reward of any given options strategy. This is one of the most important keys to choosing a strategy because you'll get an idea of how much money you can potentially make or lose. This assumes all options are held until expiration and not closed, exercised, or assigned before then.

Keeping track of your **breakeven** is another important factor. Assuming you hold the position to expiration, this is the price the underlying stock must be above or below in order to potentially make money at expiration. Helpfully, this **includes any premium paid or collected** when the position was established.

Example: Let's revisit the **above MEOW 237 call**

The MEOW 237 call has a premium of \$2.00. The theoretical max profit would be unlimited because there's no upper limit on how much the stock can potentially gain. You also know that you need the price to hit \$239 to break even at expiration. The breakeven price for a long call is the strike price (237) plus the premium paid (\$2). The theoretical max you can lose (max loss) is going to be \$200, which is the premium paid (\$2 x the contract multiplier of 100).

Keep in mind, this graph is only showing potential profit and loss at expiration. Actual gains may vary prior to expiration. For more helpful options education, be sure to check out the [options trading essentials page](#).

What are the different P/L charts?

The P/L chart is interactive and as you select different contract strategies, it will adjust accordingly. At Robinhood we categorize them into Level 2 and Level 3 strategies. Here are a few of the most common strategies you can examine using the P/L chart.

Level 2 options strategies

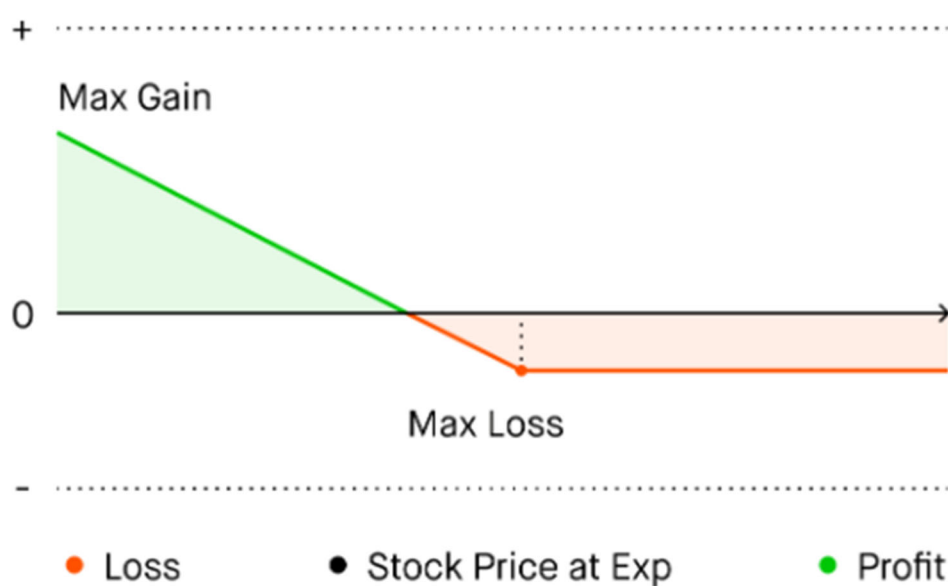
Long Call



SETUP: Buy a call.

For a deeper analysis of this strategy, check out our [detailed primer on trading calls and puts](#).

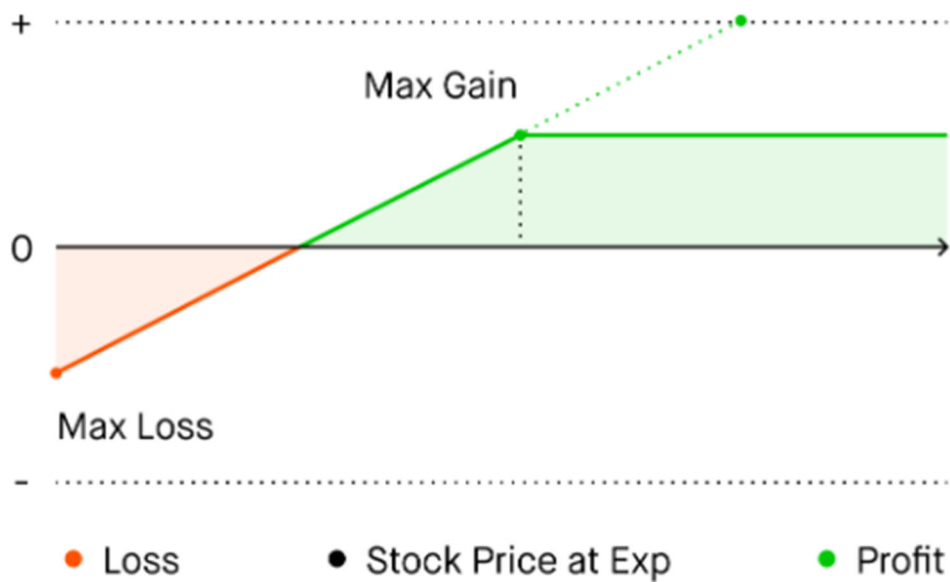
Long Put



SETUP: Buy a put.

For a deeper analysis of this strategy, check out our [detailed primer on trading calls and puts](#).

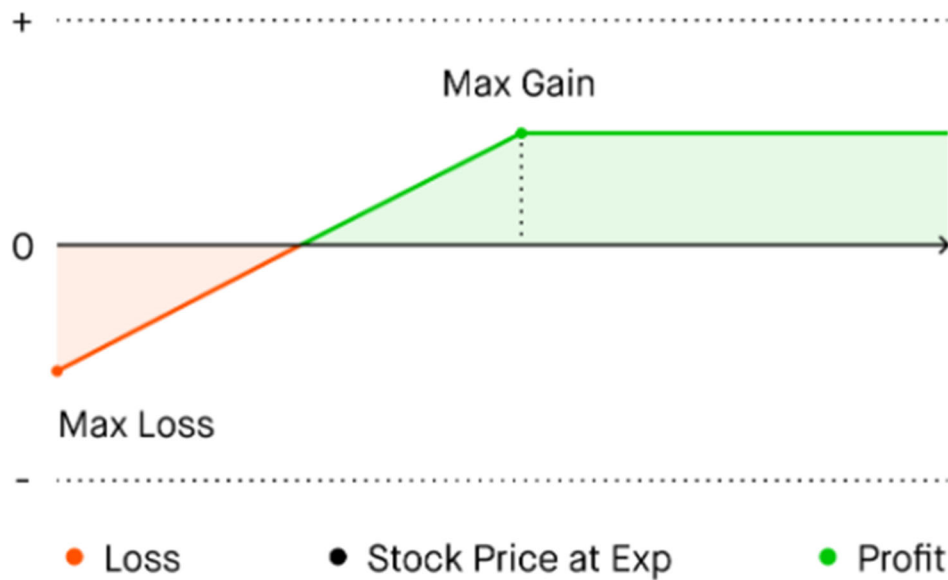
Cash Secured Put



SETUP: Sell a put short (you must have the money in your brokerage account equivalent to buy 100 shares at the strike price of the put, aka "cash-secured")

For a deeper analysis of this strategy, check out our [detailed primer on trading calls and puts](#).

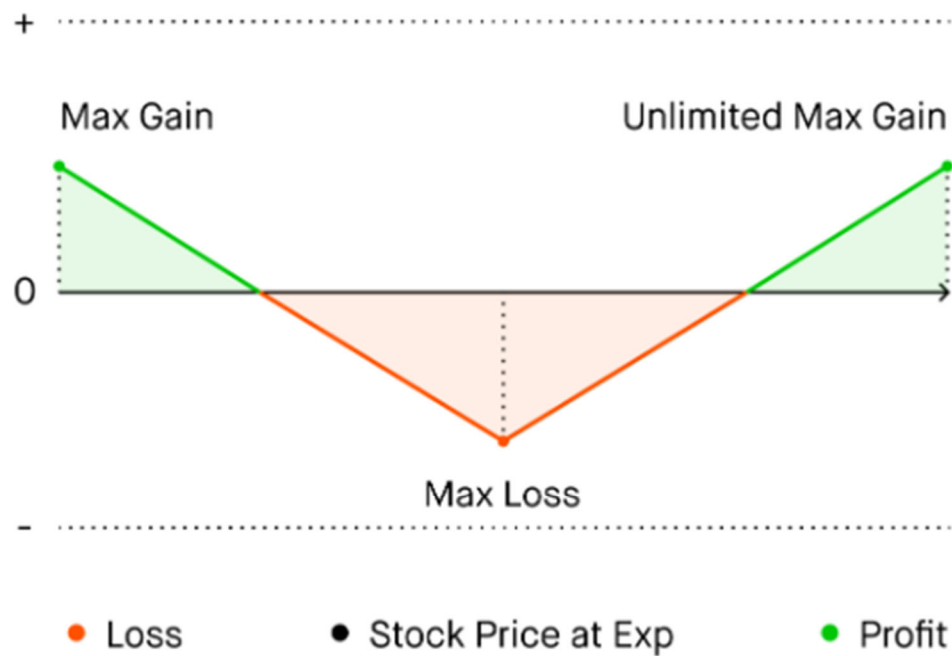
Covered Call



SETUP: Long 100 shares of stock + short higher strike call (usually with a short-term expiration; ~20-45 days to expiration)

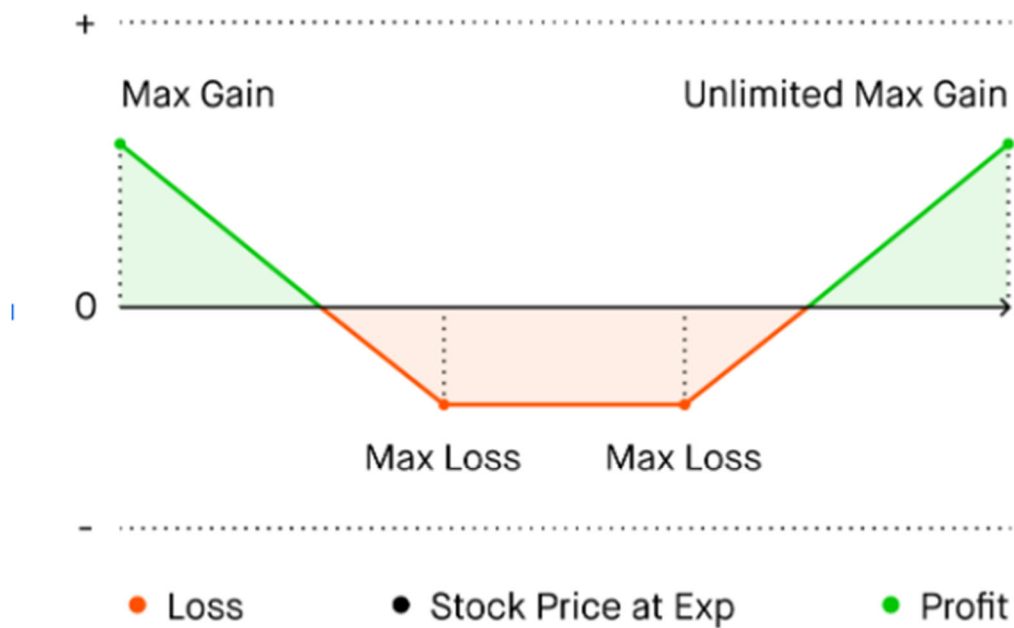
For a deeper analysis of these strategies, check out our [detailed primer on trading calls and puts](#).

Straddle



SETUP: Long call + long put at the same strike price, meaning you have the right to buy and sell shares at the same strike price.

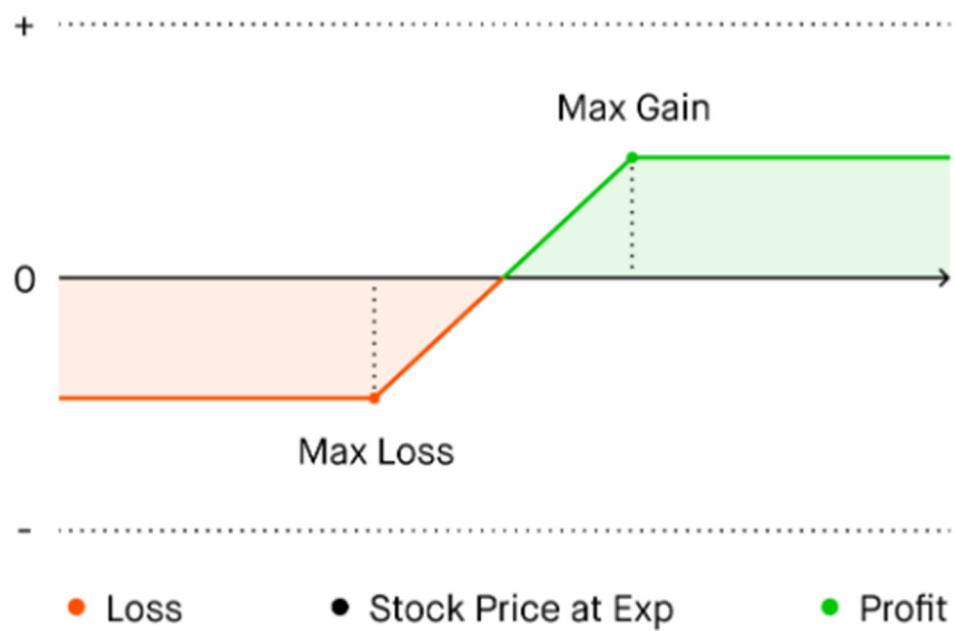
Strangle



SETUP: Long call + put options, but the call option has a higher strike price than the put option.

Level 3 options strategies

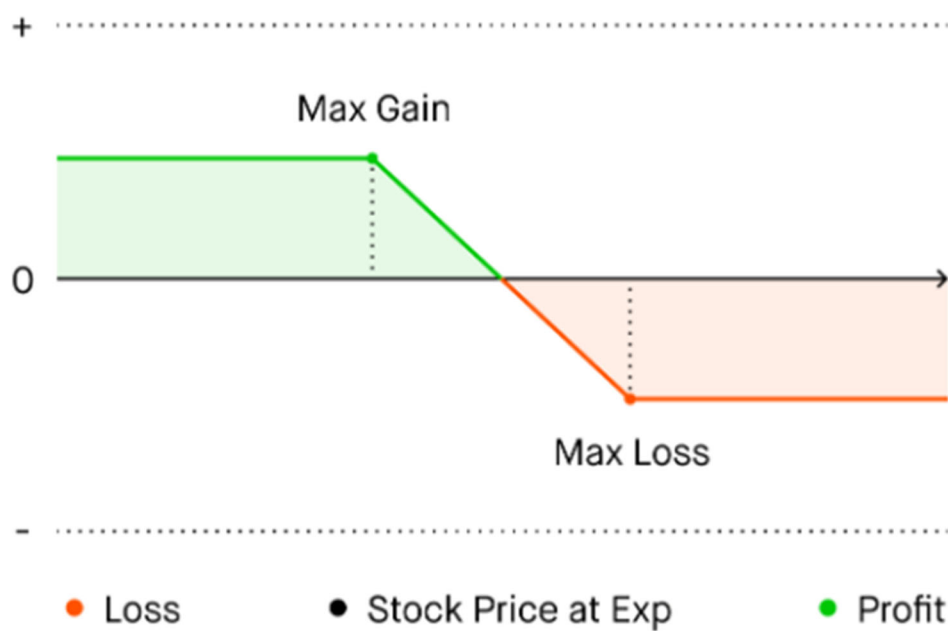
Call Debit Spread



SETUP: Long call + short higher strike call in the same expiration

For a deeper analysis of this strategy, check out our [detailed primer on trading spreads](#).

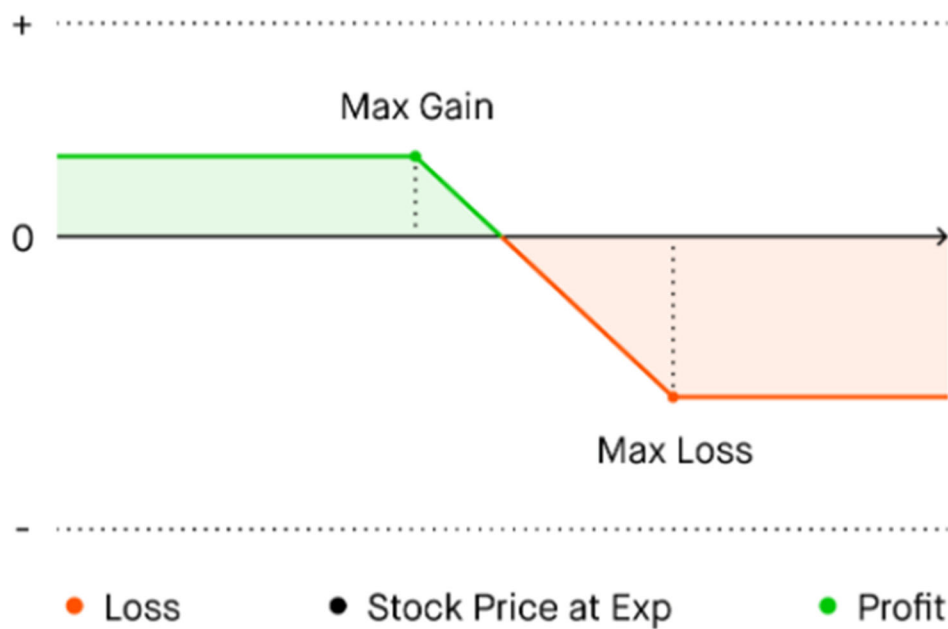
Put Debit Spread



SETUP: Long put + short lower strike put (same expiration)

For a deeper analysis of this strategy, check out our [detailed primer on trading spreads](#).

