Jason Hitchings (00:00:12):

Hello everyone. Thanks for joining today, the Part two Class of Mastering Options. My name is Jason Hitchings. I'm the CTO at Capital Market Labs and fi, and I first started working together back in the mid to thousands at a company called Live All and at that company I was focused on generating the option analytics and trying to do a couple hundred thousand calculations per second and I've been working in the options world ever since. So yeah, today's class is going to be focused on Delta and IV and vertical spreads and my goal for today's class is going to be to give you a really strong intuition about how Delta and IV works and how vertical spreads work, call spreads and put spreads.

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I've worked with people coming into the options world for a long time. I've been in this industry for 15, 16 years and I've been trading options part-time ever since, and I've seen a lot of people who get caught up in the theoreticals and lose the forest for the trees. And so we're going to dig into some visualizations and ways to think about delta and implied volatility, which would give you a really strong conceptual understanding of how these things work that will guide you through your thinking and your trading in the future. So we are going to start with some very boring legal disclaimers.

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This is not a solicitation to buy or sell any security ever. This is not advice. You should read the characteristics and risks of standardized options. The results here are provided for general information purposes. As a convenience to the viewers, the materials are not a substitute for obtaining professional advice from a qualified person, firm, or corporation. Trading futures and options involves the risk of loss. Please consider carefully whether futures or options are appropriate to your financial situation. Only risk capital should be used when trading futures or options investors could lose more than their initial investment. Past results are not necessarily indicative of future results. The risk of loss in trading can be substantial carefully consider the inherent risks of such investment in light of your financial condition. Great, so this is a little agenda for today. We're going to cover these roughly in order, but we'll be touching on a few things throughout.

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So we had a part one options class, which was just focused on the real fundamentals of options. And if you are here, then hopefully you have a good understanding of strikes, expirations, bid asks, et cetera. You have a good understanding of how long and short calls and puts work and you know how to read a stock and option p and l chart. I'll go over the p and l chart real quick just as a refresher to people that are pretty new and this will be mostly review if you have a real strong understanding of call on put spreads long and short, and you really understand how delta changes for spreads versus naked options, what implied volatility does to it in the money spread versus out of the money spread, how the spreads value is going to change over time. All of those sorts of things are going to be kind of the meat and potatoes of today. So if you understand all those things, then this will be a hopefully helpful review for you.

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So last time we talked about an experiment involving a safe and I'm going to just give a real quick review to refresh everyone's memory and to introduce it to people that are jumping into this class as the first class and then we'll kind of take it from there and go deeper. So the scenario is there's a restaurant. The restaurant has a safe, there's new owners that come in and they're going to sell the contents of the safe. We know that there's between 500 and a thousand dollars in the safe. It's just one day's value proceeds in the safe, but we don't know exactly how much is in it. So the question becomes what are we willing to

pay for it? So if there's between 500 and a thousand dollars, the question becomes what's the normal day?

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First we could have a skew to how the money is distributed. So if this is the amount of money and this is the frequency with how often that occurs, the most probable could center around $600 or it could center around $900. But for the purposes of this exercise, and also this is how it works in the options world as well, when we're thinking about the distribution of the value in the safe, it's going to be what we call the normal distribution centered around the midpoint. So now if you got all of the contents of the safe, what are you willing to pay? So that's just a question to think about and then we're going to get in deeper. So let's say we paid $600 for the safe. This is going to be a real quick review of what a profit and loss chart looks like.

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This would be the breakeven point. Anything above here are profits, anything below here are losses, this is the amount found in the safe, and then we'll just sort of plot these out. So best case scenario, if there's a thousand dollars in the safe, you spent 600, you make 400, worst case there's 500 in the safe, you lose a hundred. And then there's a real steady line for different values that tell you how much you made or lost depending on the amount that's in the safe, which is kind of the underlying asset that we're talking about today for this first segment. Okay, so let's think about the scenario of if you only got over the value over $900. So in the options world, we'd call that a call, like a 900 strike call, and if the expected value is seven 50, then we would think of that as kind of the current stock price.

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So the safe has on average $750 in it, but the variability could be really different if the restaurant is just serving the same customers every single day, then maybe they only have pretty close to 750 every day or maybe it's really variable. Now in the stock world, you wouldn't want a lot of variability in your investment, but in the options world, a lot of variability is of interest and is of value. So if we're going to describe the differences, we could say low variability, low variance, low volatility or high variability, high variance, high volatility, and we're going to use the term volatility today. So which one would you want if the value is going to be only if you only get the value over 900 and pretty clearly you'd want the one on the right. There's just more area underneath this curve, and as we're all probably aware, volatility in the options world makes the asset more valuable.

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It captures a wider range of possibilities, but now we're going to go in a little deeper. That's where we left it in part one. So now for part two, we're actually going to try to quantify it. We're going to try to figure out what the real specific value of that would be based on that shape. So how do we figure out the amount of value tied up in this distribution that's over $900. So if we just had a shape here and we didn't have a lot of great analytical tools, what would our options be? So in theory, if we just needed to generate a random value between 500 and a thousand and we just had what was at hand, maybe we grab a dice. If we're going to try to grab a dice and try to figure out a distribution here, well we'd have to roll it a bunch of times.

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We take the dice and we'd roll the six-sided dice. If you divide 500 by six, you get 83. So in theory, we could try to roll a dice 83 times and add $500 to it and come up with some kind of random guess and then figure out how many rolls are above 900. Turns out that's not perfect because your range would be 5 83 to 5 98. So let's say you take a six-sided dice and you just subtract one from it and then you roll it a hundred times. So now at least we get a value that's theoretically within the range of 500 to a thousand.

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Okay, so let's roll a dice a hundred times and add it up. So that's a lot of repetitive work, so we're not going to do that. We're going to make a computer do it for us. Okay, so we roll a dice a hundred times and we come up with a number and that first number we get is 744. Okay, so based off that one data point doesn't really tell us that much means what is the value above 900 worth zero based off this one? Clearly we need more data and so let's have the computer roll the dice more times for us. Now this is going to be our handy dice roller today, and what we can do is it'll just generate above a value between 507 50. However many times we tell it to do, I'm just clicking once, but I can also tell it to do a hundred at a time.

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Okay, so there's a hundred values, it's forming some kind of distribution, but it's not exactly what we are expecting. Or we could try doing it a thousand times and then we get something that looks like this and I can just generate these up. We get a thousand values and we see a distribution that's really centered around that $750. So that doesn't seem like the shape of the graph that we saw. So when we're rolling a six-sided dice, it's only coming up with values between zero and five. So it seems like we need something that has more variability in it or more volatility if you like. So I don't know about you, but I remember the kids in the cafeteria in the corner rolling dice, they seem to have all kinds of dice. To be clear, I was not one of those kids. I did not play DDI was hanging with the cool kids.