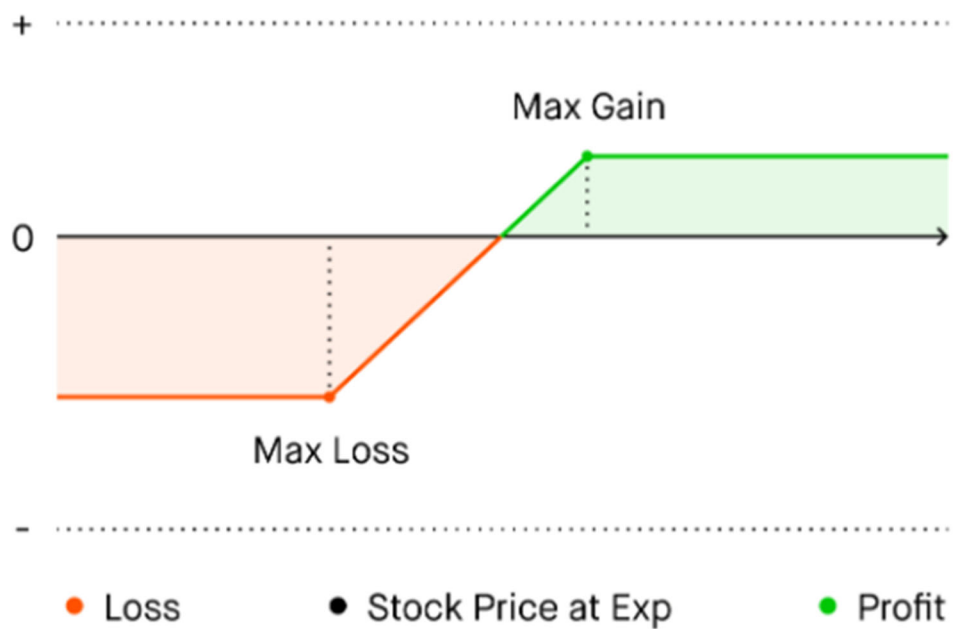
Call Credit Spread



SETUP: Short call + long higher strike call in the same expiration

For a deeper analysis of this strategy, check out our [detailed primer on trading spreads](#).

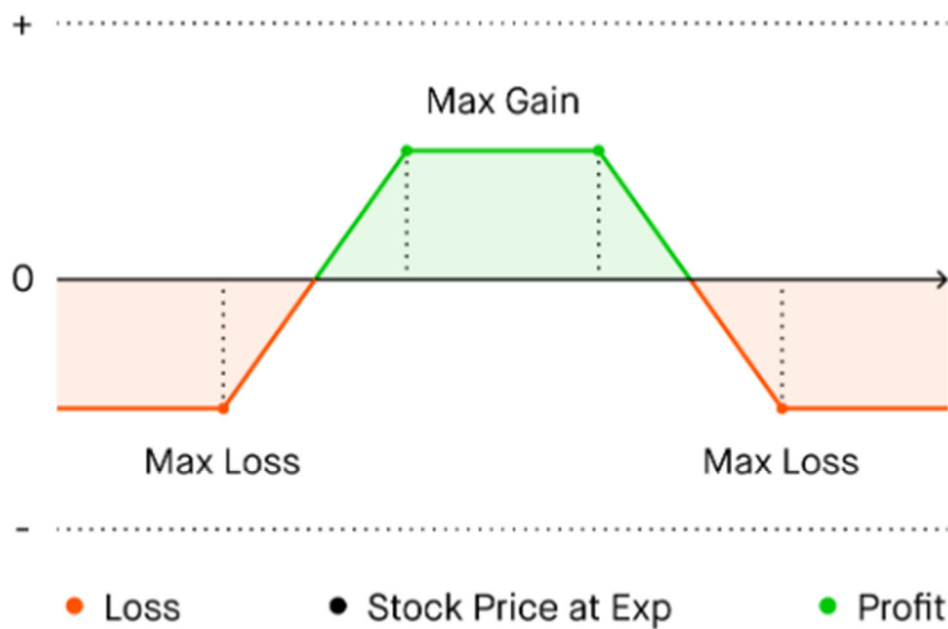
Put Credit Spread



SETUP: Short put + long lower strike Put in the same expiration

For a deeper analysis of this strategy, check out our [detailed primer on trading spreads](#).

Iron Condor

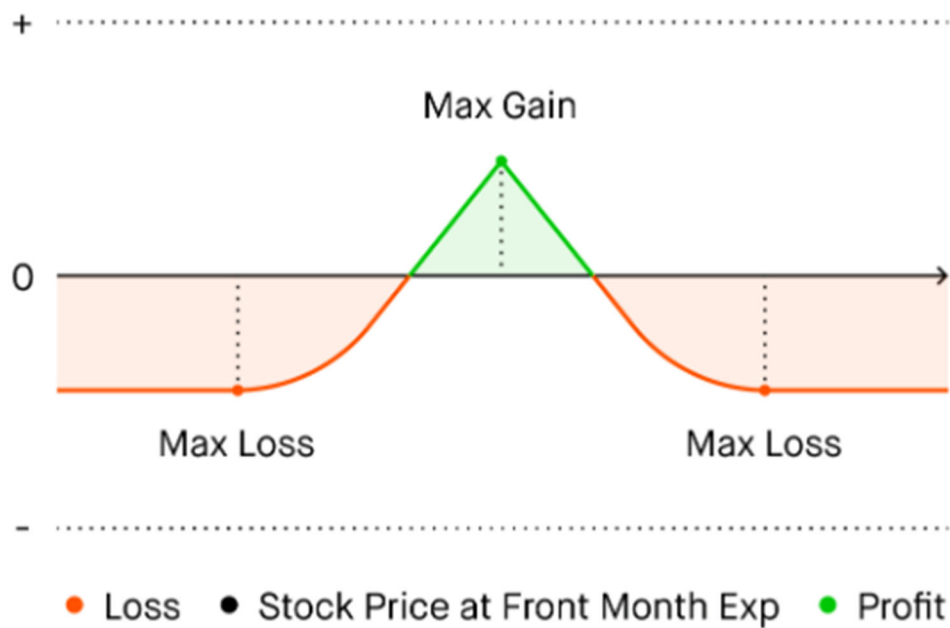


SETUP: Put credit spread (short put + lower long put) placed below the current stock price

Call credit spread (short Call + long higher strike call) placed above the current stock price

For a deeper analysis of spread strategies, check out our [detailed primer on trading spreads](#).

Calendar



SETUP: Short position + long position on the same underlying stock at the same strike price, but with different expiration dates.

Iron Butterfly



SETUP: Put credit spread (a short put + a long put) + call credit spread (a short call + a long call).

Disclosures

The Profit and Loss Chart (the "Chart") assumes positions will be held until expiration. Actual losses may exceed calculated values due to changes in implied volatility, early assignment and ex-dividend dates, among other factors.

The Chart performs hypothetical calculations based on model assumptions and other inputs, which may not reflect actual market conditions and do not guarantee future results. The calculations do not incorporate taxes, fees, or annualized dividend yields. Failure to exercise an in-the-money options contract can cause actual profits and losses to differ from calculated values. The maximum

loss on a spread position remains limited only as long as the integrity of the spread is maintained.

Options carry a significant level of risk and are not suitable for all investors. Certain complex options strategies carry additional risk. Please read the [Characteristics and Risks of Standardized Options](#). Options transactions are often complex and may involve the potential of losing the entire investment in a relatively short period of time. Certain complex options strategies carry additional risk, including the potential for losses that may exceed the original investment amount.

Any hypothetical examples are provided for illustrative purposes only. Actual results will vary.

Content is provided for informational purposes only, does not constitute tax or investment advice, and is not a recommendation for any security or trading strategy. All investments involve risk, including the possible loss of capital. Past performance does not guarantee future results.

Robinhood Financial does not guarantee favorable investment outcomes. Customers should consider their investment objectives and risks carefully before investing in options. Because of the importance of tax considerations to all options transactions, the customer considering options should consult their tax advisor as to how taxes affect the outcome of each options strategy. Supporting documentation for any claims, if applicable, will be furnished upon request.

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Still have questions? [Contact Robinhood Support](#)

Basic Options Strategies

(Level 2)

Although options may not be appropriate for everyone, they can be among the most flexible of investment choices. Whether you're hedging or seeking to grow your investments, you can use options to help reach the goals you set for your portfolio.

This page is an educational tool that can help you learn about the options strategies available with Level 2 on Robinhood. Before you begin trading options, it's worth taking the time to identify an investment strategy that makes sense for you.

Depending on your position, it's possible for you to lose the principal you invest, or potentially more – So, it can be helpful to learn more about the different strategies before diving in.

Buying a Call

The Basics

What is buying a call?

Buying a call option (aka a "long call") means opening a contract that gives you the right, but not the obligation, to buy shares of a stock at a certain price (the "strike price") up until a set date ("expiration date"). In exchange for this right (known as the ability to "exercise" the option) you pay an upfront cost (the "premium"). A typical long call option offers the right to buy 100 shares of the underlying stock.

Because you have this right, it is beneficial for the stock price to increase in value. Your potential gain is theoretically infinite, while your risk of potential losses is limited to the premium you paid.

Here's some lingo to describe how your long call option is performing relative to the stock price:

- **In-the-money:** The stock price is above the strike price
- **At-the-money:** The stock price is at the strike price
- **Out-of-the-money:** The stock price is below the strike price

When might I use this strategy?

You might consider **buying** a call if you seek to benefit from an upward movement in a stock price (i.e., you have a bullish outlook), without actually owning the underlying shares. Your maximum potential gain is unlimited, because theoretically there's no cap on how high a stock price can rise. On the other hand, if the stock price is below the strike price at expiration, your option expires worthless. When this happens, you would realize your maximum potential loss, which is the premium you paid upfront.

How is buying a call option different from buying shares in a company?

Instead of buying a call on a company you think will increase in value, you can buy shares in the company itself. While both strategies can give you upside exposure on an equivalent number of shares, there are some key differences. First, options have an expiration date, whereas shares do not — in other words, you can only exercise or sell your call until its expiration date, but shares typically do not have the same time constraints or risks. A call option can and may expire worthless. Second, you generally need less upfront capital to buy a call option than to buy shares to gain an equivalent level of exposure. As such, options can magnify your gains or losses based on your initial investment.

What are factors to consider when buying a call?

- **Expiration date:** If you want to either sell or exercise your option, you must do so by this date. If you don't, the option expires, and you no longer have the right to buy the underlying stock at the strike price. Assuming all other factors are constant, the further away an option's expiration date, the lower your risk of loss. That's because there's more time for the stock price to potentially rise. For that reason, options with later expiration dates are likely to have higher premiums.
- **Strike price:** This is the price you pay for the underlying stock if you choose to exercise the option, regardless of the price at which the stock is trading ("prevailing market price"). Assuming all other factors are constant, a call option with a higher strike price typically involves a greater risk of loss than a call option with a lower strike price. That's because the stock would have to rise more for the call to become profitable.
- **Premium:** This is the price you pay to buy the call. The higher the premium (i.e. the more the option costs), the more the stock price will have to rise for you to make a profit. Also, the more you pay for the call, the more you could potentially lose.
- **Contract:** Each option typically represents 100 shares. The more contracts you buy the greater your exposure to potential gains and losses on the position.

Calculations

Can I see an example?

Let's take a look at the fictional MEOW company, whose shares are currently trading at \$110. Since you expect MEOW shares to rise, you decide to **pay** a \$2 premium per share (or \$200 in total) to **buy** one call option on MEOW. This gives you the right to purchase 100 MEOW shares at a strike price of \$120.

Potential Gains or Losses at Expiration

If, at expiration, MEOW shares exceed the strike price plus premium paid per share, you can potentially profit on your long call. In our example, if MEOW rises above \$122 (\$120 strike price + \$2 premium) and you exercise (and sell shares) or sell your option, then you should make a profit. Theoretically, your maximum gain is unlimited, since MEOW could rise to any number. Meanwhile, your potential maximum loss should be limited to the premium you paid upfront (\$2 per share * 100 shares = \$200).

MEOW rises to \$130 (aka in-the-money)

Let's see what happens if your expectation is right, and the stock climbs to \$130 before expiration. If you **exercise** the option, your potential profit per share is the difference between the stock price and the strike price, minus the premium (\$130 stock price - \$120 strike price - \$2 premium = \$8 per share). If the contract is for 100 shares, you would **earn** \$800. Alternatively, if you **sell** the option, your potential profit per share is the difference between the sale price and the premium you initially paid to enter the long call.

MEOW stays at \$110 (aka out-of-the-money)

Now, let's look at what happens if the stock doesn't move as you expected. Instead of going up, the stock price stays at \$110 until the option expires. Since that's below the strike price of \$120, the call should expire worthless, and you would lose the \$2 premium per share, or \$200 for the contract (the most you could **lose** on the trade in this example).

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What is the breakeven stock price at expiration?

You break even on your long call if the stock closes at the strike price of the option plus the premium you paid.

Going back to MEOW, the strike price (\$120) plus the premium (\$2) is \$122. If the stock closes at this exact number on the option's expiration date (and you exercise and sell shares, or sell your option), you neither profit nor lose money. If the stock rises above \$122, you have the potential to profit. If it closes at or below the strike price the call should expire worthless, and you'll lose the premium you paid upfront.

Monitoring

I bought a call option. What can I do next?

When you buy a call option, you have two choices before the expiration date: exercise it or sell it.

Exercising

You can exercise a call anytime before it expires to use your right to buy 100 shares of the underlying stock at the strike price. The seller of the call is obligated to sell the shares to you at this price. You might choose to exercise a call if the stock price goes higher than your breakeven price (the strike price plus the premium you paid). In this case, you buy the stock at a discount and can either sell the shares for a profit or hold them (and perhaps sell them later). Another reason you might exercise a call is if you can't sell it for its intrinsic value (the difference between the stock price and the strike price). If that happens, exercising it and then selling shares might be the only way to fully realize your potential gains.

Selling to close

Instead of exercising a call, you could choose to sell it anytime before the expiration date to try to realize gains or prevent further losses. If the stock price rises above the breakeven point anytime before the expiration date, selling the call could allow you to realize a profit. That's because the contract should be more valuable than when you bought it, since it gives the owner a right to buy shares for less than the prevailing market price.

If it doesn't look like the stock price will rise higher than the break even point by the expiration date, you could potentially sell the call to get some of your premium back. (A buyer could be interested because there's still a chance the stock price will increase in the time left.) You might also sell your call if you don't have enough money to exercise it. In other words, you can't afford to buy 100 shares of the underlying stock at the strike price.

Of course, you can also choose to do nothing and let the call option expire worthless. In this case, you'll lose the premium you paid for it.

How might market movements affect my position?

Changes in the market can affect the value of your call option, since the price of a call is based on supply and demand for the contract.

Some options may not be as liquid as others. For instance, there might not be enough buyers for you to sell-to-close the position, and your contract's price might be adversely affected. If your option isn't very liquid, it can be hard to sell it for its intrinsic value or at all. The premium might not always correspond directly to price changes in the underlying stock.

Volatility, a measure of how much and how quickly a stock price changes, can also affect your position. If you buy a call, you generally benefit when volatility increases, because the value of your call should also increase, assuming all other factors are constant. Likewise, the option is likely to decrease in value when volatility declines.

Finally, the value of your call may decrease as the expiration date nears. That's because it becomes less likely that the stock price will change significantly before the option expires (a factor known as time decay), and because it may be harder to find buyers for a less liquid option.

What are some potential edge cases?

When buying a call, there's no risk of early assignment or dividend risk. You can learn more about potential edge cases regarding corporate actions [here](#).

Selling a Covered Call

The Basics

What is selling a covered call?

Selling a covered call means opening a contract that gives you the obligation to sell shares of a stock you already own, at a certain price (the "strike price") up until a set date ("expiration date"). In exchange, you receive an upfront amount (the "premium") for selling this contract. A typical short call option entails the obligation to sell 100 shares of the underlying stock, and the call is "covered" because you already own the shares you might have to sell.

Because you have this obligation and hold the stock, in general it is beneficial for the stock price to stay relatively flat or increase moderately, and undesirable for the stock price to fall significantly. Your maximum potential profit is limited, but your potential losses are limited too.

Here's some lingo to describe how your short covered call option is performing relative to the stock price:

- **In-the-money:** The stock price is above the strike price
- **At-the-money:** The stock price is at the strike price
- **Out-of-the-money:** The stock price is below the strike price

Please note: Robinhood does not allow uncovered or naked positions, as selling a call on stock you don't own may involve the risk of unlimited losses.

When might I use this strategy?

You might consider **selling** a covered call if you think a stock price will stay relatively stable or rise somewhat in the near future (i.e., you have a neutral-to-bullish outlook). You can only do this on Robinhood if you own enough shares in the underlying stock to cover the short call if it's assigned.

One reason to use this strategy is to earn additional income on stocks you own. If you're planning to hold the underlying shares anyway, selling covered calls can be a way to help generate income from the premiums you **receive** (aka to "monetize" your holdings). But there's a tradeoff — You give up the potential to profit if the stock price soars above the strike price. When this happens, the call has the potential to be assigned. (Note: Calls are usually assigned at expiration, but can happen at any time beforehand.) Remember, you're obligated to **sell** your shares at the strike price if the buyer chooses to exercise the option.

Selling a covered call can also be a way to help protect yourself if the stock price declines. The premium you received for the call can slightly offset your losses. Still, **selling** a call can't protect you from losing money if the stock price falls below the breakeven price.

What are factors to consider?

Here are a few key factors:

Expiration date: Selling calls with a closer expiration date means you're reducing the time frame in which you're capping your potential gains from the stock you own. If they expire worthless, you can sell calls more often. Selling calls that expire later means you cap your potential profit for longer and can't write new calls as often. However, calls with a later expiration date usually generate higher premiums upfront, assuming all other factors are constant.

Strike price: This is the price at which you're required to sell your shares if the call is assigned. Assuming all other factors are constant, calls with lower strike

prices are more likely to be assigned and typically sell for a higher premium. Calls with a higher strike price are less likely to be assigned and usually have a lower premium. A higher strike price gives you more leeway to benefit from a rise in the stock price, since the ceiling on your potential gains is higher.

Contract: Each option typically represents 100 shares. If you sell more covered calls, the total premium you receive is higher. But you also need to own more shares of stock to cover the calls — and if the price of the stock you own increases, there's potential for you to miss out on even greater gains. However, selling covered calls also offers some downside protection, since the premium you receive can partially offset a decrease in the stock price.

Premium: This is the money you receive upfront for selling the call. The higher the premium, the more the stock can drop before you break even on the overall position. But, a call with a higher premium is also more likely to be assigned, which can mean giving up more potential gains if a stock price rises.

Calculations

Can I see an example?

Let's say you **buy** or already **own** 100 shares of the fictional MEOW company at a price of \$110, and you expect the stock will stay relatively flat or increase moderately in the near future. You could consider **selling** a call option for MEOW at a strike price of \$125, for which you'd receive a \$1 premium per share (\$100 total).

Maximum Gain or Loss

Your maximum potential gain is limited to the difference between the strike price and the stock price, plus the premium you **received**. You can realize this gain if the call is assigned and you sell the stock, which typically happens when the stock price is higher than the strike price at expiration.

Meanwhile, in theory, you'd experience your maximum potential loss if the stock price fell all the way to \$0. Like any stock owner, you risk losing the entire value of the shares—except when you sell a covered call, you would keep the total premium you received upfront.

MEOW rises to \$130 (aka in-the-money)

Let's assume your expectation is right, and MEOW's stock closes at \$130 on the short call's expiration date. Since this is above the strike price of \$125, the call is assigned, and you are obligated to **sell** your shares for \$125 each. Your gain per share is \$15, or the strike price (\$125) minus the price you **paid** for the stock (\$110). Multiplying by the number of shares you own (100), this comes out to \$1,500. You also **received** a \$1 premium per share, or \$100 total, for selling the call. So, your total **gain** is \$1,600 (that is, \$1,500 plus \$100). Keep in mind, this is your maximum potential gain in this example. Even though the stock price rose to \$130, the strike price (\$125) of the option limits your potential gains. By comparison, if you had only bought and held 100 shares, the value of your stock would've increased by \$2,000 — that is, $(\$130 - \$110) * 100$ shares.

MEOW rises to \$125 (aka at-the-money)

Let's say MEOW's stock price closes at \$125 on the call's expiration date. Since this is at the strike price, the call should expire worthless. Once again, your gain per share is the current stock price (\$125) minus the price you **paid** for the stock (\$110), which equals \$15. If the contract is for 100 shares, you would gain \$1,500 from owning the stock. To calculate your total gain though, add the \$1 premium you **received** per share for selling a call option (\$100 total). In this instance, your total profit for the strategy is \$1,500 plus \$100, or \$1,600. If you had only bought and held 100 shares, the value of your stock would've increased by \$1,500.

MEOW falls to \$100 (aka out-of-the-money)

Now, let's look at what happens if MEOW's stock price doesn't move as you expected, and instead closes at \$100 on the call's expiration date. To calculate

the decline in the value of your stock, take the current stock price (\$100) and subtract the price you paid for it (\$110). Multiply this by the 100 shares you own, and this comes to -\$1,000. The premium you received upfront (\$100) helps offset this decline, meaning your net loss is \$900. If you had only bought and held the shares, your net loss would've been \$1,000.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What is the break-even point at expiration?

You break even on your covered call if, on the expiration date, the stock closes at the price you originally paid for the stock minus the premium you received per share for selling the call.

Going back to MEOW, you paid \$110 per share to buy the stock. Subtracting the premium you received per share equals \$109 (\$110 - \$1). If the stock closes at this price on the expiration date, the option should expire worthless, and you should neither gain nor lose money. If the stock falls below \$109, you should experience a loss.

Monitoring

I sold a covered call option. What can happen next?

When you sell a covered call option, there are several possibilities for what could happen next: Buying to close your position, assignment, or expiration.

Buying to close

By selling a call option against your shares, you create an "open" position. You can later "close" it by buying back the option, anytime before it expires, which can allow you to keep your stock and avoid getting assigned. Holding the stock also gives you the potential to sell additional covered calls once the collateral (your shares) is freed up.

Assignment

Alternatively, the call you **sold** could get assigned (meaning the buyer decides to exercise it). Remember, since you're the seller, you can't exercise it — Only the buyer can do this. If you're **assigned**, then you must sell the stock at the strike price. Often, this happens if the stock price is above the strike price at expiration. But a call can be **assigned** early, too. This is especially likely to happen before ex-dividend dates, the last day by which you can **buy** a stock in order to be eligible to receive dividends on the shares. If early assignment happens before the ex-dividend date, you will not be entitled to the dividend.

Call Expiration

If the stock price is below the strike price at expiration, your call will likely expire worthless. This would free up your shares, allowing you to potentially: sell another call, keep holding the stock, or sell your shares.

How might market movements affect my position?

Changes in the market can affect the value of your covered call and your ability to close it. First, you can benefit from an increase in the price of the underlying stock, since you own those shares. However, this is only true up to the strike price, which puts a limit on your potential gains. Also, as the stock price rises, the value of your short call position declines.

Volatility, a measure of how much and how quickly a stock price changes, can also affect your position. If you sell a covered call, you generally benefit when volatility declines, because the value of the call you sold should also decline, assuming all other factors are constant. On the other hand, an increase in volatility in the underlying stock can make it more expensive to close your position.

If the stock price and volatility stay pretty flat, the value of your covered call position tends to increase as time passes. As the expiration date nears, the price of the short call falls, making it less expensive to potentially close the position.

What are some potential edge cases?

For selling a covered call, two of the more common edge cases are: Early assignment risk and dividend risk.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. If a trader is assigned on the short call option, the trader will be obligated to sell their shares of stock at the covered call's strike price. In this case, a trader will no longer own the shares associated with the covered call option, and see an increase in buying power in their Robinhood brokerage account. Learn more about early assignments [here](#).

Dividend risk

Dividend risk is the risk that a trader will be assigned on a short call option the night before the ex-dividend date (and thus, not receive the dividend). Traders can avoid this by closing their position before the end of the regular-hours trading session the night before the ex-dividend date. Learn more about dividend risks [here](#).

Buying a Put

The Basics

What does it mean to buy a put?

Buying a put option (aka a "long put") means opening a contract that gives you the right, but not the obligation, to sell shares of a stock at a certain price (the "strike price") up until a set date ("expiration date"). In exchange for this right (known as the ability to "exercise" the option), you pay an upfront cost (the "premium"). A typical long put option offers the right to sell 100 shares of the underlying stock. Keep in mind, Robinhood only allows you to exercise a put when you already own the underlying shares you're selling.

Because you have the right to sell shares, it's generally beneficial for the price of the underlying stock to fall in value (i.e., you have a bearish outlook). Your potential gain is significant but limited, and your potential losses are limited, too.

Here's some lingo to describe how your put option is performing relative to the stock price:

- **In-the-money:** The stock price is below the strike price
- **At-the-money:** The stock price is at the strike price
- **Out-of-the-money:** The stock price is above the strike price

When might I use this strategy?

You might consider **buying** a put if you expect a stock price to decrease (i.e., you have a bearish outlook). When you buy a put, you expect that the value of the put will rise as the price of the underlying stock drops (though not necessarily dollar-for-dollar), before the expiration date. In theory, the maximum potential gain is equal to the strike price of the put minus the premium per share, multiplied by 100. You should realize the maximum **gain** if the stock price falls all the way to \$0.

On the other hand, your maximum potential **loss** is limited to the total premium (aka premium per share * 100) you paid for the long put. You will lose this amount if the put expires worthless, which should happen if the stock price doesn't drop below the strike price before expiration.

What are factors to consider?

Here are a few key factors:

- **Expiration date:** If you want to either sell or exercise the option, you must do so by this date. If you don't, the option expires, and you no longer have the right to sell the underlying stock at the strike price. The further away the expiration date, the lower the risk of losses, assuming all other factors

are constant. That's because there's more time for the stock price to potentially fall. For the same reason, the premium is likely to be higher for options with later expiration dates.

- **Strike price:** This is the price at which you can sell the underlying stock if you choose to exercise the option, regardless of the price at which the stock is trading ("prevailing market price"). When buying a put, lower strike prices typically come with a higher risk of losses, assuming all other factors are constant. That's because the stock would have to fall more for the option position to become profitable.
- **__Premium:** __This is the price you pay to buy the put. The more you pay for the put, the more you could potentially lose.
- **Contract:** Each option typically represents 100 shares. The more contracts you buy the greater your exposure to potential gains and losses on the position.

Calculations

Can I see an example?

Let's say you think the stock price of the fictional MEOW company, which is trading at \$110 a share, will fall soon. **You pay a \$1 premium (\$100 total) to buy a put option**, giving you the right to sell 100 MEOW shares at a strike price of \$95.

Maximum Gain or Loss

You'd reach your maximum potential gain if the price of the underlying stock fell to \$0, which is theoretically possible but highly unlikely. In this case, your maximum potential gain equals the strike price of the put minus the premium you paid ($\$95 - \$1 = \$94$). If the options contract represents 100 shares, the most you could gain is \$9,400. Your maximum potential loss is limited to the total premium (\$100). In general, your total premium will depend on factors such as

the strike price of the contract, the expiration date, and the number of contracts purchased.

MEOW falls to \$90 (aka in-the-money)

Let's see what happens if your expectation is right, and the stock falls to \$90 on the expiration date. If you sell the option, your potential gain per share is the difference between the strike price and the stock price, minus the premium ($\$95 \text{ strike price} - \$90 \text{ stock price} - \$1 \text{ premium} = \$4$). If the contract represents 100 shares, your total gain is \$400.

MEOW rises to \$120 (aka out-of-the-money)

Let's see what happens if the stock doesn't move as you expected. Instead of going down, the stock price rises to \$120 by the time the option expires. Since that's above the strike price of \$95, the put should expire worthless, and you would lose the \$1 premium, or \$100 in total. Again, this is the maximum you could lose in this example. You'll experience this maximum loss anytime the stock price is at or above the strike price at expiration.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What is the breakeven point at expiration?

You break even on your long put if the stock closes at the strike price of the option minus the total premium you paid.

Going back to MEOW, the strike price minus the premium per share ($\$95 - \1) equals \$94. If the stock closes at the breakeven point on the expiration date, you should neither gain nor lose money. If the stock drops below \$94, you have the potential to profit. If it closes at or above \$95, the put should expire worthless, and you'll lose the premium you paid upfront.

Monitoring

I bought a put option. What can I do next?

When you buy a put option, you have two choices before the expiration date: Exercise it or sell it.

Exercising

As long as you already own enough shares of the stock to exercise your put, you can exercise your right to sell the shares at the strike price anytime before the option expires. The seller of the put is obligated to buy the shares from you at this price. You might choose to exercise your put option if the stock price drops below your breakeven point (the strike price minus the premium per share). In this case, you'd sell your shares for more than the prevailing market price. Another reason you might exercise a put is if you can't sell it for its intrinsic value (the difference between the stock price and the strike price). If that happens, exercising it might be the only way to fully realize your potential gains.

*Please note: Robinhood only allows you to exercise a put if you already own the shares you'll be selling. *

Selling to close

Instead of exercising a put, you may sell-to-close the position anytime before the expiration date to try to realize gains or prevent further losses. If the stock price falls below the breakeven point anytime before expiration, closing the position could allow you to realize a gain. That's because the contract should be more valuable than when you bought it, since it gives the owner the right to sell shares for more than the prevailing market price.

If it doesn't look like the stock price will drop below the breakeven point by the expiration date, you could potentially close your position to recoup some of your premium. (A buyer could be interested because there's still a chance that the stock price will decrease in the time left.) You might also sell-to-close if you don't own enough shares to exercise the contract.

Of course, you can also choose to do nothing and let the put option expire worthless. In this case, you'll experience a loss equal to the total premium you paid upfront.

How might market movements affect my position?

Changes in the market can affect the value of your put option, since the price of a put is based on supply and demand for the contract.

Some options may not be as liquid as others. For instance, there might not be enough buyers for you to **sell-to-close** the position, and your contract's price might be adversely affected. If your option isn't very liquid, it can be hard to sell it for its intrinsic value or at all. The premium might not always correspond directly to price changes in the underlying stock.

Volatility, a measure of how much and how quickly a stock price changes, can also affect your position. If you buy a put, you generally benefit when volatility increases, because the value of your put should also increase, assuming all other factors are constant. Likewise, the option is likely to decrease in value when volatility declines.

Finally, the value of your put may decrease as the expiration date nears. That's because it becomes less likely that the stock price will change significantly by the time the option expires (a factor known as time decay), and because it may be harder to find buyers for a less liquid option.

What are some potential edge cases?

When buying a put, there's no risk of early assignment or dividend risk. You can learn more about potential edge cases regarding corporate actions [here](#).

Selling a Cash Covered Put

The Basics

What is selling a cash covered put?

Selling a cash-covered put option (aka writing a cash-secured short put) means opening a contract where you have the obligation to buy shares of a stock at a certain price (the “strike price”) up until a set date (“expiration date”), and you already have the cash to meet your obligation (aka it’s “cash-covered”). You receive an upfront amount (the “premium”) in exchange for selling this contract. A typical short put option entails the obligation to buy 100 shares of the underlying stock.

Because you have this obligation, in general it’s beneficial for the stock price to stay relatively flat or increase in the future, and it’s undesirable for the stock price to fall. Your maximum potential profit is limited, while your maximum potential loss could be substantial.

Here’s some lingo to describe how your short covered put option is performing relative to the stock price:

- **In-the-money:** The stock price is below the strike price
- **At-the-money:** The stock price is at the strike price
- **Out-of-the-money:** The stock price is above the strike price

Please note: Robinhood does not allow uncovered or naked positions.

When might I use this strategy?

You might consider **selling a cash-covered put** if you think a stock price will stay relatively flat or rise in the future (i.e., you have a neutral-to-bullish outlook). You can do this on Robinhood only if you hold enough cash to cover your short put.

There are typically two main reasons to use this strategy: To potentially **buy a stock** you would like to own for less than its prevailing market price, or to **earn additional income** through the **premium you receive** by selling the contract (aka “monetizing” uninvested cash). If the stock price ends up staying at or above

the strike price before expiration, the option should expire worthless and you get to keep the premium you received for the put. If the stock price closes below the strike price on the expiration date, the put will likely be assigned, in which case you would **buy** shares at the strike price and keep the premium you **received** for the put. In that situation, you're paying above market price for the shares, but you'd be generally paying less than you would have if you bought shares at the time that you sold the put.

Keep in mind that your losses from being assigned can be significant, if the strike price is much higher than the prevailing market price.

What are factors to consider?

Here are a few key factors:

- **Expiration date:** Assuming all other factors are constant, selling a put with a nearer expiration date will typically have a lower premium, but it also reduces the time frame in which the stock could fall below the breakeven point. If the put expires worthless, you can potentially write new puts more often. Selling puts that expire later typically means you can receive a higher premium, but you won't be able to write new puts as often. Even though you receive more upfront, there's also more time for the stock to move below the breakeven point.
- **Strike price:** This is the price at which you're required to buy the shares if the put is assigned. Puts with a lower strike price are less likely to be assigned and usually earn a lower premium, while puts with a higher strike price generally have a greater chance of being assigned and usually earn a higher premium.
- **Premium:** This is the money you receive upfront for selling the put. Assuming all other factors are constant, the higher the premium you

receive, the more likely the put will be assigned, and the more likely it is that you'll need to buy the underlying shares at the strike price.

- **Contract:** Each option typically represents 100 shares. If you sell more cash-covered puts, the total premium you receive is higher. But you also need more cash on hand in case they're assigned. Selling fewer puts means you get less money in premiums. However, you don't need as much cash to cover the contracts, and you take on less risk.

Calculations

Can I see an example?

Let's say you expect stock in the fictional PURR company, which is trading at a price of \$50 a share, to stay relatively flat or increase in the near future. So, you decide to **sell** a put option for PURR shares at a strike price of \$45, receiving a \$2 premium. You have enough cash in your brokerage account to **buy** 100 PURR shares at this price ($\$45 * 100 = \$4,500$ of uninvested cash), so your put is covered.

Maximum Gain and Loss

Your maximum potential gain is the premium you received. In this case, that's \$2 per share, or \$200 total. This should be realized if the stock closes at or above the strike price on the expiration date, and the option expires worthless.