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That's what programs do. But let's just say I could get some 20 sided dice and now if I needed to generate values between zero and 500 and add 500 to that, then we need to roll like 25 times. So let's do it. So we roll once 25 times, so I can do it on this little widget here too. I can take this time I'm going to take a 20 sided dice and what happens if we roll it once? Okay, we get some values here. It seems like that might be spread out a little bit more. And if we do it a hundred times, then we start seeing some kind of shape forming and we can just do it more and more times and we can see that the shape is continuing to form. It's a little more spread out than the last one, but it still seems pretty focused in the middle.

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So when we had a six-sided dice, we saw the distribution was really concentrated in the center when we had a 20 sided dice, we started seeing it a little bit more spread out, but it sure doesn't look like our gold distribution that we said the safe would contain. So let's spray the big guns and do a hundred sided dice. So now we can roll a hundred sided dice and it only takes five times. We add those together. So if I want to clear this out, I can now say, okay, let's make this a hundred sided dice and as we get one roll, okay, let's looks like something different's happening and we can start to see these numbers spreading out. It's going to take a while. Let's start doing a hundred rolls. Now we're seeing a distribution of data form that looks a little more interesting.

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So now we're at 3,800 rolls, this thing grows. I'm just going to take this out to about 5,000. So we start to see a distribution of that data. I'll get into what the green is a little later. So you do it a thousand times and 5,000 times, all of a sudden it seems like the amount of volatility in our dice rolls actually starts to look like the distribution that we were talking about. So how do you figure out how much is over $900? Well, we'll make the computer do that for us too, and we end up with a number, that's what that little green section was, end up with a number of 301. So we have 301 of the dice rolls out of 5,000, we're over $900. So in terms of options, you might say that if you have a 900 strike call, meaning you can take the value above 900, that you had a 6% chance of that call ending up in the money. So a 6%

chance that there's a value above 900, that you'll get something from it. Well, that's a lot of words, right? That's a lot of things to say. Is there a faster way you can say that in the options world?

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It turns out that there is, that the 900 strike has a delta of six. So there's a definition of delta and there's a visual representation of what delta is. These green values, here are the values. When you have a 900 call on the value in the safe, you don't know what the value in the safe is going to be. 6% of the values ended up having value once you open the safe and those were in the money, and that is an important definition of delta,

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Chance that an option will finish in the money. So let's keep that in mind. Okay, so if there's a 6% chance that the 900 or strike call ends up in the money, well that seems fine for this particular distribution, but we saw a whole bunch of other distributions and it doesn't feel like that would be true. We don't think 6% would always be in the money. It seems to be something to do with rolling the a hundred sided dice.

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So let's look. Let's roll with the 50 sided dice. And it turns out that yes, when you roll a 50 sided dice, much, much, much, much lower percent end up in the money. And if we want to do it for ourselves, we can do it here. We're going to roll this time a 50 sided dice, we're tracking value above 900. And as we generate that, you can see just a couple little green ones start to emerge and it'll be slightly different for different roles. This is generating the numbers randomly, but you can see that only a few percent, not even a few percent, a few tenths of a percent are ending up in the money. So when you have the same 900 strike call on the value of the safe, when you cut the volatility in half, the value goes from 6% to 0.1%, one 60th as much. Do we think that makes sense? One 60th is option. You cut the volatility in half and all of a sudden it's one 60th as common to occur. Well, this is giving us an intuition about how the options world really works. And so this is just a mental metaphor, but here's one way to think about it.

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Let's say you had a six foot tall person at random. They don't have to be a basketball player trying to make a free throw. Maybe a basketball player makes 60, 70, 80% of their free throws, but take a random person, maybe they can make it 30% of the time. Now if you take someone that's three feet tall and tell them to make it a free throw, you're probably looking at a five-year-old kid. And what are their chances of making a free throw with a normal basketball normal hoop from that distance? Not good. There's probably a couple kids like a granny up there, but it's not proportional. The amount of movement that someone twice this size can get on the basketball, the chance of ending up in the basket is radically different. And that gives you a sense of the way that the options world works. You double the vol and you get a radically different result, especially if you're looking for things that are far out of the money. So okay, we know that if you have a hundred vol, that you have a 6% chance of ending up with some value, but that doesn't tell us what the actual value is.

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But if we roll those a hundred sided dice and we track all 300 ish rolls that were over 900 and we sum all of those up, we don't have to do it ourselves. We'll make the computer do it, it gives us a number. It says that all of those values put together were worth around $10,600. And if you divide that by the 5,000 times that you attempted this, you come up with a value of $2 and 13 cents. Now there's some randomness, it might be the true value might be $2 and 10 cents or $2 15, 20 cents, but that's a ballpark

for with this distribution, what that option is worth to us, 94% of the time it gets zero. On average, you end up getting about two bucks, a little over $2. What do we think that the average value is? Out of several thousand rolls, if you cut the volatility in half,

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The commuter tells us you get a total of $72 out of 3000 times that you tried to open this safe when this is the distribution, when this is the volatility. And so 0.1% of the time, only three rolls out of thousands, you end up with a value of only 2 cents. Okay, well let's check 200 vol. What does that look like? Well, this is what the chart looks like intuitively. It seems like there's more green here. What's the value? Well, the computer tells us the value of this is around $6 and 70 cents. So at 50 vol you have almost no value. 2 cents at a hundred vol you have like $2 and that 200 vol you have $6 and 70 cents. So now we're starting to develop an intuition about the way that our assumptions about how the underlying value will vary are impacting the value of our options, especially when they're out of the money. Because see, they're having a pretty dramatic effect.

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So this was all talking about these out of the money options and in stock parlance we'd have a $750 stock and we'd have the right to buy the stock at 900 and 900 strike call. And this would be looking at different volatility assumptions. But let's say for a second because in this we're only varying the volatility, but what if we were can actually change the stock price too or the underlying In this case, when we're looking at a safe, if we're saying instead of the average amount in the safe being $750, what if it was $751? What would that tell us about the value out here? How does that change? What's your total expected value? So we're going to stick with a hundred volatility, but we're going to change the chart to center, make the average amount 7 51.

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So what are we going to guess? We know that 6% of the outcomes result in money and then we're going to shift everything to the right by a dollar. So let's do this mentally before we ask the computer to tell us what it thinks. So we have 301 outcomes that had money in them. The previous total was $10,638, spread out over 5,000 times that we had simulated opening the safe. So out of 301 outcomes in theory, each one would get an extra dollar that were successful and all of the other outcomes would get nothing. We'd expect the total amount of money that we earn to go up by around $300, maybe a little more because our strike is $1 closer, but maybe 300 or three 10 is about the amount of money that we'd expect extra to come out of the safe.