In the worst-case scenario, the stock price could fall all the way to \$0. If that happens with PURR, your **loss** would be \$43 per share ($\$0 - \$45 + \2). That's a \$4,300 loss for a contract that represents 100 shares.

PURR rises to \$55 (aka out-of-the-money)

Let's say your expectation is met, and PURR's stock price climbs to \$55 at expiration. Since this is above the strike price, the put shouldn't be assigned and should expire worthless, allowing you to gain \$200 in total premium for 100

shares. This is the maximum potential gain on this trade, even if the stock price increases further.

PURR falls to \$35 (aka in-the-money)

Instead, let's assume PURR's stock price falls to \$35 per share at expiration. The option should be assigned, obligating you to buy PURR stock for \$45, which is \$10 above its market price. Assuming you immediately sell the shares at \$35, the premium you received upfront partially offsets your loss of \$10 per share. To calculate your loss per share, subtract the strike price from the price of the stock at expiration, and add the premium you received. In this example, $(\$35 - \$45 + \$2 = -\$8 \text{ per share})$. So for a contract of 100 shares, you would lose \$800.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What is the breakeven point at expiration?

You break even on your cash-covered put, if the stock closes at the strike price of the option minus the premium you received.

Going back to PURR, the breakeven point is $(\$45 \text{ strike price} - \$2 \text{ premium} = \$43)$. If the stock closes at this breakeven point on the expiration date, you should neither gain nor lose money. If the stock price falls below \$43, you'll likely experience a loss.

Monitoring

I sold a cash covered put. What can I do next?

When you sell a cash-covered put, there are several potential outcomes up until the expiration date: Buying to close your position, assignment, or expiration.

Buying to Close

By selling a cash covered put option, you "open" a position. You can "close" it by buying back the option. You can choose to do this at any time until it expires, in

order to avoid getting assigned. You would then have the possibility of writing another cash covered put, depending on the amount of cash you have available to be held as collateral.

Assignment

Alternatively, the put you sold could get assigned, meaning the buyer decides to exercise their right to sell the shares at the strike price. Remember, since you're the seller of the put, you can't exercise it — Only the buyer can do this. If the buyer decides to exercise their put, then you must buy the stock at the strike price. Often, this happens if the stock price is below the strike price at expiration. A put could also be assigned early, but because you sold a cash-covered put, you have already accepted the obligation to buy shares at the strike price and have the cash collateral to do so. After buying the shares, you can sell the shares if you'd like to.

Put Expiration

If the put you sold expires worthless, you keep the premium and can do a few things: Sell another put, buy shares of stock, invest the cash somewhere else, or simply leave it uninvested.

How might market movements affect my position?

Changes in the market can affect the value of your put option and your ability to close it. First, some options may not be as liquid as others. This means there might not be enough sellers to allow you to **buy-to-close** your position, and your contract's price might be adversely affected. If your option isn't very liquid, it can be hard to buy it back for its intrinsic value.

Volatility, a measure of how much and how quickly a stock price changes, can also affect your position. If you sell a covered put, you generally benefit when volatility declines, since the value of the option you sold should also decrease, assuming other factors stay constant. On the other hand, an increase in volatility in the underlying stock can make it more expensive to buy-to-close the position.

If the stock price and volatility stay relatively flat, the value of your cash-covered put option tends to decrease as time passes. As the expiration date nears, it becomes less likely that the stock will drop below the strike price, and more likely that the option will expire worthless, allowing you to keep the premium. Hence, it is generally beneficial for the short position when the option loses value as it approaches expiration.

What are some potential edge cases?

For selling a cash covered put, early assignment risk is one of the more common edge cases.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. If a trader is assigned on the short put option, the trader will be obligated to buy the shares of stock at the covered put's strike price. Learn more about early assignments [here](#).

You can learn more about potential edge cases regarding corporate actions [here](#).

Straddles and Strangles

The Basics

What are straddles and strangles?

Using long straddles and strangles means **buying a call** option and **a put option** on the same underlying stock with the same expiration date. Buying a call means entering a contract that gives you the right, but not the obligation, to buy shares of a stock at a certain price (the "strike price") up until a set date ("expiration date"). Meanwhile, buying a put gives you the right, but not the obligation, to sell shares of a stock at the strike price by the expiration date. In exchange for these rights (known as the ability to "exercise" the options) you pay an upfront cost (the "premium") for these contracts.

A **straddle** is composed of a long call and a long put at the same strike price, meaning you have the right to buy and sell shares at the **same strike price**.

A **strangle** is also composed of long call and put options, but the **call option** has a **higher strike price** than the put option. A typical option allows you to buy or sell 100 shares of the underlying stock at the exercise price.

Here's some lingo to describe how your straddles and strangles are performing relative to the stock price. In straddles and strangles, when one of the two options is in-the-money, the other is always out-of-the-money:

- **In-the-money:** For the call, the stock price is above the strike price, while for the put, the stock price is below the strike price.
- **At-the-money:** The stock price is at the strike price
- **Out-of-the-money:** For the call, the stock price is below the strike price, while for the put, the stock price is above the strike price.

Please note: Robinhood does not allow short straddles or short strangles, because these strategies involve selling uncovered call and put options (aka naked positions). In an uncovered short position, the seller doesn't have the required collateral, which means their position involves the risk of unlimited losses.

When might I use this strategy?

You might consider opening a straddle or strangle if you expect big changes in a stock price before a certain date, but you're not sure in which direction. For example, perhaps you believe a major legal or regulatory decision is around the corner. If your expectation of higher volatility pans out, you could realize a gain regardless of whether the stock price rises or falls (i.e., your outlook can be both bullish and bearish).

Your maximum potential gain is unlimited, since the stock price could theoretically rise to any number. On the other hand, the stock price could drop to

\$0, which could also yield significant gains for the straddle or strangle holder. Both of these scenarios are highly unlikely though. Your maximum potential loss is the total premium you pay upfront for the options. Strangles are usually less expensive to open than straddles, but strangles require the stock to move more for you to realize a gain.

Why would you open a straddle or strangle instead of buying only a call or a put?

It might make sense to buy only a call if you think the stock price will increase (i.e., you have a bullish outlook) or buy only a put if you think it will fall (i.e., you have a bearish outlook). If you think the price will move sharply, but you aren't sure of which direction, a straddle or strangle can help you gain exposure either way. However, in exchange for this flexibility, you need to pay two premiums because you're buying both a call and a put.

What are factors to consider?

Here are a few key factors:

- **Expiration date:** If you want to either sell or exercise one of the options, you must do it by this date. If you don't, the option expires, and you no longer have the right to buy or sell the underlying stock at the strike price. The further away the expiration date, the less risk of losses the options typically have, assuming all other factors are constant. That's because there's more time for the stock price to make a big move up or down. For the same reason, the premium is likely to be higher for options with later expiration dates.
- **Strike price:** This is the price you pay for the underlying stock if you choose to exercise the call option, or the price you sell it for if you exercise the put option, regardless of the price at which the stock is trading (the "prevailing market price"). The further the strike prices are from the current stock price, the lower the premiums will probably be, assuming all other

factors are constant. That's because the stock would have to rise or fall more sharply for you to realize a gain.

- **Premium:** This is the price you pay to buy the call and put. Typically, premiums for straddles and strangles are higher (i.e., the options cost more) when implied volatility is higher. Implied volatility is a measure of how much the stock market is pricing in an expected stock price movement up until the expiration date.
- **Contract:** Each option typically represents 100 shares. The more contracts you buy the greater your exposure to potential gains and losses on the position.

Calculations

Can I see an example?

Let's say you think the stock price of the fictional HISS company, which is trading at \$100, will move sharply soon — but you don't know in which direction. You decide to open a strangle: You pay a \$2 premium per share to buy one call option giving you the right to purchase HISS shares at a strike price of \$110. You also pay a \$3 premium per share to buy one put option giving you the right to sell HISS shares at a strike price of \$90. Notice that the long call has a higher strike price than the long put.

Maximum Gain or Loss

If the stock price increases, your maximum potential gain is theoretically infinite, since there is no ceiling on how much the stock price can rise. You could also profit if the stock price decreases, but there is a limit on how low a stock price can drop (\$0). On the other hand, the maximum potential loss is limited to the two premiums you paid upfront ($\$2 + \$3 = \$5$ per share). Assuming the options represent 100 shares, you could lose up to \$500 total in this example.

HISS falls to \$80 (aka in-the-money put, out-of-the-money call)

Let's see what happens if the stock price falls to \$80 at expiration. If you sell the put option, your potential gain per share is the difference between the put's strike price and the stock price, minus the premium (\$90 strike price - \$80 stock price - \$5 premium = \$5 per share). If the contract is for 100 shares, you'd gain \$500. Your call option should expire worthless since it's out-of-the-money.

HISS rises to \$120 (aka in-the-money call, out-of-the-money put)

Instead, say the stock price rises to \$120. If you sell the call option, your potential gain per share is the difference between the stock price and the call's strike price, minus the premium (\$120 stock price - \$110 strike price - \$5 premium = \$5 per share). If the contract is for 100 shares, you would again gain \$500. Your put option should expire worthless since it's out-of-the-money.

HISS stays at \$100 (out-of-the-money call and put)

Let's consider what happens if things don't go as you expected, and the stock price stays at \$100. Both of your options should expire worthless because they are both out-of-the-money. Your loss per share is the total premium you paid for both options (\$5), or \$500 in total. This is the most you could lose on the trade in this example.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What is the breakeven point at expiration?

There are **two breakeven points** on a straddle or a strangle: You break even if the stock closes either above the call strike price ("higher breakeven point") or below the put strike price ("lower breakeven point") by the amount of total

premium you paid upfront. (Remember, the options have the same strike price in a straddle.)

Going back to HISS strangle, the strike price of the long put (\$90) minus the premium per share (\$5) is \$85. If the stock closes at the lower breakeven point on the expiration date, you neither gain nor lose money. You can sell or exercise the long put, while the long call should expire worthless. If the stock closes below \$85, you could realize a gain.

To calculate the second breakeven point, add the strike price of the long call to the premium per share ($\$110 + \$5 = \$115$). If the stock closes at the higher breakeven point on the expiration date, you neither gain nor lose money. You can sell or exercise the long call, while the long put should expire worthless. If the stock closes above \$115, you could realize a gain.

If the stock stays between \$85 and \$115 until expiration, you can potentially lose money. Again, in using this strategy, you're expecting a dramatic move in the stock price.

Monitoring

I bought a strangle or a straddle. What can I do next?

When you open a straddle or strangle, you have two choices before the expiration date: Exercise one of your options or sell them.

Exercising

You can exercise a call or put anytime before it expires to use your right to buy or sell 100 shares of the underlying stock at the strike price. You might choose to **exercise a call** if the stock price **exceeds your higher breakeven point**, or you might **exercise a put** if the stock price goes **below your lower breakeven point**. Exercising an option might make sense if you have the necessary collateral (either cash or shares) to buy or sell the stocks at the strike price. Another reason you might exercise a call or put is if you can't sell it for its intrinsic value (the

difference between the stock price and the strike price). If that happens, exercising it and then selling shares might be the only way to fully realize your potential gains.

Selling

Instead of exercising your options, you could choose to sell them anytime before the expiration date to try to realize gains or prevent further losses. If the stock price goes beyond one of the breakeven points anytime before expiration, selling that option could allow you to realize a gain. That's because the contract should now be more valuable than when you bought it, since it gives the owner the right to buy shares for less (call option), or sell them for more (put option), than the prevailing market price.

If it doesn't look like the stock price will move past one of the breakeven points by the expiration date, you can sell the options to try to get some of your premium back. (A buyer could be interested because there's still a chance the stock price will move dramatically in the time left.) You might also sell your options if you don't have enough assets to exercise them. In other words, you can't afford to buy 100 shares of the underlying stock at the strike price, or you don't have the shares available to sell.

Of course, you can also choose to do nothing and let the options expire worthless. In this case, you'll experience a loss equal to the total premium you paid upfront.

How might market movements affect my position?

Changes in the market can affect the value of your options and your ability to sell them. First, some options aren't as liquid as others. This means there may not be enough buyers or sellers to allow you to buy or sell without adversely affecting your contracts' price. If your option isn't very liquid, it can be hard to sell it for its intrinsic value.

Also, the price of an option (aka its premium) is based on the supply and demand for the contract. That means the premium might not always correspond to price changes in the underlying stock.

Volatility, a measure of how much and how quickly a stock price changes, can also affect your position. If you buy a straddle or strangle, you generally benefit when volatility increases, because the value of your call and put should also increase, assuming all other factors are constant. Likewise, the option is likely to decrease in value when volatility declines.

If the stock price stays relatively flat, the premiums on your options may decrease as the expiration date nears. That's because it becomes less likely that the stock price will change significantly before the options expire (a factor known as time decay).

What are some potential edge cases?

When buying a strangle or straddle, there's no risk of early assignment or dividend risk. You can learn more about potential edge cases regarding corporate actions [here](#).

Disclosures

Options trading entails significant risk and is not appropriate for all investors. Certain complex options strategies carry additional risk. Robinhood Financial does not guarantee favorable investment outcomes and there is always the potential of losing money when you invest in securities, or other financial products. Investors should consider their investment objectives and risks carefully before investing. To learn more about the risks associated with options, please read the [Characteristics and Risks of Standardized Options](#) before you begin trading options. Please also be aware of the risks listed in the following documents: [Day Trading Risk Disclosure Statement](#) and [FINRA Investor Information](#). Examples contained in this article are for illustrative purposes only.

Supporting documentation for any claims, if applicable, will be furnished upon request.

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Still have questions? [Contact Robinhood Support](#)

Expiration, Exercise, and Assignment

Expiration

What it Means

Unlike a stock, each option contract has a set expiration date. The expiration date significantly impacts the value of the option contract because it limits the time you can buy, sell, or exercise the option contract. Once an option contract expires, it will stop trading and either be exercised or expire worthless.

What Happens

There are a few important things to keep in mind as the expiration date of your option contract nears:

- We'll attempt to exercise any option you own that is \$0.01 or more in the money, as long as your brokerage account has the required buying power (in the case of a call option) or the necessary underlying shares to sell (in the case of a put option). Keep in mind that managing your options positions, including taking proactive steps to mitigate risk, is ultimately your responsibility.
- If you don't have enough buying power or underlying shares to exercise your option, we may attempt to sell the contract in the market for you within the last hour before the market closes on the options' expiration date.
- Robinhood's risk checks are designed to close positions which accounts cannot support and take into consideration the value of a position, the implied risk, and the customer's current balance, among other things.

If your option is in the money at the close, Robinhood will attempt to exercise it for you at expiration unless:

- You don't have sufficient buying power.
- The exercise would result in a short stock position.
- You have asked Robinhood to submit a Do-Not-Exercise request on your behalf.
- The cut-off time for submitting a Do-Not-Exercise request is 5 PM ET.

If you have a **long call** about to expire:

- If the contract is in the money (or at risk of being in the money), we'll review your account to see if you have enough buying power to purchase the underlying shares.
- If you don't have enough buying power to purchase the underlying shares, we may attempt to sell the option. For example, if you have 10 contracts, but only enough buying power to purchase 500 shares, we may attempt to sell 5 contracts and allow 5 contracts to be exercised for a total of 500 shares. To avoid this, you can close the position or roll it to a later date prior to the last hour of trading (before 3:00PM ET on normal trading days). Keep in mind that [options rolling](#) involves simultaneously closing a position (realizing any gains or losses) and opening a new one. Also, options rolling is only available in [margin accounts](#).

If you have a **long put** about to expire:

- If the contract is in the money (or at risk of being in the money), we'll review your account to see if you have enough of the underlying shares to sell.

- If you don't have enough of the underlying shares, we may attempt to sell the option. For example, if you have 10 contracts and own 500 shares, we will attempt to sell 5 contracts and allow the remaining 5 contracts to be exercised, which would result in 500 shares sold from your brokerage account. To avoid this, you can close the position or roll it to a later date prior to the last hour of trading (before 3:00PM ET on normal trading days). Keep in mind that [options rolling](#) involves simultaneously closing a position (realizing any gains or losses) and opening a new one. Also, options rolling is only available in [margin accounts](#).

If you have a **spread** about to expire:

- If both legs are in the money (and neither leg is at risk of being out of the money at expiration). The short leg may be assigned, and the long leg may be exercised to offset the assignment.
- If the spread is partially in the money or close to being partially in the money (i.e. only one leg is in the money or at risk of being in the money), we may attempt to close the entire spread (including the leg that is out of the money). To avoid this, you can close the position prior to the last hour of trading (before 3:00PM ET on normal trading days).
- If both legs are out of the money (and they aren't at risk of being in the money at expiration), we typically won't take action and both options should expire worthless.

Once your contract expires, we'll remove it from your home screen. You can view your expired contracts in your account history.

NOTE

After-hours price movements can change the in the money or out of the money status of an options contract.

If for any reason we can't sell your contract, and you don't have the necessary buying power or shares to exercise it, we may attempt to submit a Do Not Exercise request to the Options Clearing Corporation (OCC), and your contract should expire worthless.

To determine if an option position is "at risk of being in the money," Robinhood will calculate an estimated upper and lower bound for the underlying security's close price on the expiration date. If your option's strike price falls within these parameters, we may place an order to close your position.

Exercise

How to Exercise

If your option is in the money, Robinhood will typically exercise it for you at expiration automatically.

You can also exercise your options contract early in the app:

1. Navigate to the options position detail screen
2. Select **Exercise**

You'll then be guided through steps to exercise your contract.

NOTE

Before expiration day, an early exercise request will be submitted immediately if it's placed during trading between 9 AM ET and 4 PM ET. Please contact us before 5 PM ET if you'd like to cancel the exercise request.

Early exercise requests submitted after 4 PM ET will be queued for the next trading day. You can cancel the pending exercise request until 11:59 PM ET.

On expiration day, you won't be able to submit an early exercise request in the app or on the web after 4 PM ET. Please [contact us](#) to request an exercise request

after 4 PM ET. We will attempt to accommodate exercise requests until 5 PM ET on a best-efforts basis.

How to Confirm

Once you exercise an option, you'll see a card displayed on your home screen that confirms your option was exercised and that the associated shares are pending. You'll also receive an email and push notification before the next trading day confirming that your option was exercised or assigned (after we receive confirmation from the OCC).

How to submit a Do Not Exercise

If your option is out-of-the-money, Robinhood will take no action and the contract typically will expire. If you'd like to submit a Do Not Exercise request, you will need to send an email to our [Options Support Team](#).

NOTE

Instructions for a Do Not Exercise need to be received by Robinhood before 5:00PM ET on the expiration date.

Assignment

When you are assigned, you have the obligation to fulfill the terms of the contract. When you sell-to-open an options contract, you can be assigned at any point prior to expiration (regardless of the underlying share price).

Depending on the collateral held for your short contract under the following circumstances, there are a few different things that could happen.

If you're assigned on a covered call

The shares you have as collateral should be sold to settle the assignment. No additional action should be necessary.

If you're assigned on a cash-secured put

The buying power you have as collateral will be used to purchase shares and settle the assignment. No additional action should be necessary.

If you're assigned on the short leg (the call contract you sold) of a call spread

You have the obligation to sell shares of the underlying security at the strike price. In this case, the long leg (the call option you bought) should provide the collateral needed to cover the short leg.

If your long leg of a call spread is In the money

You can exercise the long leg of your spread, purchasing the shares you need to settle the assignment.

Example: You enter a XYZ call spread, so you buy one call contract of XYZ (the long leg) and sell one call contract of XYZ (the short leg).

You provide the shares necessary to settle the contract when you're assigned, so your brokerage account is now short 100 shares of XYZ. To cover the short position in your account, you could exercise the XYZ call contract you bought to receive 100 shares of XYZ. Alternatively, you could also buy back the 100 short shares from the market followed by selling the long call in the open market to capture any time/extrinsic value remaining in the option.

If your long leg of a call spread is out of the money

You could sell the long leg of your spread, then separately purchase the shares you need to cover the assignment.

Example: You enter a XYZ call spread, so you buy one call contract of XYZ (the long leg) and sell one call contract of XYZ (the short leg).

When you're assigned, you sell the shares necessary to settle the assignment and your brokerage account is now short 100 shares of XYZ. Because your long option is out of the money, exercising it would result in purchasing the underlying security at a price higher than what is currently offered in the marketplace. Instead, you could sell the call contract you own, and then separately buy 100 shares of XYZ to settle the short call assignment.

If you're assigned on the short leg of a put spread

If you're assigned on the short leg (the put contract you sold) of your spread, you have the obligation to buy shares of the underlying security at the strike price.

If your long leg of a put spread is in the money

In this case, the long leg (the put contract you bought) should provide the collateral needed to cover the short leg. When you exercise the long leg of your spread, you can sell shares aiming to recover the funds you used to settle the short put assignment.

Example: You enter a XYZ put spread, so you buy one put contract of XYZ (the long leg) and sell one put contract of XYZ (the short leg).

When you're assigned, you have to buy 100 shares of XYZ at the strike price of the assigned put. To help offset the assignment, you can exercise the long XYZ put contract you own to sell the 100 shares of XYZ you just purchased from the short assignment. Alternatively, you could also sell both the shares and the long put in the open market to capture any time/extrinsic value remaining in the long put.

If your long leg of a put spread is out of the money

You can sell the long leg of your spread, then separately sell the shares you need to cover the assignment.

Example: You enter an XYZ put spread, so you buy one put contract of XYZ (the long leg) and sell one put contract of XYZ (the short leg).

When your short leg is assigned, you buy 100 shares of XYZ, which may put your brokerage account in a deficit of funds. You can't exercise the long leg to cover the deficit in your account since it's out of the money. Instead, you can sell the put contract you own, then separately sell the 100 shares of XYZ you just received from the assignment to help cover the deficit in your account. Alternatively, you can continue to hold the long stock position if your account can support the purchase of the 100 shares.

Check out [Advanced Options Strategies \(Level 3\)](#) to learn more about calls, puts, and multi-leg options strategies.

Unassigned Anticipated Assignment

On rare occasions, an in the money short option will not get assigned. This happens when the counterparty files a Do Not Exercise request for their in the money option, or a post-market movement shifts the option from in the money to out of the money (and the contract holder decides not to exercise). In this scenario, you will likely be long or short the stock the following trading day, potentially resulting in an account deficit or margin call.

All resulting short positions must be covered the following trading day.

The scenario listed above could result in a gain or loss that's greater than theoretical max gain/loss on the position.

Early Assignment

If you're trading a multi-leg options strategy and you are assigned on your short position before expiration, there are a few things to keep in mind.

Decreased Buying Power

Early assignment may result in decreased buying power. This is because the positions you hold are used to calculate your buying power, and at the time you're assigned you may not have the shares (for call spreads) or buying power (for put spreads) needed to cover the deficit in your account. If you have an account deficit, you can't open new positions until the deficit is resolved.

Account Deficits

Early assignment may also result in an account deficit if it causes you to use more buying power than you have available. When you have an account deficit, there are a few potential actions that you can take, including exercising your long contract or buying/selling shares. If you have an account deficit and choose to

exercise your long contract to increase your buying power, you will not be able to open new positions while your exercise is pending. But you should be able to open new positions once your exercise has been processed if exercising your long contract is sufficient to cover your account deficit.

Margin Calls

Early assignment may also result in margin call (assuming you have margin investing enabled on your brokerage account) if it causes your account value to fall below your margin maintenance requirement. When you have a margin call, there are a few potential actions that you can take: exercising your long contract, buying/selling shares by placing orders, or depositing enough funds to cover the margin call. If you have a margin call and choose to exercise your long contract to decrease your margin deficiency, your margin call may persist while your exercise is pending or, further, if the exercise was not sufficient enough to cover your margin deficit. If exercising your long contract is sufficient to cover your margin deficiency, any margin calls should be satisfied once your exercise is processed.

Early Assignment and Exercise

Keep in mind that we can't process an early assignment before the end of the trading day and, so we can't exercise the long leg until the next trading day (at the earliest). That's because the Options Clearing Corporation (OCC) doesn't notify us of your assignment until after the market closes (when they process assignments). While funds and shares that result from exercises are made available immediately during market hours, positions exercised after market hours are queued and credited to your account the next trading day.

In the Money and Out of the Money

These labels refer to the position of the underlying security's price relative to the strike price of the option. They're also sometimes referred to as the moneyness of an option.

- A call option is in the money if the underlying security's price is above the option's strike price.
- A call option is out of the money if the underlying security's price is below the option's strike price.
- A put option is in the money if the underlying security's price is below the option's strike price.
- A put option is out of the money if the underlying security's price is above the option's strike price.

EXAMPLE

A \$20 call option for XYZ stock would be in the money if XYZ stock was trading at \$20.01 or greater. A \$20 Put option for XYZ stock would be in the money if XYZ stock was trading at \$19.99 or below.

Keep in mind that an option contract being in the money doesn't necessarily mean that its owner will make a profit if they were to exercise it.

Pending Shares

If Your Option is Exercised Before Expiration (Early-Exercise)

A few things can happen if your option is exercised early, depending on the time of day.

If the early exercise occurs between 9 AM ET and 4 PM ET, the associated shares should appear in your account immediately; you shouldn't see any pending exercise in your account.

If the early exercise happens after 4 PM ET, it will be queued for the next trading day, and the associated shares will remain pending until the exercise has cleared.

If Your Long Option is Automatically Exercised or you are Assigned on a Short Option at Expiration

Once your contract has been exercised or assigned, we'll hold the associated shares or cash collateral until we receive confirmation from the OCC that all aspects of the exercise or assignment have cleared. This process typically takes 1 business day. Once completed, the pending state of the exercise or assignment will be removed and your account will be updated accordingly.

Finding Your Trade Details

On iOS

1. Select the Account icon in the bottom-right corner of your screen
2. Select History
3. Choose the option you're looking for (e.g. XYZ \$1,200 Call 10/21 Exercise)

On Android

1. Select the Account icon in the bottom-right corner of your screen
2. Select the Menu icon in the upper-right corner of your screen
3. Select Statements and History
4. Choose the option you're looking for (e.g. XYZ \$1,200 Call 10/21 Exercise)

On Desktop

1. Select Account in the upper-right corner of your screen
2. Select History
3. Scroll to find the option you're looking for (e.g. XYZ \$1,200 call 10/21 Exercise)

Options Dividend Risk

Dividend risk is the risk that you'll get assigned on any short call position (either as part of a covered call or spread) the trading day before the underlying security's ex-dividend date. If this happens, you'll open the ex-date with a short stock position and actually be responsible for paying that dividend yourself. You can potentially avoid this by closing any position that includes a short call option at any time before the end of the regular-hours trading session the day before the ex-date.

Robinhood may take action in your brokerage account to close any positions that have dividend risk the day before an ex-dividend date. Generally, we'll only take action if your account wouldn't be able to cover the dividend that would be owed after an assignment. This is done on a best-efforts basis.

EXAMPLE

XYZ will pay out the following dividend in the future:

- Ex-Date: October 1, 2021
- Record Date: October 3, 2021
- Pay Date: October 31, 2021
- Amount: \$1.00

If you're short, or you've sold 1 option call contract for XYZ expiring on or after October 1, there is a risk that you could be assigned.

For example, if you get assigned on September 30, you would have a short position of the 100 shares that were exercised by the counterparty (a person who bought and exercised the call option) when the market opens on October 1. In this case, you'll have to deliver the underlying shares and pay the counterparty the dividend that is associated with these shares.

In this example, you'll owe $\$1.00 \times 100 \text{ shares} = \100 . We'll automatically deduct the dividend amount from your account, even if it causes you to have a negative balance.

You can avoid this dividend risk by closing your option before the market closes on any day before the ex-dividend date.

Note: The day before the ex-dividend, we'll attempt to prevent customers from selling to open new short call options that are likely to be assigned that same night due to the underlying symbol ex-dividend date being the next trading day. This is only temporary, and you can open new short call positions on or after the ex-dividend date.

Disclosures

Options trading entails significant risk and is not appropriate for all investors. Certain complex options strategies carry additional risk. Robinhood Financial does not guarantee favorable investment outcomes and there is always the potential of losing money when you invest in securities, or other financial products. Investors should consider their investment objectives and risks carefully before investing. To learn more about the risks associated with options, please read the [Characteristics and Risks of Standardized Options](#) before you begin trading options. Please also be aware of the risks listed in the following documents: [Day Trading Risk Disclosure Statement](#) and [FINRA Investor Information](#). Examples contained in this article are for illustrative purposes only. Supporting documentation for any claims, if applicable, will be furnished upon request.

Reference No. 20220806-2340506-7344340

Still have questions? [Contact Robinhood Support](#)

Options Dividend Risk

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EXAMPLE

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In this example, you'll owe $\$1.00 \times 100 \text{ shares} = \100 . We'll automatically deduct the dividend amount from your account, even if it causes you to have a negative balance.

You can avoid this dividend risk by closing your option before the market closes on any day before the ex-dividend date.

Note: The day before the ex-dividend, we'll attempt to prevent customers from selling to open new short call options that are likely to be assigned that same night due to the underlying symbol ex-dividend date being the next trading day. This is only temporary, and you can open new short call positions on or after the ex-dividend date.

Advanced options strategies (Level 3)

Although options may not be appropriate for everyone, they can be among the most flexible of investment choices. Whether you're hedging or seeking to grow your investments, you can use options to help reach the goals you set for your portfolio.

This page is an educational tool that can help you learn about the options strategies available with Level 3 on Robinhood. Before you begin trading options, it's worth taking the time to identify an investment strategy that makes sense for you.

Depending on your position, it's possible for you to lose the principal you invest, or potentially more. So, it can be helpful to learn more about the different strategies before diving in.

NOTE

Level 3 options trading is available in [Robinhood Instant](#) and [Gold accounts](#), but not in cash accounts.

Call Credit Spreads

The Basics

What's a call credit spread?

A call credit spread is an options trading strategy you might use when you think a stock price will stay relatively flat or fall before a certain date (i.e., you have a neutral to bearish outlook). It comes with a risk of limited losses and the potential

for limited profit. The strategy involves one short call and one long call on the same underlying stock.

When you open a call credit spread, you **sell a call (at a lower strike price)** and **buy a call (at a higher strike price)** both expiring on the same day. This strategy is also known as a bear call spread or a short call spread.

When might I use this strategy?

You may consider a call credit spread when you expect the price of the underlying stock to remain relatively flat or fall before a certain date (i.e., you have a neutral to bearish outlook). If your expectation is met, this strategy can allow you to earn a limited profit while capping your potential losses.

At the outset, you **receive** a premium for the contract you sold (the short call) and **pay** a premium for the contract you bought (the long call). You start with a **net credit** since the premium you collect for the short call is greater than the premium you pay for the long call. This net credit is the maximum profit you can earn using this strategy.

But if things don't go as expected, your potential losses are limited, too. If the price of the underlying stock sharply increases, the long call constrains how much money you could lose. (It gives you the right to buy shares at a higher price if you are obligated to cover an assignment on the short call.)

How is a call credit spread different from only selling a call?

Only selling a call is another choice if you have a relatively bearish to neutral outlook on a stock — You may think the price of the underlying stock will fall in the future, or at least not reach the strike price before the option expires. If the stock price closes below the strike price on the expiration date, the option you sold should expire worthless, allowing you to pocket the entire premium.

However, unlike a call credit spread, only selling a call on stock you don't own may involve the risk of unlimited losses — This strategy is also known as selling a naked or uncovered call. Here's how: If the stock soars above the strike price and the buyer of the option decides to exercise it, you have no choice but to buy the stock at the prevailing market price to supply the shares. You lose the difference between the strike price and the market price, which theoretically, can be infinite, since there's no limit on how high a stock price could go.

Please note: Robinhood does not allow uncovered or "naked" positions.

With a call credit spread, you can benefit if the stock price falls, but you also cap your potential losses in case the stock price climbs. That's because you also bought the right to purchase the stock, albeit at a higher strike price than the option that you sold.

Calculations

Can I see an example?

With a call credit spread, your maximum potential gain is the net credit you received when you opened the spread. Remember, this is what you're left with after buying a call and selling a call to construct the spread. You realize your maximum potential profit if the stock price at expiration is equal to or below the strike price of the short call. If this happens, both calls expire worthless, and you keep the net credit.

Setting up a Call Credit Spread

For example, imagine the fictional MEOW company is trading at \$100 per share. You're pessimistic about the company's outlook and decide to open a call credit spread on MEOW. Here's how it works:

- You **sell one call option** with a strike price of \$110, **receiving** a \$5 premium per share (this is the short call).

- At the same time, you **buy one call option** with a strike price of \$115, **paying** a premium of \$2 per share (this is the long call).
- Both calls have the same expiration date.
- Note: The long call is less expensive than the short call because it's further out of the money.

Maximum potential gain

The net credit you receive is \$3 per share (\$5 received - \$2 paid). An options contract typically represents 100 shares, so your maximum potential profit is \$3 multiplied by 100 shares, or \$300. You can achieve this if the stock trades at \$110 or less at expiration.

Maximum potential loss

But, if the stock rallies, you may experience a loss. The maximum loss you can experience on a call credit spread is the difference between the strike prices minus the net credit received. (I.e., You buy the underlying shares at the higher strike price and are obligated to sell them at the lower strike price for a loss, but get to keep the net credit.) This theoretical maximum loss may occur if the stock price is equal to or above the strike price of the long call — the higher strike price — at expiration.

In the MEOW example, the difference between the strike prices (\$115 - \$110) is \$5. Subtracting the net credit received (\$3) leaves \$2. So, the maximum amount you could lose per share is \$2. If each contract represents 100 shares, that means potentially losing up to \$200. You would lose this amount if the stock price is \$115 or higher when the options expire.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices, number of contracts involved, and whether the stock pays a dividend.

What's the breakeven point at expiration?

You break even with a call credit spread if, on the expiration date, the stock price closes at the strike price of the short call (the lower strike price) plus the net credit received.

In the MEOW example, the strike price of the short call is \$110, and the net credit is \$3. Adding \$110 and \$3 comes to \$113. So you will break even if MEOW's stock price closes at \$113 on the contracts' expiration date (the short call gets assigned and you sell MEOW shares at \$110 while buying shares at \$113, and the long call expires worthless). If the stock price falls anywhere below \$113, you should profit.

Monitoring

I opened a call credit spread. What could happen next? Can I close a call credit spread?

Closing a spread means exiting the position that you opened. You can do this by taking the opposite actions that you took to open the position. In the case of a call credit spread, you would simultaneously buy-to-close the short call option (the one you initially sold to open) and sell-to-close the long call option (the one you initially bought to open). In general, you can close a spread up until 4:00 pm ET on its expiration date on Robinhood. You may consider closing the spread if you want to realize your gains or prevent further losses.