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So our guess might be instead of 10,638, maybe it's 10,939 or 10,950, something in that range. So let's ask the computer, so before I ask the computer, actually, let's average that out and say if we're expecting to go up $301, what does that look like out of 5,000 simulations? So to get our full guess, we need to not know just the total, but we need to know the average. And what we see is that out of 5,000 simulations, if we go up by 300 and some dollars, we're seeing 6 cents of additional value of expected value in the option. The difference is 6 cents, but the six, that number seems to be recurring a lot.

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So the difference is 6 cents, but we had a 6% chance of getting anything and we increased it by a dollar. Is that a coincidence or is the 6 cents extra that we're seeing here and the 6% chance, is that the way that works? It is. So we had a six delta option and when we increased the value of the underlying by $1, the value of our option went up by 6 cents. If that seems like too cute, well let's make the computer do it and see if I'm full of nonsense. So pretty darn close. If we simulate, other times it might be 5 cents or 8 cents, but when we bump it up to 7 51, we see that the value of that option is going up by about 6 cents.

And it turns out that's not a coincidence. That's part of the magic of delta. Delta will tell you not only the chance of your option ending up with some value in it when the expiration comes, it'll also tell you if the stock goes up by a dollar, how much your will increase instantaneously. So delta is a powerful tool. And so that brings us to the second definition of delta.

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The change in value of the option for a $1 change in the underlying and the underlying could be stock or it could be a random distribution of money in a safe. So we said that the call had a six delta, but if you had the right to sell the value of the safe below 900,

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If

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You could sell the value of the safe at 900 regardless of what was in it, well, you'd want a lower value to be in it. But if the value of the stock increased by a dollar, then intuitively you'd expect the value of the right to sell the contents

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At

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A fixed price. We'd actually be less valuable. And that's exactly right. So call deltas are positive because as the underlying goes up, the value increases and put deltas are negative because as the value goes up, the right to sell it at a lower price is less valuable. Your brokerage may or may not show negative deltas on the option chain, but behind the scenes the put deltas are negative and they probably do, certainly thinkorswim does. Okay, so we talked about this 900 call. We talked about delta and we talked about volatility, but we're talking about these out of the money 900 strike options on the value of the safe. How does this all change if we're looking at the 750 strike call, if we have the right to own everything above $750, well, we can simulate it. So we had this little guy and if we want to, we can clear this out and say, okay, well let's roll those a hundred sided dice again and instead of tracking the value above 900, we can track the value above seven 50. And when you start simulating those out, you're seeing a lot more of the dots are appearing in that green zone that we were talking about.

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It turns out that pretty much exactly 50%, 49.9% in our simulation showed up above $750. Does that if we change the vol, I mean it certainly changed a lot for that 900 strike option. So let's look and see what happens if you do a much lower vol, that 50 vol that we talked about and it's still seeing 50% end up in the money. What about the 200 volt? Well, just about exactly 50% are still ending up in the money. And so that takes us to one of the truisms in the options world and that is that at the money options have a 50 delta, there's a 50 50 chance that they end up in the money. So anytime you hear 50 delta, they mean the option that's closest to the stock price. So the delta of an at the money option stays the same for different volatilities. It's always around 50 if it's truly at the money. So what about the value? Does the value in the option stay the same as the volatility increases if we have that seven 50 strike call?

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No, it doesn't. The value changes changes pretty radically. We're capturing more and more potential movement. And you can just imagine if there was a chance that the safe could have between zero and a million dollars in it. Well, there's a chance that you're going to end up with values at 750,000 or 250,000. So even if there's a 50 50 chance of having nothing, the things that you would have access to would all of a sudden be of far greater value. And so that's what we're seeing here as a volatility increases the

chance of having anything stays the same, but the potential value in the option goes up substantially. So anytime you have more volatility of the thing you're tracking, the underlying, which is typically a stock or an ETF in what we're talking about, the value of that option is going to go up. You can just capture more potential value.

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So this is the change that we're seeing. We're seeing it go by $18 and go by $15 as we increase that volatility assumption. How does this change with the 900 strike? We said that the value should go up, but does it go up by $18 or does it go up to a total of 53? So again, an additional 18 and an additional 15 as we go from 100 to 200 when we do the same chart for that 900 strike call when we're down at 50 vol, it's only worth 2 cents. When we bump that up to a hundred volt, we added $2. So the total value we added is a lot less, but as a percent that value increased astronomically. So up a hundred times as a percentage, but it only added $2 of real value. It just started at such a low value. And as we go from 100 to 200, we see it increases further, but in absolute terms that at the money option has much more time value, much more premium in it, it can capture a much wider range of movement in the stock. And so it has a lot more time value built into it as a percentage. However, these out of the money options are very sensitive to volatility changes. It's just they're not going up by $20, they're going up by $2, but that's a huge percentage change.

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So these guys move a ton as a percent change, but at the money options are the ones that carry the most total time value, the most total premium. So let's just kind of quickly recap on this stuff. So we learned that one way to understand Delta is a chance that an option will end up in the money. Another way to think about it is that every time the stock goes up by a dollar, the delta will tell you how much the value of your option goes up or down. We know that an at the money option, we'll have a delta near 50 even if all is going up or down, and all options go up in value as the volatility assumption or as the volatility of the underlying goes up and that at the money options have the largest total changes in their value and volatility increases.

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So right there is pretty, if you came into this without knowing these things already, you are way ahead of where you started in terms of your understanding of options. So we talked a decent amount now about volatility, but what's implied volatility is that the same thing? Well, let's just take the scenario. Let's say that you own this safe and someone comes to you and says, Hey, if I can have everything above $750, i'll you 32 bucks. What does that tell you about what they think the volatility is? What does that tell you about what they think the distribution of money in a safe could be?

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Well, we know that at the 50 vol save that we thought that the contents above seven 50 were worth about $20 and we knew and we found out that the a hundred vols might be worth 38 bucks or something like that. So what's the 32 worth? Well, let's ask the simulator. Now our simulator doesn't have a way to directly tell us that, but what we can do is sort of, yeah, so if we knew that a hundred was too high, we knew that 50 is too low, but what does 60 look like? And let's just do a whole bunch of these guys.

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Okay, so it's saying that the value is around $23, but we're looking for a value of $32. So that's probably too low. Let's try 70. Okay, $28. It's getting closer. We still want something close to 32 75 that's not quite there. Let's try 80. Okay, well 80 gets us pretty darn close, and that's exactly what's happening in the options market. There'll be a bid ask spread, something might be trading for a dollar at a dollar 20.