What could happen at expiration?

- If the stock price is **equivalent to or lower than the short strike price**, then both options should expire worthless, allowing you to keep the entire net credit you received when you opened the spread.
- If the stock price is **above the short strike price and below the long strike price**, then the long call option should expire worthless. However, you'd likely be assigned on the short call option. In this scenario, you

might experience an overall gain or loss — This depends on the price at which the shares are bought back due to the assignment and the amount of net credit you received when you opened the spread.

- If the stock price is **above the long strike price**, both options should expire in the money. This means that the short call would be assigned and the long call should be exercised. This would result in a trader realizing their maximum potential loss on the position.

Note: These scenarios assume your position has not been closed out by Robinhood.

Can I exercise my long call in a call credit spread?

Exercising a call option means purchasing the associated underlying shares (typically, 100 shares per contract). You can exercise your long call within a call credit spread if you have sufficient funds to do so. Remember, the shares you purchase will be held as collateral for your short call until it is closed, expires worthless, or is assigned (in which case you have to sell your shares). This helps prevent you from being exposed to the risks of an uncovered position — that is, having a short call option without having the necessary collateral.

What are some potential edge cases?

For call credit spreads, two of the more common edge cases involve early assignment risk and dividend risk.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. If a trader holding a call credit spread is assigned on the short call option, the trader can take one of the following actions by the end of the following trading day:

- Exercise their long call option (thereby buying the shares at the strike price)

- Buy the shares at market price.

In either circumstance, their brokerage account may display a reduced or [negative buying](#) power temporarily as a result of the early assignment. Exercise of the long call should typically be settled within 1 to 2 trading days, and restore buying power partially or fully. Learn more about early assignments [here](#).

Dividend risk

Dividend risk is the risk that a trader will be assigned on a short call option the night before the ex-dividend date (and thus, owe the dividend to the buyer). This is one of the biggest risks of trading spreads with a short call option and the result would be a greater loss (or lower gain) than the maximum potential gain and loss scenarios described above. Traders can avoid this by closing their position before the end of the regular-hours trading session the night before the ex-dividend date. Learn more about dividend risks [here](#).

Put Credit Spreads

The Basics

What's a put credit spread?

A put credit spread is an options trading strategy you might use when you think a stock price will hold relatively steady or rise before a certain date (i.e., you have a neutral to bullish outlook). It comes with a risk of limited losses and the potential for limited profit. The strategy involves one short put and one long put on the same underlying stock.

When you open a put credit spread, you **sell a put (at a higher strike price)** and **buy a put (at a lower strike price)**, both expiring on the same day. This strategy is also called a bull put spread or a short put spread.

When might I use this strategy?

You may consider a put credit spread when you expect the price of the underlying stock to remain flat or increase before a certain date (i.e., you have a neutral to bullish outlook). If your expectation is met, this strategy can allow you to earn a limited profit while capping your potential losses.

At the outset, you **receive** a premium for the contract you sold (the short put) and **pay** a premium for the contract you bought (the long put). You start with a **net credit**, since the premium you collect for the short put is greater than the premium you pay for the long put. This net credit is the maximum profit you can earn using this strategy.

But if things don't go as expected, your potential losses are limited, too. If the price of the underlying stock sharply decreases, the long put limits how much money you could lose (It gives you the right to sell shares at a lower price if you are obligated to cover an assignment on the short put.)

How is a put credit spread different from only selling a put?

Only selling a put is another choice if you have a relatively bullish to neutral outlook on a stock — You may think the price of the underlying stock will climb in the future, or at least not fall below the strike price before the option expires. If the stock closes above the strike price on the expiration date, the option expires worthless, allowing you to keep the premium as profit.

Yet compared to a put credit spread, only selling a put can involve risk of relatively greater losses. Here's how: If the stock price plummets below the strike price and the buyer of the option decides to exercise it, you have no choice but to buy the underlying stock at the strike price to satisfy the put contract. This means you might have to pay far above the prevailing market price for the stock. Technically, there's a limit on how much you could lose — After all, a stock price

can't go below \$0. But there's the potential for significant losses, while the possible reward is limited.

With a put credit spread, you can benefit if the stock price rises, but you also limit your losses in case the stock price falls. That's because you also bought the right to sell the stock, albeit at a lower strike price than the option you sold.

Calculations

Can I see an example?

With a put credit spread, your maximum potential gain is the net credit you received when you opened the spread. Remember, this is what you're left with after buying a put and selling a put to construct the spread. You should realize this maximum profit if the stock price is equal to or above the strike price of the short put at expiration. If this happens, both puts should expire worthless, and you'd keep the full net credit.

Setting up a put credit spread

Let's see how this works with the fictional PURR company, now trading at \$110 per share. You're optimistic about the company's future and decide to open a put credit spread on PURR. Here's how it works:

- You **sell a put option** with a strike price of \$95, **receiving** a \$4 premium per share (this is the short put).
- At the same time, you **buy a put option** with a strike price of \$90, **paying** a \$2 premium per share (this is the long put).
- Both puts have the same expiration date.
- Note: The long put is cheaper because it's further out of the money.

Maximum potential gain

The maximum potential gain is the net credit you receive, which is \$2 per share (\$4 received - \$2 paid). An options contract typically represents 100 shares, so your maximum potential gain is \$2 multiplied by 100 shares, or \$200. This should happen if PURR trades at \$95 or higher at expiration.

Maximum potential loss

If the stock price falls, you may experience a loss. The maximum potential loss is the difference between the higher and the lower strike prices, minus the net credit received. This may occur if the market price is at or below the strike price of the long put — the option with a lower strike price — at expiration.

In the PURR example, the difference between the strike prices (\$95 - \$90) is \$5. Subtracting the net credit received (\$2) leaves \$3. So, the maximum amount you could potentially lose per share is \$3. If each contract represents 100 shares, that means potentially losing up to \$300. You would lose this amount if the stock price is \$90 or lower at expiration.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What's the breakeven point at expiration?

You break even with a put credit spread if, on the expiration date, the stock price closes at or below the strike price of the short put (the higher strike price) minus the net credit received.

Let's go back to our PURR example. The strike price of the short put (\$95) minus the net credit received (\$2) is \$93. So if PURR closes at \$93 on the spread's expiration date, you will neither gain nor lose money. If the stock price goes above \$93, you should make a profit; if it dips below the point, you'll lose money.

Monitoring

I opened a put credit spread. What could happen next?

Can I close a put credit spread?

Closing a spread means exiting the position that you opened. You can do this by taking the opposite actions that you took to open the position. In the case of a put credit spread, you would simultaneously **buy-to-close** the short put option (the one you initially sold to open) and **sell-to-close** the long put option (the one you initially bought to open). In general, you can close a spread up until 4:00 pm ET on its expiration date on Robinhood. You may consider closing the spread if you want to realize your gains or prevent further losses.

What could happen at expiration?

- If the stock price is **equal to or higher than the short strike price**, then both options should expire worthless, allowing you to keep the entire net credit you received when you opened the spread.
- If the stock price is **below the short strike price and above the long strike price**, then the long put option should expire worthless. However, you would likely be assigned on the short put option. In this scenario, you might experience an overall profit or loss — this depends on the price at which the shares you were assigned are sold and the amount of net credit you collected when you opened the spread.
- If the stock price is **below the long strike price**, both options should expire in the money. This means that the short put would be assigned and the long put would be exercised. This would result in a trader realizing their maximum potential loss on the position.

Note: These scenarios assume your position has not been closed out by Robinhood.

Can I exercise my long put in a put credit spread?

Exercising a put requires selling the associated underlying shares (typically, 100 shares per contract). You can exercise your long put within a put credit spread if you already own enough shares to deliver on the exercise (that is, selling the shares at the strike price). Remember, if you choose to do so, the cash generated from the sale of shares will be held as collateral for your short put until it is closed, expires worthless, or is assigned (in which case you buy the shares). This helps prevent you from being exposed to the risks of an uncovered or “naked” position — that is, having a short put option without having the necessary cash to cover it.

What are some potential edge cases?

For put credit spreads, one of the more common edge cases involves early assignment risk.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. If a trader holding a put credit spread is assigned on the short put option, the trader can take one of the following actions by the end of the following trading day:

- Exercise their long put option (thereby selling the shares at the strike price)
- Sell the shares at market price.

In either circumstance, their brokerage account may display a reduced or negative [buying power](#) temporarily as a result of the early assignment. Exercise of the long call should typically be settled within 1 to 2 trading days, and restore buying power partially or fully. Learn more about early assignments [here](#).

Call Debit Spreads

The Basics

What's a call debit spread?

A call debit spread is an options trading strategy you might use when you think a stock price will rise moderately before a certain date (i.e., you have a bull-ish outlook). It comes with a risk of limited losses and the potential for limited profit. The strategy involves one long call and one short call, both on the same underlying stock and with the same expiration date.

When you open a call debit spread, you **buy a call (at a lower strike price)** and **sell a call (at a higher strike price)**, both expiring on the same day. This strategy is also known as a long call spread or bull call spread.

When might I use this strategy?

You may consider a call debit spread when you expect a stock to rise moderately in the near future, but before a certain date. You hope to profit if that happens, without the risk and expense of buying an equivalent number of shares outright or only a long call. Instead, you can open a call debit spread, giving yourself the opportunity to realize a limited profit if your expectation comes true and capping your losses if it doesn't.

When you open a call debit spread, you **pay** a premium for the contract you buy (the long call) and **receive** a premium for the contract you sell (the short call). You begin with a **net debit** since the premium you paid for the long call is greater than the premium you collected for the short call. (This helps explain why this options strategy is called a call debit spread.)

If the stock price increases, you have the potential to profit, up to a point. The value of your long call option could increase, but you might be assigned on their short call. On the other hand, if the stock price falls, you only risk losing the net debit you paid upfront (as both calls may expire worthless). The amount you paid for a call is partially offset by the amount you received for selling one. This allows you to reduce your potential losses.

How is a call debit spread different from only buying a call?

If you have a bullish outlook on a stock, you might consider only buying a call option — You may think the price of the underlying stock will increase in the future, or at least rise beyond the strike price by an amount equal to the premium paid before the option expires (don't worry, we'll talk more about the breakeven point later). If this happens, you can realize your gain by closing the position. In theory, with a call option, your potential gain is unlimited, since a stock price can rise to virtually any number. Meanwhile, if the option expires worthless, your loss is limited to the total premium you paid for the call.

Similarly, if you open a call debit spread, you buy a call in hopes that the price of the underlying stock will rise. But, by selling a call option at the same time (at a higher strike price), you pay a lower premium overall to open the position. While this can allow you to reduce your costs, it also limits your potential gains.

Calculations

Can I see an example?

With a call debit spread, your maximum potential gain is the difference between the high strike price and low strike price, minus the net debit. (Remember, the net debit is what you spent overall in buying a call and selling a call to open the spread.) You should realize this maximum gain if the stock price is equal to or above the strike of the short call — the one with a higher strike price — at or before expiration. If this happens, you would likely exercise the long call and be assigned on the short call.

Opening a call debit spread

Let's consider the fictional MEOW company, currently trading at \$110 per share. You expect the stock to rally somewhat and decide to open a call debit spread on MEOW. Here's how it works:

- You **buy a call option** at a strike price of \$110, **paying** a \$5 premium per share (this is the long call).
- Simultaneously, you **sell a call option** at a strike price of \$120, **receiving** a \$2 premium per share (this is the short call).
- Both calls have the same expiration date.

Your net debit is \$3 per share (\$5 paid - \$2 received), or \$300 for the entire spread, assuming each contract represents 100 shares.

Maximum potential gain

To determine your maximum potential gain, start by subtracting the lower strike price from the higher one ($\$120 - \$110 = \$10$). Next, subtract the net debit from that number ($\$10 - \$3 \text{ net debit} = \$7$). So, the most you can earn is \$7 per share. If each contract is for 100 shares, your maximum profit is \$700. This would happen if MEOW closed at \$120 or higher at expiration, and both calls are exercised.

Maximum potential loss

Let's see what happens if your expectation is unmet, and the stock price dips instead. Your maximum loss is the net debit you paid to open the spread. This occurs if the market price of the stock closes at or below the strike price of the long call — the one with a lower strike price — on the expiration date. In this scenario, both calls should expire worthless.

Going back to MEOW, recall that you paid a net debit of \$3 per share. If each contract represents 100 shares, you could lose up to \$300. This would happen if MEOW closes at \$110 or lower at expiration.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What's the breakeven point at expiration?

To figure out when you would break even with a call debit spread, add the strike price of the long call (the one with a lower strike price) to the net debit. If your spread position expires when the stock closes at the breakeven point, then you neither realize a gain nor a loss.

Let's consider the MEOW example again. The strike price of the long call (\$110) plus the net debit to open the spread (\$3) is \$113. So, if your spread position expires when MEOW closes at exactly \$113, then you neither make nor lose money. If the price exceeds \$113, you could profit. If MEOW remains below \$113 until the options expire, then you may experience a loss.

Monitoring

I opened a call debit spread. What could happen next?

Can I close a call debit spread?

Closing a spread means exiting the position that you opened. You can do this by taking the opposite actions that you took to open the position. In the case of a call debit spread, you would simultaneously **sell-to-close** the long call option (the one you initially bought to open) and **buy-to-close** the short call option (the one you initially sold to open). In general, you can close a spread up until 4:00 pm ET on its expiration date on Robinhood. You may consider closing the spread if you want to realize your gains or prevent further losses.

What could happen at expiration?

- If the stock price is equivalent to or lower than the long strike price, then both options should expire worthless. This should result in a trader realizing their maximum potential loss on the position (the net debit they paid to open the spread).
- If the stock price is above the long strike price and below the short strike price, then the short call option should expire worthless. In this scenario,

you might experience a profit or loss. This depends on the price at which the shares are sold if the long call is exercised and the amount of the net debit you paid when you opened the spread.

- If the stock price is above the short strike price, both options should expire in the money. This means that the short call should be assigned and the long call should be exercised. You should realize your maximum potential gain on the position

Note: These scenarios assume your position has not been closed out by Robinhood.

Can I exercise my long call in a call debit spread?

Exercising a call requires purchasing the associated underlying shares (typically, 100 shares per contract). You can exercise your call option within a call debit spread if you have sufficient funds to do so. Remember, your shares will be held as collateral for your short call until it is closed, expires worthless, or is assigned. This helps prevent you from being exposed to the risks of an uncovered position — that is, being left with a short call option without having the necessary collateral to cover it.

What are some potential edge cases?

For call debit spreads, two of the more common edge cases involve early assignment risk and dividend risk.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. If a trader holding a call debit spread is assigned on the short call option, the trader can take one of the following actions by the end of the following trading day:

- Exercise their long call option (thereby buying the shares at the strike price)

- Buy the shares at market price.

In either circumstance, their brokerage account may display a reduced or negative [buying power](#) temporarily as a result of the early assignment. Exercise of the long call should typically be settled within 1 to 2 trading days, and restore buying power partially or fully. Learn more about early assignments [here](#).

Dividend risk

Dividend risk is the risk that a trader will be assigned on a short call option the night before the ex-dividend date (and thus, owe the dividend to the buyer). This is one of the biggest risks of trading spreads with a short call option and the result would be a greater loss (or lower gain) than the maximum potential gain and loss scenarios described above. Traders can avoid this by closing their position before the end of the regular-hours trading session the night before the ex-dividend date. Learn more about dividend risks [here](#).

Put Debit Spreads

The Basics

What's a put debit spread?

A put debit spread is an options trading strategy you might use when you think a stock price will fall moderately before a certain date (i.e., you have a bear-ish outlook). It comes with a risk of limited losses and the potential for limited profit. The strategy involves one short put and one long put, both on the same underlying stock and with the same expiration date.

When you open a put debit spread, you **sell a put (with a lower strike price)** and **buy a put (with a higher strike price)**, both expiring on the same day. This strategy is also called a bear put spread or a long put spread.

When might I use this strategy?

You may consider a put debit spread when you expect a stock to fall moderately in the near future, but before a certain date. You hope to capitalize on your expectation, without the risk of relatively greater losses and expense of only buying a put option. Instead, you can open a put debit spread, giving yourself the opportunity for a limited profit if your expectation comes true and capping your losses if it doesn't.

When you open a put debit spread, you **pay** a premium for the contract you buy (the long put) and **receive** a premium for the contract you sell (the short put). You begin with a **net debit** since the premium you paid for the long put is greater than the premium you collected for the short put. (This helps explain why this options strategy is called a put debit spread.)

If the stock price falls, you have the potential to profit, up to a point. The value of your long put may increase, but you might be assigned on your short put. On the other hand, if the stock price rises, you only risk losing the net debit you paid upfront (as both puts may expire worthless). The amount you paid for a put is partially offset by the amount you received for selling one. In exchange for capping potential losses, you are accepting a limit on your potential gains as well.

How is a put debit spread different from only buying a put?

If you have a bearish outlook on a stock, you might consider only buying a put option — You may think the price of the underlying stock will decrease in the future, or at least fall below the strike price by an amount equal to the premium paid before the option expires (don't worry, we'll talk more about the breakeven point later). If this happens, you could potentially realize a profit by closing the position. Your maximum potential gain is quite large, as a stock price can theoretically fall all the way to \$0. However, this is an unlikely outcome.

Meanwhile, if the option expires worthless, your loss is limited to the total premium you paid for the put.

Similarly, if you open a put debit spread, you buy a put in hopes that the price of the underlying stock will decline. But, by selling a put at the same time (at a lower strike price), you pay a lower premium overall to open the position. While this can allow you to reduce your costs, it also limits your potential gains.

Calculations

Can I see an example?

With a put debit spread, your maximum potential gain is the difference between the high strike price and the low strike price, minus the net debit. (Recall, the net debit is what you spent overall in buying a put and selling a put to construct the spread.) You should realize this maximum potential gain if the stock price is equal to or below the strike of the short put — the one with a lower strike price — at expiration. If this happens, you would likely exercise the long put and be assigned on the short put.

Opening a put debit spread

Let's take a look at the fictional FURR company, currently trading at \$110 per share. You expect the stock to drop somewhat and decide to open a put debit spread on FURR. Here's how it works:

- You sell a put option at a strike price of \$100, receiving a \$3 premium per share (this is the short put).
- At the same time, you buy a put option at a strike price of \$110, paying a \$7 premium per share (this is the long put).
- Both options expire on the same day.

Your net debit is \$4 per share (\$7 paid - \$3 received), or \$400 for the entire spread, assuming each contract represents 100 shares.

Maximum potential gain

To figure out your maximum potential gain, start by subtracting the lower strike price from the higher one ($\$110 - \$100 = \$10$). Next, subtract the net debit from that number ($\$10 - \$4 = \$6$). So the most you can earn is \$6 per share. If each contract is for 100 shares, your maximum profit is \$600. This would happen if FURR trades at \$100 or less at expiration, and both puts are exercised.

Maximum potential loss

Let's see what can happen if your expectation is unmet, and the stock climbs instead. Your maximum potential loss is the net debit you paid to open the spread. This occurs if the market price of the stock closes above the strike price of the long put — the one with a higher strike price — on the expiration date. In this scenario, both puts should expire worthless.

Going back to FURR, remember that you paid a net debit of \$4 per share. If each contract represents 100 shares, you could lose up to \$400. This would happen if FURR trades at \$110 or higher at expiration.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What's the breakeven point at expiration?

To figure out when you would break even with a put debit spread, subtract the net debit from the strike price of the long put (the one with a higher strike price). If your spread position expires when the stock closes at the breakeven point, then you should neither realize a profit nor a loss.

Let's go back to the FURR example. The strike price of the long put (\$110) minus the net debit per share (\$4) is \$106. So if your spread position expires when FURR closes at exactly \$106, then you should neither make nor lose money. If the price ends up below \$106, you could profit. If FURR remains above \$106 until the options expire, then you may experience a loss.

Monitoring

I opened a put debit spread. What could happen next? Can I close a put debit spread?

Closing a spread means exiting the position that you opened. You can do this by taking the opposite actions that you took to open the position. In the case of a put debit spread, you would simultaneously **sell-to-close** the long put option (the one you initially bought to open) and **buy-to-close** the short put option (the one you initially sold to open). In general, you can close a spread up until 4:00 pm ET on its expiration date on Robinhood. You may consider closing the spread if you want to realize your gains or prevent further losses.

What could happen at expiration?

- If the stock price is equivalent to or higher than the long strike price, then both options should expire worthless. This would result in a trader realizing their maximum potential loss on the position (the net debit they paid to open the spread).
- If the stock price is above the short strike price and below the long strike price, then the short put option would likely expire worthless. In this scenario, you might realize a gain or loss — This depends on the price at which the shares are sold if the long put is exercised and the amount of the net debit you paid when you opened the spread.
- If the stock price is below the short strike price, both options should expire in the money. This means that the short put would be assigned and the long put should be exercised, allowing you to realize your maximum potential gain on the spread.

Note: These scenarios assume your position has not been closed out by Robinhood.

Can I exercise my long put in a put debit spread?

Exercising a put requires selling the associated underlying shares (typically, 100 shares per contract). You can exercise your put within a put debit spread if you already own enough shares to deliver on the exercise (that is, selling the shares at the strike price). Remember, if you choose to do so, a portion of the cash generated from the sale of shares will be held as collateral for your short put until it is closed, expires worthless, or is assigned (in which case you buy shares). This helps prevent you from being exposed to the risks of an uncovered position — that is, having a short put option without having the necessary cash to cover it.

What are some potential edge cases?

For put debit spreads, one of the more common edge cases involves early assignment risk.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. By the end of the following trading day, a trader can take one of the following actions in order to cover the assigned short put:

- Exercise their long put option (thereby selling the shares at the strike price)
- Sell the shares at market price.

In each of these circumstances, their brokerage account may display a reduced or negative [buying power](#) temporarily as a result of the early assignment. Exercise of the long call should typically be settled within 1 to 2 trading days, and restore buying power partially or fully. Learn more about early assignments [here](#).

Iron Condors

The Basics

What's an iron condor?

An iron condor is an options trading strategy you might use if you have a neutral outlook on a stock (i.e., you think the stock price won't rise or fall very much). It typically involves potential for limited profit and risk of limited losses. This strategy combines a put credit spread and a call credit spread both expiring on the same day.

Usually, when you open an iron condor, all four options begin out of the money, with the strike prices of the long and short puts (aka **put credit spread**) set below the current stock price and the strike prices of the long and short calls (aka **call credit spread**) set above the stock price. The difference between the long call and short call strikes is equivalent to the difference between the short put and the long put strikes.

When might I use this strategy?

You might consider an iron condor when you expect a stock to remain steady for a certain period of time. By setting up a **put credit spread below the current stock price** and a **call credit spread above the current stock price**, you can benefit if the stock price remains relatively flat (i.e., it stays between the short put strike price and the short call strike price). When charted on a profit/loss diagram, the trade roughly resembles a bird, with the long and short puts representing the left wing and the long and short calls creating the right wing.

You can maximize your return if the stock price closes within this target range on the expiration date, with all four options expiring worthless. In that case, your gain would be the total net credit.

You would break even on the trade when the stock price either falls below the level of the short put strike by an amount equal to the net credit per share or rises above the short call strike by an amount equal to the net credit per share. A trader's maximum potential loss occurs if, at expiration, the stock price closes either below the long put strike or above the long call strike.

How is an iron condor different from only selling a call credit spread or a put credit spread?

The iron condor is a non-directional, or neutral, trading strategy. By comparison, a **call credit spread** is a neutral-to-bearish strategy — that is, you might open a call credit spread if you anticipate a decline in a stock's price. Conversely, a **put credit spread** is a neutral-to-bullish strategy — You might open a put credit spread if you expect the underlying stock to increase in price.

However, all these trades have some things in common. First, they all attempt to generate income from the sale of options. Additionally, they're all structured to limit downside risk, since theoretically, the most money you could lose is the difference between the two strikes on either the call spread or put spread minus the net premium per share, multiplied by 100.

Calculations

Can I see an example?

Opening an iron condor

To figure out how much someone could potentially gain or lose from an iron condor strategy, let's look at an example from the fictional MEOW company. If MEOW shares are currently trading at \$100 and the person expects them to trade within a range of \$10 in either direction over the next month, they could set up an iron condor aimed at profiting during this period.

To build the left wing of the iron condor, they might **sell a put option** expiring in one month, with a strike price at the bottom of the expected range (\$90), **receiving** a premium of \$2 per share. To complete the spread, they would **buy a put option** expiring on the same day with a strike price of \$80, **paying** a premium of \$1 per share.

To build the right wing of the iron condor, they would **sell a call option** expiring in one month with a strike price at the top of the expected range

(\$110), **receiving** a premium of \$2 per share. To complete the spread, they would **buy a call option** expiring on the same day with a strike price of \$120, **paying** a premium of \$1 per share.

Maximum Potential Gain

The trader should realize their maximum potential gain if MEOW shares close between \$90 and \$110 when the options expire in a month. In this case, all four options should expire worthless and the trader should keep the entire net credit.

In detail: By adding up \$2 per share from selling the put option and \$2 per share from selling the call option, and subtracting \$1 per share for buying the put option and \$1 per share for buying the call option, they would receive a net credit of \$2 per share ($\$2 + \$2 - \$1 - \$1 = \2 net credit per share). Since options contracts typically represent 100 shares each, the trader's maximum potential gain would be \$200.

Maximum Potential Loss

On the other hand, the trader should realize their maximum potential loss if, when the options expire, MEOW shares close either below the lower put strike (\$80) or above the upper call strike (\$120).

In detail: To calculate the maximum potential loss on the expiration date, consider two scenarios.

If the stock price closes below \$80, calculate the difference between the strike prices of the put options ($\$90 - \$80 = \textbf{\$10}$). Then, subtract the net credit per share (\$2) you received upfront ($\$10 - \$2 = \textbf{\$8}$). This equates to a loss of \$8 per share, or \$800 total. Since both call options are out of the money at close, they should expire worthless.

If the stock price closes above \$120, calculate the difference between the strike prices of the call options ($\$120 - \$110 = \textbf{\$10}$). Then subtract the net credit per share (\$2) you received upfront ($\$10 - \$2 = \textbf{\$8}$). This equates to a loss of \$8 per share, or

\$800 total. Since both put options are out of the money at close, they should expire worthless.

Keep in mind that this is a theoretical example, so actual gains or losses could be greater.

What are the breakeven points at expiration?

Because an iron condor consists of two spreads, the trading strategy has two breakeven points, one on each of the wings. If the stock price drops, then the breakeven point is the strike of the short put (higher put strike) minus the net credit per share. If the stock price rises, then the breakeven point is the strike of the short call (lower call strike) plus the net credit per share.

In the MEOW example above, if the stock price drops, the breakeven point is $\$90 - \$2 = \$88$. If the stock price rises, the breakeven point is $\$110 + \$2 = \$112$. So, if MEOW closes at either \$88 or \$112 on the expiration date, this iron condor should neither make nor lose money. Between the range of \$88 to \$112, this strategy should generate a profit.

Monitoring

I opened an iron condor. What could happen next?

Can I close an iron condor?

Closing a spread means exiting the position that you opened. You can do this by taking the opposite actions that you took to open the position. In the case of an iron condor, you would simultaneously **buy-to-close** the short put option (the one you initially sold) and **sell-to-close** the long put option (the one you initially bought). At the same time, you would **buy-to-close** the short call option (which you initially sold) and **sell-to-close** the long call option (the one you initially bought). In general, you can close a spread up until 4:00 pm ET on its expiration date on Robinhood. You may consider closing the spread if you want to realize your gains or prevent further losses.

What could happen at expiration?

- If the stock price is below the long put strike price, a trader may realize their maximum potential loss. In this scenario, the long put should be exercised and the short put would likely be assigned. Meanwhile, both call options should expire worthless.
- If the stock price is above the long call strike price, a trader may realize their maximum potential loss. In this scenario, the long call should be exercised and the short call would likely be assigned. Meanwhile, both put options should expire worthless.
- If the stock price is in between the short put and short call strike prices, then you should realize your maximum gain (the net credit you received when you opened the spread). That's because all four options should expire worthless.
- If the stock price is between the long put strike and short put strike, you might experience an overall gain or loss — This depends on the price at which the assigned shares are sold and the amount of net credit you received when you opened the spread. In this case, both calls should expire worthless.
- If the stock price is between the short call and long call strike, you might experience an overall gain or loss — This depends on the price at which the shares are bought back due to the assignment and the amount of net credit you received when you opened the spread. In this case, both puts should expire worthless.

Note: These scenarios assume your position has not been closed out by Robinhood.

How does time decay affect the position?

Options tend to lose value with the passage of time, which is a good thing for iron condors. An iron condor is made up of two credit spreads, both of which become more profitable as the expiration date approaches, as long as the stock price remains within the two breakeven points.

However, if the stock price rises or falls far enough so that either of the short options becomes in the money, the trade will likely start losing money as the expiration draws closer.

Time decay is measured by theta, which you can learn more about [here](#).

How does implied volatility affect the position?

Since the iron condor is a non-directional trade that someone might use when they expect the stock price to stay neutral, a decrease in implied volatility (IV) is typically beneficial.

When IV increases, this typically raises the value of an option, which is good for a long option position and bad for a short option position. The iron condor is made up of two short credit spreads, so a decrease in IV should make the overall position more profitable.

Implied volatility is measured by vega, which you can learn more about [here](#).

What are some potential edge cases?

For iron condors, two of the more common edge cases involve early assignment risk and dividend risk.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. By the end of the following trading day, a trader can take one of the following actions:

If assigned on the **short call**...

- Exercise their long call option (thereby buying the shares at the strike price)
- Buy the shares at market price.

If assigned on the **short put**...

- Exercise their long put option (thereby selling the shares at the strike price)
- Sell the shares at market price.

In any of these circumstances, their brokerage account may display a reduced or negative [buying power](#) temporarily as a result of the early assignment. Exercise of the long call should typically be settled within 1 to 2 trading days, and restore buying power partially or fully. Learn more about early assignments [here](#).

Dividend risk

Dividend risk is the risk that a trader will be assigned on a short call option the night before the stock's ex-dividend date (and thus, owe the dividend to the buyer). This is one of the biggest risks of trading spreads with a short call option and the result would be a greater loss (or lower gain) than the maximum potential loss and maximum potential gain scenarios described above. Traders can avoid this risk by closing their position before the end of the regular-hours trading session the night before the ex-dividend date. Learn more about dividend risks [here](#).

Calendar Spreads

The Basics

What is a calendar spread?

A calendar spread is an options trading strategy in which you open a short position and a long position on the same underlying stock at the same strike

price, but with different expiration dates. It is often referred to as a horizontal spread because the only difference between the two contracts is their expiration dates.

In the case of a calendar spread, you **sell a near-term option** and **buy a long-term option**, both with the same strike price. This strategy involves the potential for limited profit and a risk of limited losses.

When might I use a calendar spread?

You may consider a **long call calendar spread** if you have a **neutral to bearish outlook** in the near-term. In other words, you may expect the underlying stock price to remain steady or slightly decrease in the near-term.

You may open a calendar spread during times of lower volatility in the hopes of benefitting from a spike in implied volatility, assuming all other factors remain equal.

How is a calendar spread different from a vertical spread?

As previously mentioned, the only difference between the contracts used in a calendar spread is their expiration dates. By comparison, the only difference between the contracts used in a vertical spread (e.g., credit or debit spreads) is their strike prices.

Calculations

Can I see an example?

First, it's important to note that it's impossible to explicitly calculate the maximum potential gain or loss on a calendar spread because we cannot predict how the market will perform after the short option's expiration date.

In this example, we examine a **long put calendar spread** and calculate potential gains (and potential losses) at the short put's expiration date. We assume you will

exercise your long put in case your short put gets assigned, so we do not account for any potential slippage (i.e., if you were to trade out of the assigned shares and the long put separately).

Imagine that you want to use a long put calendar spread when trading options on the fictional MEOW company, whose shares are currently trading at \$100:

- You **sell a near-term put** with a strike price of \$90 (**receiving** a \$2 premium per share)
- You **buy a long-term put** with a strike price of \$90 (**paying** a \$5 premium per share)
- Each option has a different expiration date
- You open the calendar spread at an overall cost of \$3 per share, or a **net debit** of \$300. Remember, an options contract typically represents 100 shares of the underlying stock.

Let's fast-forward. We're now at the short put's expiration date:

In-The-Money

If the stock **closes below the short put's strike price**, and you exercise the long put option to offset the short put assignment, then your theoretical loss would be the \$300 you paid to open the calendar spread.

At-The-Money

If the stock **closes at the short put's strike price**, the short put should expire worthless, allowing you to keep the premium. Market dynamics become more of a factor for the long put. Since the stock price dropped, the long put would likely **increase** in value — let's say to \$6 per share, which represents a gain of \$1 from the original premium (\$5). If you sell the long put the following trading day for \$6, then your total theoretical gain is \$300, or the credit from the expired

short put ($\$2 \text{ premium} * 100 \text{ shares} = \200) plus the gain in the long put premium ($\$1 \text{ gain} * 100 \text{ shares} = \100).

Out-Of-The-Money

If the stock **closes above the short put's strike price**, the short put should again expire worthless, allowing you to keep the premium. In this scenario though, the stock price has increased so the long put would likely **decrease** in value — let's say to \$4 per share, which represents a \$1 loss from the original premium (\$5). If you sell your long put the following trading day for \$4, then your total theoretical gain would be \$100, or the credit from the expired short put ($\$2 \text{ premium} * 100 \text{ shares} = \200) minus the change in the long put premium ($\$1 \text{ loss} * 100 \text{ shares} = -\100).

As you can see in the above example, your profit is maximized when the underlying stock closes at the strike price of the near-term option at expiration. Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What is the break-even point at the short put's expiration?

In theory, a calendar spread has two breakeven points. One is higher and the other is lower than the strike price. But there's no simple way of calculating them, because the breakeven points depend on various factors such as the options' strike price, the stock price at the short put's expiration, and the level of volatility. Since breakeven points in calendar spreads are pretty difficult to calculate, it's important to analyze your trades before placing this type of order.

Monitoring

I opened a calendar spread. What could happen next?

Can I close a calendar spread?

Closing a spread means exiting the position that you opened. You can do this by taking the opposite actions that you took to open the position. In the case of a **calendar spread**, you would simultaneously **buy-to-close** the option with the near-term expiration (the one you initially sold to open) and you would **sell-to-close** the option with the later expiration (the one you initially bought to open). In general, you can close a spread up until 4:00 pm ET on its expiration date on Robinhood. You may consider closing the spread if you want to realize your gains or prevent further losses.