So when your brokerage or hedge funds or algo shops are trying to say, what are people guessing that the volatility of the underlying is they take the midpoint of a dollar 10 and they run simulations in order to try to come up with what the volatility assumption is. And there are a lot of great option models to do this. Cox Ross Rubenstein is a popular one. It uses something called a binomial tree. None of them are a hundred percent accurate, but they do a pretty good job of coming up with a pretty good way of backing out people's volatility assumption based on the price. And so what we have here is a price that implies a certain volatility and that's meant by implied volatility. It is backing out the volatility from a price. And generally you're coming to the market looking at a screen like this and you see a price and you're not coming to it with saying, I think this company XTR, which I just pulled off of our today tab, you're not coming to it saying, I think the stock tends to move at a 32% annualized rate.

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But what this tells you is that the market is guessing that maybe it's moving at a 50% rate or a 58% rate. So let's look at this particular example, and again, I just pulled this company Extreme Networks off of the today's app, just have an example to work with. And one thing you'll notice

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Is one, the implied volatility looks really wacky for the stuff that's going to expire tomorrow, and we're going to talk about that in just a second. But if you even factor that out and then you look at the 14 April or the 20 may calls, you see there's a little difference that the 14 April implied volatility, the amount of movement that the market is guessing the stock is going to make. It looks different between now and April than it does between now and May, and they're just using the option prices to figure these numbers out. But why is this number around 6% higher?

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So if I plug Yext R into trade machine, I can see that the next earning event hasn't been verified yet. It's somewhere out in late April. Well, this expiration isn't capturing, this is the 14th of April. If the earnings is anywhere near the 27th, it's not going to capture that earnings event, but the 20 May should. And so what the options world is telling us what the options montage is telling us, and this is all that individual traders and hedge funds and algo shops and everything else out there. They're saying that we're expecting some amount of movement after earnings. And it's not completely accurate to say, well, it's expecting about a 4% annualized rate of movement between 14 April and 20 may, but it's not too far off. I mean it gives you an intuition about the kind of size of movement that the options world is expecting around the earnings event. It's nothing. It's nothing. It's also not make or break for the company. Okay, so we mentioned that these look funky and why is that? So these options are expiring tomorrow 1 20 71, 1 25, 2 56. These look really strange. What does that mean? Can you say anything about the stock movement from this

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And the way these option models work? And I think fairly certain that the big, if you look at a BlackRock or some big hedge fund, they're going to have their own proprietary option models that they've probably paid 27 PhDs to generate for them. But the mainstream option models

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Are assuming a more or less contiguous movement of the stock, meaning if it's going to move over three months, they're expecting each day's change to be relatively similar for three months straight. But we know in the real world that that's not the way stocks move. Events happen, CEOs get fired, there's lawsuits, things happen that make erratic movement. And so the vols will tend to go up, they'll shoot up right before expiration. And it's not because they're expecting some movement right now per se, it's just that they know things happen. And if they use some kind of normal annualized volatility for between

now and tomorrow, then their models are going to tell them to sell these options for a penny or 5 cents. But for a lot of people in a lot of algorithms in the market, they don't think that's a great deal because the thing could move a couple of dollars and you collected 5 cents or 3 cents in exchange. And when I spent more time with traders, the people that trained me who were option market makers back in the mid two thousands, they would call people that were on the floor selling options for 5 cents into events or into earnings. They'd say that these people were picking up nickels on a train track because they're trying to make a few cents here and there, but they're risking getting hit by a train.

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So we're starting to get a better sense of delta and implied volatility or you're getting a refresher if you knew all this stuff already. So one question is why does trade machine choose to use Delta when it's simulating itch options? I mean most people when they're thinking about trading, they're not necessarily thinking about buying the 40 delta call. They're thinking of buying a call that's $5 out of the money.

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So here's what strike price tells you. Strike price you how far your exercise price is away from the current stock price right now it can't factor anything else in. And you could potentially tell the computer, Hey, the simulator, I want to trade something that's always 5% out of the money, but 5% out of the money is really different if your expiration is two days away or if your expiration is 50 or a hundred days away. Delta does a really good job of factoring that in because it says, how likely does the market think that this option is going to be to end up in the money? And that factors a lot of things in it factors in implied volatility, it factors in time to expiration, even factors in things like interest rate. And so Delta is a really powerful tool to describe the actual option that you're trading.

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You might be looking to trade a 30 day option, but maybe the closest expiration is 21 days away and that's enough to make a difference If you are trying to buy something 5% out of money, that Delta captures all that. And so that's why we use Delta and it takes a little bit of a mind set to understand that. But you also find that if you go down to an options floor and look at professional traders, they generally don't say, I'm buying the call. That's $5 out of the money. They say the delta because for people that understand this stuff well it communicates a lot more information.

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So let's dive in to some real data. So here is the Thinkorswim option montage for Tesla. You might notice that IV and Delta are not showing here and we'd like them to be because now we are familiarized, we just refreshed ourself on all that IV and delta stuff and we want to see it. So in thinkorswim and every platform's a little different, but in almost every platform out there you can turn on implied volatilities in Deltas, they have some default settings that show these things, but oftentimes you lose some of the other information. So if you just want to add implied volatility in Delta, you just take it, there's a list of fields you type in implied and it pulls up this, you click add items, you do the same with Delta add items and click okay. And now all of a sudden you have, this was your columns and now this is what you have next. You have implied volatility in Delta. So now if you see the, you click a today type strategy and it says you need to trade the 40 delta if you want to do the trade, then now you have a much easier way to figure out what that is. Okay, so now just looking at Tesla, we'll just look at the 1st of April options. We see these strikes out here, the right to buy, we're on the left hand side of the option montage. And so these are the call options.

(00:47:49):

We have the right to buy Tesla at eight 15 or eight 30 or eight 40 or eight 50. We can see if you are looking, the purple background is in the money option. So at the monies right now, Tesla or when I took

this picture, Tesla was trading at 8 34. So you can see that this barrier between in the money and the out of money, these are sort of at the money options and they're trading pretty close to 50 delta.

(00:48:19):

If you want to see more strikes, click at the top, go to all now you can see all the strikes. There's a lot more trades you can do than just that small range. So let's just walk through a scenario where we want to buy Tesla and we want to buy an option for when Tesla goes up. So it's at eight 40 now roughly. So we want to capture all the value if Tesla goes above eight 40. So let's look at that. It says that that option is trading at, I mean for $40 at 41 35. So as retail people, we're probably going to buy a little closer to the asking price. And so let's just say that we can get these calls for 41 bucks. Okay, let's map this out. How does our p and l look? So this is losses, this is profits, here's our break even. Let's map out different scenarios for how much money we're going to make or lose.