Based on the long put calendar spread example above, what could happen at the expiration of the near-term put?

- If the stock price is **below the near short strike**, then the short put should be assigned and you could either exercise the long put or sell the shares you were assigned by the end of the following trading day. This would result in a trader potentially realizing their maximum loss, which is the net debit they paid to open the spread. (This is assuming the trader didn't have enough buying power to cover the assignment.)
- If the stock price is **at the near short strike**, then the short put should expire worthless. If the trader sells the long put, then they could benefit from both the credit received from the expired short put and a potential increase in the long put's premium.
- If the stock price is **above the near short strike**, then the short put would expire worthless. The trader can sell the long put, whose value would have likely decreased due to the rise in the stock price — So, their overall gain might be less than if the stock price were at the near short strike.

Note: These scenarios assume your position has not been closed out by Robinhood.

How does time decay affect the position?

Generally, buyers of calendar spreads benefit from time decay if the underlying stock price stays close to the strike price, assuming all else remains equal. That's because the near-term option is more sensitive to time decay (meaning it loses value faster as time passes) than the long-term option. Even if the near-term option expires worthless, the long-term option should still have some value since there's time remaining before its expiration.

Time decay is measured by theta, which you can learn more about [here](#).

How does implied volatility affect the position?

When implied volatility (IV) increases, this typically raises the value of an option, which is beneficial for a long option position and harmful for a short option position. Generally, buyers of calendar spreads benefit from increases in IV, assuming all else remains equal. That's because the long-term option is slightly more sensitive to increases in IV than the near-term option.

Implied volatility is measured by [vega](#), which you can learn more about [here](#).

What are some potential edge cases?

For calendar spreads, common edge cases may include early assignment risk and dividend risk.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. By the end of the following trading day, a trader can take one of the following actions in order to cover the assigned short option:

If assigned on a **short call** on the **long call calendar spread**...

- Exercise their long call option (thereby buying the shares at the strike price)
- Buy the shares at market price.

If assigned on a **short put** on the **long put calendar spread**...

- Exercise their long put option (thereby selling the shares at the strike price)
- Sell the shares at market price.

In each of these circumstances, their brokerage account may display a reduced or negative [buying power](#) temporarily as a result of the early assignment. Exercise of the long call should typically be settled within 1 to 2 trading days, and restore buying power partially or fully. Learn more about early assignments [here](#).

Dividend risk

(Note: This applies to long call calendar spreads)

Dividend risk is the risk that a trader will be assigned on a short call option the night before the ex-dividend date (and thus, owe the dividend to the buyer). This is one of the biggest risks of trading spreads with a short call option and the result would be a greater loss (or lower gain) than the potential maximum gain and loss scenarios described above. Traders can avoid this by closing their position before the end of the regular-hours trading session the night before the ex-dividend date. Learn more about dividend risks [here](#).

Iron Butterflies

The Basics

What's an iron butterfly?

An iron butterfly is an options trading strategy you might use if you have a neutral outlook on a stock. It typically involves potential for limited profit and risk

of limited losses. The strategy essentially combines a **put credit spread** (a short put and a long put) and **call credit spread** (a short call and a long call).

More specifically, an iron butterfly consists of **a long call** (at a higher strike price), **a long put** (at a lower strike price), and **a short call and put** (both at the same middle strike price). The upper and lower strike prices (the “wings”) are equidistant from the middle strike price (the “body”), and all four options have the same expiration date. This strategy can also be thought of as the combination of a short straddle and a long strangle, or a call credit spread and put debit spread.

When might I use this strategy?

You might consider an iron butterfly when you have a neutral outlook on a stock, meaning that you expect minimal movement in the underlying stock price over a certain period of time. The long strikes are typically out of the money and the short strikes are typically at the money. When charted on a profit/loss diagram, the trade roughly resembles a butterfly, with the long and short puts representing the left wing and the long and short calls creating the right wing.

You maximize your potential return if the stock remains at the middle strike price and all four options expire worthless, allowing you to keep the entire net credit received.

You would break even if the stock price at expiration is equivalent to the middle strike price plus (or minus) the net credit received per share. Your maximum potential loss occurs if, at expiration, the stock price closes either below the long put strike or above the long call strike.

How is an iron butterfly different from only selling a call credit spread or a put credit spread?

Selling a call credit spread is a neutral-to-bearish strategy, meaning you expect the price of the underlying stock to decline, while **selling a put credit spread** is a

neutral-to-bullish strategy, meaning you expect the price of the underlying stock to rise. Each of these strategies consist of just two options, a long and a short, as opposed to the four options in an iron butterfly. As mentioned before, the iron butterfly is a neutral strategy in which you anticipate the stock price to remain relatively flat over a period of time. It's also important to note that if the stock price has moved past the break-even prices at expiration, you would likely experience losses.

However, all these trades have some things in common. First, they all attempt to generate income from the sale of options. Additionally, they're all structured to limit downside risk, since theoretically, the most money you could lose is the difference between the two strikes on either the call spread or the put spread, minus the net premium per share, multiplied by 100.

Calculations

Can I see an example?

To figure out how much someone could potentially gain or lose from an iron butterfly strategy, let's look at an example from the fictional MOYE company, whose shares are currently trading at \$100.

Imagine that a trader wants to use a short iron butterfly. The trader sells a short call and a short put with strike prices of \$100 (**receiving** premiums of \$3 per share and \$4 per share, respectively) and simultaneously buys a long call with a strike price of \$110 (**paying** a \$1 premium per share) and a long put with a strike price at \$90 (also **paying** a \$1 premium per share). Remember, they all have the same expiration date. Therefore, the trader receives a **net credit** of \$5 per share ($\$3 + \$4 - \$1 - \$1 = \5) when opening this position.

Maximum Potential Gain

Your maximum potential gain should occur when the stock price closes at the short put and short call strike price on the expiration date.

In our example, you should realize your maximum potential gain if the stock price closes at the \$100 strike price on the expiration date. In this case, all four options should expire worthless and you would keep the entire net credit of \$500, assuming each contract represents 100 shares.

Maximum Potential Loss

Your maximum potential loss should occur when the stock price closes below the long put strike price or above the long call strike price, assuming the widths of each spread are the same. If they are different, the maximum potential loss could be greater, corresponding to the width of the wider spread.

In our example, you should realize your maximum potential loss if, when the options expire, MOYE shares close either below the lower put strike (\$90) or above the upper call strike (\$110).

In detail: To calculate the maximum potential loss on the expiration date, consider two scenarios.

If the stock price closes below \$90, calculate the difference between the strike prices of the put options ($\$100 - \$90 = \textbf{\$10}$). Then, subtract the net credit per share you received upfront ($\$10 - \$5 = \textbf{\$5}$). This equates to a loss of \$5 per share, or \$500 in total. Since both of the call options are out of the money at the close, they should expire worthless.

If the stock price closes above \$110, calculate the difference between the strike prices of the call options ($\$110 - \$100 = \textbf{\$10}$). Then subtract the net credit per share you received upfront ($\$10 - \$5 = \textbf{\$5}$). This equals a loss of \$5 per share, or \$500 in total. Since both of the put options are out of the money, they should expire worthless.

Keep in mind, this is a theoretical example. Actual gains and losses will depend on factors such as the prices and number of contracts involved.

What are the breakeven points at expiration?

Because an iron butterfly consists of two spreads, the trading strategy has two breakeven points, one on each of the wings. If the stock price drops, then the breakeven point is the strike of the short put (higher put strike) minus the net credit per share. If the stock price rises, then the breakeven point is the strike of the short call (lower call strike) plus the net credit per share.

In the MOYE example above, if the stock price drops, the breakeven point is $\$100 - \$5 = \$95$. If the stock price rises, the breakeven point is $\$100 + \$5 = \$105$. So, if MOYE closes at either \$95 or \$105 on the expiration date, this iron butterfly should neither make nor lose money. Between the range of \$95 to \$105, this strategy should generate a profit.

Monitoring

I opened an iron butterfly. What could happen next?

Can I close an iron butterfly?

Closing a spread means exiting the position that you opened. You can do this by taking the opposite actions that you took to open the position. In the case of an iron butterfly, you would simultaneously **buy-to-close** the short put and call options (the ones you initially sold) and **sell-to-close** the long put and call options (the ones you initially bought). In general, you can close a spread up until 4:00 pm ET on its expiration date on Robinhood. You may consider closing the spread if you want to realize your gains or prevent further losses.

What could happen at expiration?

- If the stock price is **below the long put strike price**, a trader may realize their maximum potential loss. In this scenario, the long put should be exercised and the short put would likely be assigned. Meanwhile, both call options should expire worthless.

- If the stock price is **above the long call strike price**, a trader may realize their maximum potential loss. In this scenario, the long call should be exercised and the short call would likely be assigned. Meanwhile, both put options should expire worthless.
- If the stock price is **at the short put *and* short call strike price**, then you should realize your maximum gain (the net credit you received when you opened the spread). That's because all four options should expire worthless.
- If the stock price is **between the long put strike and short put strike**, you might experience an overall gain or loss — This depends on the price at which the assigned shares are sold and the amount of net credit you collected when you opened the spread. In this case, both calls should expire worthless.
- If the stock price is **between the short call and long call strike**, you might experience an overall gain or loss — This depends on the price at which the shares are bought back due to the assignment and the amount of net credit you collected when you opened the spread. In this case, both puts should expire worthless.

How does time decay affect the position?

Options tend to lose value with the passage of time, which is a good thing for iron butterflies. An iron butterfly is made up of two credit spreads, both of which become more profitable as the expiration date approaches, as long as the stock price remains within the two breakeven points.

However, if the stock price rises or falls far enough so that either of the short options becomes in the money, the trade will likely start losing money as the expiration draws closer.

Time decay is measured by theta, which you can learn more about [here](#).

How does implied volatility affect the position?

Since the iron butterfly is a non-directional trade that someone might use when they expect the stock price to stay neutral, a decrease in implied volatility (IV) is typically beneficial.

When IV increases, this typically raises the value of an option, which is beneficial for a long option position and harmful for a short option position. The iron butterfly is made up of two short credit spreads, so a decrease in IV should make the overall position more profitable.

Implied volatility is measured by vega, which you can learn more about [here](#).

What are some potential edge cases?

For iron butterflies, two of the more common edge cases involve early assignment risk and dividend risk.

Early assignment risk

An early assignment occurs when the contract a trader sold is exercised before its expiration date. By the end of the following trading day, a trader can take one of the following actions:

If assigned on the short call...

- Exercise their long call option (thereby buying the shares at the strike price)
- Buy the shares at market price.

If assigned on the short put...

- Exercise their long put option (thereby selling the shares at the strike price)
- Sell the shares at market price.

In any of these circumstances, their brokerage account may display a reduced or negative [buying power](#) temporarily as a result of the early assignment. Exercise of the long call should typically be settled within 1 to 2 trading days, and restore buying power partially or fully. Learn more about early assignments [here](#).

Dividend risk

Dividend risk is the risk that a trader will be assigned on a short call option the night before the stock's ex-dividend date (and as a result, owe the dividend to the buyer). This is one of the biggest risks of trading spreads with a short call option and the result would be a greater loss (or lower gain) than the maximum potential loss and maximum potential gain scenarios described above. Traders can avoid this risk by closing their position before the end of the regular-hours trading session the night before the ex-dividend date. Learn more about dividend risks [here](#).

Box Spreads

What is a box spread?

A box spread is an options strategy created by opening a call spread and a put spread with the same strike prices and expiration dates.

Example #1

Sell to open 1 ABC Call \$11 3/22/2019

Buy to open 1 ABC Call \$10 3/22/2019

Buy to open 1 ABC Put \$11 3/22/2019

Sell to open 1 ABC Put \$10 3/22/2019

Example #2

Sell to open 1 XYZ Call \$25 3/22/2019

Buy to open 1 XYZ Call \$26 3/22/2019

Sell to open 1 XYZ Put \$26 3/22/2019

Buy to open 1 XYZ Put \$25 3/22/2019

Why aren't box spreads allowed on Robinhood?

Disclosures

Options trading entails significant risk and is not appropriate for all investors. Certain complex options strategies carry additional risk. Robinhood Financial does not guarantee favorable investment outcomes and there is always the potential of losing money when you invest in securities, or other financial products. Investors should consider their investment objectives and risks carefully before investing. To learn more about the risks associated with options, please read the [Characteristics and Risks of Standardized Options](#) before you begin trading options. Please also be aware of the risks listed in the following documents: [Day Trading Risk Disclosure Statement](#) and [FINRA Investor Information](#). Examples contained in this article are for illustrative purposes only. Supporting documentation for any claims, if applicable, will be furnished upon request.

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Still have questions? [Contact Robinhood Support](#)

Volatility explained



Robinhood Learn

Democratize finance for all. Our writers' work has appeared in The Wall Street Journal, Forbes, the Chicago Tribune, Quartz, the San Francisco Chronicle, and more.

The least you should know about volatility

Whoever said the only things certain in life are death and taxes wasn't a trader. Otherwise, they would've included volatility.

If you've ever wondered why stock prices move up one day and down the next, you're not alone. Sometimes it's obvious, other times not. Sometimes it's a little, other times it's a lot. If you want to take your option trading to the next level, it's a good idea to understand how volatility impacts your option trades before and after you get in.

Volatility: a story of how things move

Volatility is nothing more than a measure of how much something moves. When babies cry, they're volatile. When they sleep—not so volatile.

When traders talk about volatility, they're generally talking about one of two things—the market/stock volatility as a function of price swings, or the implied volatility of options as a function of the price of options themselves. This is an important distinction.

Market or stock volatility comes as a result of the price swings you see on a daily basis. It's real, measureable, and most importantly, it *has already happened*.

Traders refer to this as "historical" or "realized" volatility. It's a measure of *past* volatility of the overall stock market, sector, or individual stock.

With stocks, it's a measure of how much its price changes in a given period of time. When a stock that normally trades in a 1% range of its price on a daily basis

suddenly trades 2-3% of its price, it's considered to be experiencing "high volatility."

On the other hand, "implied volatility" is the market's *perception* of how much a stock—or the market itself—will move, and is reflected in the price of its options. Think of implied volatility as the options market's best guess at *future* volatility. As with any guess, it's not guaranteed it will hold true. Presented in percentages, an option with an implied volatility of 35% is saying that the underlying stock is expected to stay within a 35% (high to low) range over the next year.

For example, let's say our theoretical company Tiger, Inc. is trading at \$100 per share and it has an implied volatility of 35%. This means that the options markets are forecasting that Tiger, Inc. could move *up or down* \$35 in the next year. This would create an expected range of \$65 to \$135 for Tiger, Inc. over the next year. Meanwhile, the option's prices for Tiger, Inc. will reflect this expected price range. Think about it—if Tiger, Inc. is not expected to trade above \$135 or below \$65 in the next year, any option outside that range will be relatively cheap. This is because the probability of those options being in-the-money are for the moment, low.

Traders will buy up protection by hedging with puts or speculate by buying more calls, in response to imminent events that bring a higher level of uncertainty (such as company earnings releases, economic data reports, and political elections, among others). As a result, traders expect, at least for the short term, larger moves in stocks. As demand increases for the options on those stocks, their implied volatility generally increases, and options prices tend to rise. When those events pass or news comes out, the uncertainty dissipates, and implied volatility usually falls, along with option prices.

To find implied volatility of an option on Robinhood, follow these steps:

1. Tap the Search icon at the bottom of your app
2. Search for a stock symbol
3. In the Stock Information Page, tap Trade, then Trade Options
4. Select the expiration at the top of the screen
5. Select the option from the chain you want to trade
6. Under "Limit Price," select the bid/ask and you'll see this:

Why does it matter?

If you've ever bought a call and watched the stock go up, only to watch your call go down in value, you've more than likely experienced a "volatility crush." Think about volatility like a rubber band—when it's stretched, it tends to be temporary, and at some point, snaps back. In trader-speak, this is called "mean-reversion." It's a good idea to be mindful about buying calls and puts on high-volatility stocks, particularly around events like earnings, economic news, and other market-moving events.

The good news is that there are plenty of option strategies that are designed for both high and low volatility markets. Following the simple "buy low, sell high" mantra, many traders employ...

- *buy strategies*, like **long calls and puts** or **debit spreads**, when **volatility is low**
- *option sell strategies*, such as **cash-secured puts** or **credit spreads**, when **volatility is high**.

Be a volatility whisperer

How do you know when volatility is "high"? After all, the implied volatility of an option in and of itself doesn't tell you much. There's nothing that says 95% implied volatility on a stock is high, or 35% is low. To find out, you'll need to **compare the current implied volatility to its historical levels**, or peripherally to a volatility index (such as **Cboe Volatility Index (VIX)** or the Cboe Nasdaq 100 Volatility Index (VXN)). Often called the market's "fear gauges," both of these indices measure the implied volatility of the options that trade on their underlying indices—the **S&P 500** and Nasdaq 100 respectively.

Checking and understanding option volatility might take some time, but it's worth it. Once you understand where it sits (along with price and time to expiration), you can choose a more optimal strategy based on market conditions. New options traders make common mistakes that might be avoided by taking some time to analyze whether an option is cheap or expensive, relatively speaking.

Next up: **Trading Calls and Puts**

Disclosures

Any hypothetical examples are provided for illustrative purposes only. Actual results will vary. It's not possible to invest directly in an index.

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