(00:49:23):

So from the first options class and from other options background you have, these are important questions to ask yourself. So what's our worst case scenario when we're buying a call? Well, the worst case is that the stock goes down and that the call becomes worthless because again, if you have the right to buy Tesla at $840, but Tesla is trading at 800, that doesn't have any value in it. Buying something for $40 more than it's worth in the market, that doesn't help you. So if Tesla stays at eight 40 or goes below eight 40, then we've lost our initial investment in terms of the best case, well if you're just buying a long call, the best case is that Tesla goes to Infinity. But let's just imagine for a second that it could go up to a thousand dollars.

(00:50:19):

And how about our breakeven? So we know that we're going to be buying this thing for $41, and every time Tesla goes a dollar above 40 by expiration, each option contract is going to control a hundred shares. So every time the stock goes up a dollar, if it stays there by expiration, then we're going to make an extra a hundred bucks. But this contract cost us $4,100, so we need Tesla to go up $41 to break even. So here's that breakdown and this shows if somehow it gets to a thousand dollars, then we're going to make close to 12,000 bucks, however likely or unlikely that is, and our breakeven is going to be around 8 81 for Tesla, so we can track that out. So what we see is we've lost here about $4,100 in the scenario that Tesla ends up at eight 10 or eight 20 or eight 30 or eight 40 has no additional value in the option as Tesla starts to go up, we're not profitable, we spent 4,100 bucks, but at least we're starting to make some of our money back. If we can buy it at eight 50 or if we can buy it at eight 40 when it's trading at eight 50, then we're at least making a thousand dollars back.

(00:51:45):

And so as it goes up $10, we make a thousand dollars back. And then as it crests and breaks through that kind of 8 81 zone, then we start making money. And in theory, this could go very high, but that's the 1st of April. That's only two weeks from now. How do we feel about this trade? I mean, Tesla has to go up $41 just to break even. That feels like a lot of movement in the right direction just to break even. Now you may have an intuition about Tesla that the supply chain things are going to get worked out, they're going to announce some surprise deal with Intel or Nvidia in order to get a bunch of chips and the stock's going to skyrocket. But if you don't have that intuition and you sort of generally feel Tesla's going to go up, at least from my taste, it feels like a lot of movement in that direction in order to break even. So what else could we do? Well, we could buy stock, which is fine, it's a fairly high price stock. So we'd have to tie up $84,000 in order to have a hundred shares worth. And if it goes up to eight 60, then we make 2000 bucks. That's fine. That's a perfectly legitimate way to own Tesla.

(00:53:02):

But if you wanted more leverage than that, then what are your other options? I mean, in theory you could sell a put, but you can only make the amount of money in the put, that's the max upside. And if it goes down, then you're going to still own Tesla stock. So what else can we try? What if we just wanted to calls? What could we do? So here is the shape of the p and l chart for a call. It's flat until you hit your strike and then you start making some money with a sharp call. It's the opposite. You're flat until it hits the strike and then you start losing some money. But is there some way to combine these things? And so now we're going to start diving into the topic of call spreads.

(00:53:56):

What if we buy these together? What if we buy a lower strike call like the eight 40? And what if we sell a higher strike call? Then we start making some money in the lower strike call and once the higher strike call is hit, we are losing a dollar on the call. We're short and we're making a dollar on the call. We're long. So the total ends up being flat. So we're making as much as we're losing. So our p and l is flat at that point, but we have some range between the long call and the short call where we start to make some money. And because we sold a call, we collect a little bit of money initially. So when we take that little bit of credit, we're giving up some upside, but we're bringing down the cost of the position and when we bring down the cost, all of a sudden we're increasing the chance of making something.

(00:55:05):

So let's walk through a scenario with Tesla. So let's say that we don't think Tesla is going to go above eight 80 by the 1st of April. So we're going to buy the eight 40 call, the current at the money call, and we're going to sell the eight 80 call. So we're going to say we're going to give up everything above eight 80, but we'll have this range where we can make some money. So we buy this for about $41, we're going to sell this. And when you're a retailer, you're going to probably be closer to the bid when you're selling. And so we'll say that we can get it for 2250. So this is the total. So we spend 4,100, we collect 2250, and our total outlay is now 1850 instead of 4,100.

(00:56:02):

So let's look at how that affects our p and l. So let's think again about what our best case and worst case and breakevens are. So the worst case is still that the stock stays below eight 40 or goes down to zero anywhere in there. Still our worst case scenario, we both options are worth nothing and we lose the entire investment. 1850, the best case now it's like well if Tesla goes to a thousand dollars, we're going to make a dollar per share or a hundred dollars per contract starting at eight 40, but once we hit eight 80, that stock that we had the right to buy, all of a sudden someone's going to buy from us. And so it's going to cap our potential gains at eight 80. And so the contract can be worth $40 a share and then it gets capped out.

(00:57:04):

So that's $4,000 of total value, but it cost us 1850 to get into it. So the difference is our best case scenario in terms of the break even, well we need to make back $1,850. We make a hundred dollars every time stock goes $1 above eight 40. So we needed it to go 18 and a half dollars above eight 40 to break even. So our best case scenario ends up being 2110 or 2150. And that's for anything above eight 80. And the breakeven is what we said. We need stock to go up $18 50 cents above eight 40. So that's a total of $858 and 50 cents to break even not factoring in commissions.

(00:57:55):

So if we chart that out, that's what this looks like, maximum loss. But the maximum loss is no longer 4,100. The maximum loss is now 1850. So we have this maximum loss of 1850 once we hit $840 for the stock price. Again, these are the theoretical price points of Tesla. If Tesla gets to 8 41, we make back, we're still losing, but we make back a hundred dollars and we're making back a hundred dollars every

time it goes up. Our break even is in here somewhere at about $18 above our long call and now we start making money. And so we hit our theoretical maximum of 2150. And then it doesn't matter if Tesla goes to infinity because we're only going to make money for the first $40 of the movement. So there's a nice walkthrough of a call spread. The call spread has a lower risk than the naked call, but it also has a higher chance of profit. So a lower risk and higher profit. And the trade-off is this doesn't go out to the stars. This stops at $40 of movement. This stops at eight 80. So any upside beyond there, you're giving away, but you're reducing your risk and you're increasing the of making something.

(00:59:26):

So this scenario looks at how a call spread changes as the stock price changes, but we've also talked about other things. We've talked about time and we've talked about implied volatility and those things. So how do those things affect it? And furthermore, these are the stock prices at expiration. We know this is what it's going to be worth at expiration. But what if stock moves by a dollar right now? What's the total spread change in value? Does my total spread change by a hundred dollars in my direction right now? Well, let's look at that because this option is going to go up by a hundred dollars in value roughly. But what about the option that you sold short? Doesn't that option also go up in value? So this is telling you the picture at expiration, but what happens in the meantime? So let's start there. Let's start with if stock moves a dollar in your direction instantly, how much did your spread go up right? Now

(01:00:44):

In short, for all of these things, and we're going to dive into stock price first, but how does stock price affect a spread versus a naked call or passage of time or changes in volatility? It's going to affect the spread less for all of these because every thing that positively affects your option is going to negatively affect the one that you shorted. And so let's dive in. So let's look at stock price. So whether it's a change in volatility, a change in stock, price change in implied volatility, there's always going to be a trade off. If you're long the call spread where you paid money to get into the call spread, anything that positively affects the option is going to positively affect your call spread, but not as much as if you were trading the naked option. So when we look at stock price, we might actually be able to answer this question based off of what we already know. So we know that the long option is going to be positively affected by stock price and we know that the short option, the other person, the other person's option that bought the option from you, that option's also going to go up in value. A stock goes up in value, but since you're short that since you sold something that's increasing in value,

(01:02:19):

That's going to hurt your overall position. And so if you take those two axioms and then you combine that with delta, like what is delta when stock moves up by a dollar, what does Delta tell you about how the option position changes? Well, the option's going to go up by the delta for every dollar change in the underlying. So we're long, the eight 40 and we're short the eight 80. So the eight 40 is going to go up by its delta and the eight 80 since we sold it is going to go, your position's going to be affected by the opposite of the delta. So this is a negative delta essentially since you shorted the option. Well, what are the deltas? So they're expressed as decimal places. It's the mathematical way to do it. This is they're expressed on a per share basis, but this is the 53 delta. If you're eight 40 call, and this is a 37 delta for the one you shorted. So the option that your long is going to go up by 53 cents, but the one you sold is going to go down by 37 cents. And so the difference between those two things is 16 cents. And it turns out that's exactly what the value difference will be when the stock goes up by a dollar, the overall position is going to change by 16 cents.

(01:03:57):

So that's true right now for the first dollar of change. But as the stock changes a lot, your delta will also change. So you need to keep looking back at the delta. You can't say how much it's going to move between dollars 900 and 901. What the delta tells you is the movement right now between eight 40 and 8 41, there's another Greek, there's another mathematical measurement called gamma that will tell you how the delta itself changes. But that's a subject for a later class. Okay, so now we learned how your option is going to change if the stock changes by a dollar instantly, how much your spread is going to change. But now let's talk about how the passage of time is going to affect your option. So at the money option, as we already discussed, has the most time value built into it. And in this scenario, we bought the eight 40 at the money call and we sold an out of the money call. And so if you paid for the time value, we know that time value is going to go to zero by expiration, both time value is going to go to at zero, but the one that you own, the at the money option has more time value to lose.

(01:05:30):

So when you're along a call spread, if the option that you own is closer to at the money option, then as time passes your option, your spread, your overall value of both positions is going to go down. It's also going to go down slower than if you just had the naked option, but it's going to go down. Now as that changes if the stock starts rising, if you buy the eight forty eight eighty call spread in Tesla when Tesla's at eight 40,

(01:06:13):

If Tesla gets up to eight 80 or eight 90 or eight 70, all of a sudden the option you own is not the one that's closer to at the money. And all of a sudden the option that you sold has all of this time value, all this sensitivity to the movement of the option. And people value that. And when they value it, it makes the option more expensive. And so it could be because trading an in the money call spread, maybe you bought the 800 strike and you sold eight 40 strikes. So you're buying a call spread that's in the money, and then the same thing would be true, but the option that's closer to at the money has more time value. And as time passes, that's the option that's going to lose more of its value. So in short, if you own an out of the money time spread time is going to hurt you. And if you own an in the money time spread that's deeply in the money, then time's actually going to help you. But some tricky parts of that, and this is important consideration and it takes a little bit of focus in order to grasp it, but it's important. So let's take another minute to look at this.

(01:07:33):

So if you bought that eight forty, eight eighty call spread and all of a sudden Tesla is up at 8 85, you feel like, sweet, I'm $40 in the money. I'm going to sell this thing and I'm going to do something nice. I'm going to go to Hawaii, I'm going to pay off some credit cards, whatever the thing is. But can you do that if it happens right away, we know that's true there's $40 per share of value if it ends there by expiration. But if it happens instantaneously, can you instantly realize that $40 of value,

(01:08:13):

The answer is no, it can't, and I'll show you that that's the case. So in order to figure out what a $40 in the money call spread is worth, we can look at the options of montage and we can say, okay, I'm buying the 8 48 80 hoping it's going to be worth in the money by $40, but what is an option spread worth? That's $40 in the money now. So let's look at the 808 40 Tesla's trading when I took this snapshot at eight 40 or a little above. So when we look at a call spread that's $40 in the money, what's that going to trade for? Is it going to trade for $40? If so, then I'm wrong and you can just cash out the $4,000. Okay, well let's look at it. So the 800 call is trading around 65 bucks and the eight 40 call is trading around, call it 41. So the difference is $24, but that's a little funny, right? This option's $40 in the money, this one's not in the money at all really, maybe a few cents, but the difference is only $24.

(01:09:44):

Well that's strange. It feels like it ought to be $40 and ultimately it will be $40, but right now it's not. And the reason is what we talked about that the out of the money option that you sold is all of a sudden now the option with the most time value built into it. So that option, it didn't go up more than your option in absolute terms, but in percentage terms it did. And so now all this time value is locked into that option you sold. And in order for you to realize your maximum profit, you're going to have to wait. You're going to have to wait until expiration for that to expire and hope that that Tesla doesn't go back down in the meantime. And that's a very real world scenario When trading spreads stock will move massively in your direction. You look at your portfolio and be like, great, let's take my profits. And you look at it and your profits aren't that stellar. If your option goes from $18 for the spread to $24, I mean yeah, you made $600 on the contract, but you feel like you have $2,100 there, but you have to wait for it. And so that's an important thing to understand and it's something that makes call spreads a little tricky.

(01:11:14):

Okay, so takeaways. If you have a long call spread and when you bought it, the option you bought was at the money or a little bit in the money and you sold one that was way out of the money, when that stock goes way up, your position's going to go up in value. But to realize the total value, you're going to have to wait until you get pretty close to expiration and hope that the stock doesn't go back down or else just you can take your profit. You're just not going to get as big of a profit as you feel like theoretically you should.

(01:11:55):

Okay? So if stock goes up, a call spread goes up, but if you just own the call, the call goes up faster. If the spread is out of the money, then time hurts me because when you're long, the one that you own is closer to at the money, it has more time value in it and if the spread is in the money, then the passage of time helps you. It helps you get closer and closer and closer to your theoretical maximum because the time value is caught up in the option that you sold. And so you want time to pass and so that the value leaks out of that thing.

(01:12:35):

So those are big takeaways from that. So now let's talk about how implied volatility and in volatility affect your call spread. We just talked about time. How does vol change it? Here's the good news because that topic that we just covered is fairly dense. It's a lot to take in. The good news is that vol and time are really two sides of the same coin. The more time there is in an option, the more chance there is for stock to move up and down and the more chance there is to capture theoretical value in the underlying, but the more stock moves, then also the more chance there is for the option to capture that movement. And so almost everything that you can say about how increasing time affects the value, you can say about how increasing volatility affects the value and with the spread it's the same. If you own the option that's closer to at the money, then volatility will increase the value of your spread. And if you own an in the money spread and the one you sold is closer to at the money, then an increase in expected volatility, implied volatility will decrease the value of your position. But only right now, only if you want to exit the position. Now the time value will go to zero

(01:14:19):

And no matter how much volatility is expected by the market once you had expiration, it doesn't matter what they expected because there's no time for that to act anymore. And so the same things are true for both of these things and by the time you get to expiration, the volatility won't matter and you'll reach your maximum potential. Okay, so let's look at this thing with our little tool and the green dots are

going to represent the value captured by your eight 40 call and the red dots are going to represent the value that would've been captured, but that got taken by the eight 80 call. And so there's a visual representation of all the potential outcomes that could happen and this is just captured by your eight 40. These are captured by that eight 80, but this is also the range where you make your maximum profit. Okay, so take a deep breath, that was call spreads. We are going to dive into put spreads and the good news is that most things that we discussed are also going to be true for put spreads instead of upward movement of the stock affecting us in a positive way. It's going to be downward movement of the stock that affects us in a positive way, but pretty much everything else is true. So let's just walk through an example with Tesla, but this time we'll buy a put spread.

(01:16:08):

So now I'm looking on the right hand side of the chart and we're going to buy a similar size of put spread. It's going to cover a similar amount of stock movement. Let's first start by looking at the eight 40 put. So the eight 40 put in Tesla will give you the right to sell Tesla at eight 40 even if you don't own Tesla. If Tesla goes down to say 700, you have the right to sell it at eight 40. So you can go out in the market and buy Tesla for $700 and sell it for $840 and make $140 per share. That right as of now between now and the 1st of April would cost you $40 and 50 cents and that's $450 per contract. So in order for that long put in order for that right to sell Tesla to have value, when it costs you $40 and 50 cents per share, Tesla's going to have to drop by more than $40 and 50 cents per share, which would be $799 and 50 cents ish before you start making a profit. So that's your breakeven. If Tesla is above that, you're going to lose some amount of money and if Tesla is above eight 40, you're going to lose everything on that long put.

(01:18:01):

But if we're bearish on Tesla, we think it's going to go down but we don't think it's going to go down that much, then maybe we don't want to spend $4,050 on the potential for it to go down. Maybe we say, Hey look, if it goes down below 800, I don't care. I'm satisfied. So what we can do is buy the eight 40 put and sell the 800 put. When we do that, it's now costing us $40 and 50 cents per share for the right to sell it at eight 40, but to give up the rest of the downside potential to give up the rest of the profits we'd make from it going further down, someone's going to pay us ballpark $24 and 50 cents. So to get some profits in this range to benefit from a going below eight 40 down to 800, that's going to cost us $16 per share instead of close to 41 per share. So our outlay is a lot less. If Tesla gets down below 800, we reach our max profit and to break even, we need it to go down about $16 below where it currently is. Okay, so let's map it out.

(01:19:44):

So if Tesla goes up to the right, we lose all of the money we put in, which was 1600 bucks. As Tesla starts going down, we can buy it at a lower price and sell it at a higher price. And so we start making money. Our break even is when it comes down about $16 from where it is now and then we start making money and our profits are capped at Tesla going down below 800 because again, we can buy Tesla for less than 800 and sell it for more, but then someone can sell us Tesla at 800. So it all nets out

(01:20:32):

Everything we just learned about call spreads is also true for put spreads aside from the direction. So if the stock goes down, the put spread goes up, it does not go up as fast as a naked put would go up if the spread is out of the money. If the option that you own isn't deep in the money, then it has more time, value and time passing hurts the value of the spread. If you sell or if you buy an in the money call put spread, then the passage of time helps you. Or if you buy a put spread that started out of the money but ends up in the money, which is what you're hoping for, then you need time to pass in order to realize

your max profit. If your long put is closer to at the money and volume increases, that helps the value and if the put you sold is closer to at the money, then an increase in vol will hurt the value temporarily. It'll hurt your ability to take the value out. Now it won't hurt the value when it reaches expiration.

(01:21:48):

One little caveat is that when the market's going down, options tend to become more expensive. The reason being because large funds are starting to protect their positions by buying options. And so that phenomenon we talked about where you want to realize your profits but it's taking more time sometime that can be even a little stronger with puts because if the market is absolutely tanking, the time value, the volatility assumptions are blowing up. And so if your spread is all of a sudden in the money, it could take longer to take the profits because the volatility assumptions are going up a lot. It's a little bit of a nuance but worth knowing if you hold it through expiration, that all comes out in the wash. Okay, so we talked about long call spreads and long put spreads. So now let's touch on short spreads. It's just going to be the inverse of everything that we talked about. So if you short a call, you're making a bet that the stock won't go up more than the price of the option you have theoretically unlimited downside because the stock can go up and up and up and up. Your delta is negative because you want the stock to go down.

(01:23:23):

If you're short a call spread, you're also making a bet that stock won't go up too much but you're buying some insurance in case it does. You have limited downside as stock rises in price. So your insurance caps how much you can lose your delta is still negative because you want stock to go down, but it's not as negative as a short call that's naked. Okay, so let's look at an example. Let's do the short version of the eight forty eight eighty April call spread in Tesla. So now you're going to collect $4,100 when you're selling the eight 40 and you're going to pay 2250 for some insurance. And so you are going to collect 1850 total. You're going to get your maximum profit with the call spread. If Tesla, when you're short the call spread, when Tesla stays below eight 40, you're going to start losing a hundred dollars per dollar. It goes up until Tesla hits eight 80 and then your losses are capped. Okay? So we're going to do the same thing with the short put spread and then I'm going to walk through a real trade and then we're all done. So if you're short of put, you are making a bet that the stock won't go down more than the price of the option

(01:25:18):

Because you're going to have to buy the stock at a lower price. You have unlimited downside as the stock falls until it reaches $0. Your delta is positive because you want the stock to go up. If you're short of put spread, you're making a bet that the stock won't go down but you want some insurance. You now have limited downside and your downside stops once your long put is reached. Once your insurance strike price is reached, your delta is positive because you want stock to go up, but it's not as positive as if you're just naked short a put.

(01:26:01):

So now we're just going to do the same thing in reverse. We're going to imagine that we are short the put spread. So we're going to short eight 40 put we're going to buy insurance at 800. We are going to collect 16 bucks and if stock stays above eight 40, then we're going to collect our maximum. So our maximum profit is up here anywhere above eight 40. We start losing money down until our insurance is hit and then our losses are capped. Okay? So let's look at a short put spread, which is a bullish position on the stock. If your short put spread ends up in the money and you don't close it, you're going to end up buying the stock. So you're going to end up owning the stock, but you want the stock to go up.

(01:26:58):

So you'll end up owning the stock if it moves against you and you don't close it. But it's a good way to think about sometimes you think about trading puts, doesn't feel like a bullish anything, but when you're short of put, if it goes against you, you're going to end up buying the stock which shows that you want stock to go up. Okay? So we went to the today tab, we clicked fade the dip, you can read all about it. It is a short put spread strategy. It is a bullish strategy on the stock. I clicked the first one, a company called B-K-E-B-K-E, I did not know the company so I did a quick check. I see that they have $900 million in revenue, they have 5,000 employees. They make apparel like okay, bread and butter company. I don't have to worry that I'm trading a weird leveraged ETF or a DR or something.

(01:27:49):

So I pull up the company, I see that for this strategy we're trading options about 30 days out and that we're going to trade the, we're going to sell the 40 delta call and buy the 30 delta puts says insurance. I can also see that the next earnings event is projected to be out more than 30 days, so that shouldn't affect me. Then I pull up a montage and I want to find options that are about 30 days out. Today is mid-March. So I look at mid April and now I want to find the delta's close to 40 and 30.

(01:28:32):

There's no perfect match, but the two closest to 40 and 30 are the 37 50 which has about a 46 delta and cents to put. Technically it's a negative 46 delta and the 35 is pretty close to that 30. So these are the two I'm going to trade. Now the markets are pretty wide. We see 95 cents at 1 25, so they're about 30 cents wide for the 35 strike and they're about 40 cents wide for the 37 50 strike. So that's giving up a lot of edge. So perfectly reasonable thing to do is to say I'm not going to mess with it. That's pretty wide. Alternatively, we can set some limit prices on the trade and try to get in for a better price.

(01:29:21):

So I'm going to go in one leg at a time. They call that legging. In the alternative is to use the complex order book, which is a great thing to do for this example I'm going to leg in. The risk is I might get one of the legs filled and not the other leg. So what I do is I'm going to buy my long put first. I'm going to buy the insurance first because I don't know that much about this company. I don't want to be short a put in it and in this example I'm going to trade 10 contracts. So I don't want to be short 10 puts without knowing anything about it. So I'm going to start by buying my insurance and if I can't complete the position, I'll complete it tomorrow and hope it doesn't move too much against me. So the market is willing to buy 95 cents, they're trying to sell it a buck 25. When I'm buying something, I want to buy as little as for lowest price possible. So for my long put, I'm trying to get as close to 95 cents as possible.

(01:30:23):

I'm doing this trade with only maybe five or 10 minutes left in the market and so I don't try for 95 cents, I'd have to wait for a long time. I dunno how much volume there is. I could add volume here, but I'm not going to try to be that aggressive. So I'm just going to see if I can get it for a dollar. Maybe there's someone waiting out there to trade it at a dollar. So I put in a bid to buy it for a dollar. The market changes to a dollar at a dollar 25, I wait a minute or two, no luck. If I want to do this trade, I better be a little more aggressive so I bump it up to one 10. So I do a little replace order, I send the new order in at one 10, I wait another minute, still didn't get through at one 10, so I just bump it up to one 15. I get filled at one 14. So one 14 is not a great trade here, but it's better than a 1 25. So it's interesting that I traded, I said I'm willing to pay one 15, but I was able to buy at one 14. Why is that? Did someone out there magically do me a favor? Did think or swim say hey, hey kid, here's a penny on us per share.

(01:31:43):

No, there's no one doing you any favors in the world of finance. So almost certainly what happens is that Thinkorswim is letting algo shops have a first look at my trades. So they're saying, Hey, this person wants

to buy something for one 15. If you can give him any price better, even a penny, better, you can take the trade and we won't even send it to the market. So we can call these dark pools or whatever you want, but this is the way a lot of places make money off of retail investors because the big shops like this order flow. They feel like I'm giving up edge when I took the straight and they want that edge. Okay, so now I got one trade off at this point, it's just a few minutes before closing. I have about 90 seconds left. So I see that this thing is I want to sell this. If I sell it at market price, it's going to be one 90 if I'm not going to be able to get this traded at two 30 with 90 seconds left. So I put in an order at 2 0 5. I'm trying to sell this at 2 0 5, about 15 cents better than what I'd get if I did a market order. And it comes in. So that trade goes through right away and I improve. I get about 15 cents of edge back from that trade.

(01:33:02):

So here's the trade I did. You can see that that last one happened just about a minute or two left in the market. And here's my position. So if I traded at the market, I would have been trading at quite a bit different position. I would've ended up getting about $650 of credit out of this. I would've bought at 1 25 and sold at one 90. And so the total credit I would get from that trade is about six 50. But when I put some limit orders in there, I ended up getting about nine 10 in credit versus six 50. So I did a little better than market prices.

(01:33:48):

So for this trade that I did, not the market trade but for the one that I actually got off, so what's my worst case scenario? So I sold the puts, so I'm bullish and so if stock goes below, goes down below 37 50, I start losing money. I have insurance at 35, so that's $2 and 50 cents. I did 10 contracts. So that ends up being $2,500 that this spread could be worth. And I'm short the spread, but I collected 910 to start. So my worst case scenario is 1590. Best case is stock goes above 37 50 and I just collect, I take my credit, I take the nine 10. So so far day one things are going fine, made a little profit and I'll do a little post-it community when this thing goes through. But I just wanted to walk through a real example there of how someone actually uses trade machine and places to trade. And we are at about 95 minutes. Last time we didn't have too many questions. I'm going to give a real quick summary and then if there are any questions, I'll answer a question or two. So real high level,

(01:35:08):

All

(01:35:09):

Call and put spreads have both limited upside and downside. They're both less sensitive to stock IV change and passage of time than negative options. If you own the option that's closer to the money, the passage of time hurts you and an increase in vol helps you in the short term. And if you're short, the option that's closer to the money, the passage of time helps you and vol increases, hurt you real fast. Long call spreads have a positive delta and if your long call is in the money and your short is out of the money

(01:35:53):

And

(01:35:54):

You don't sell, you'll end up buying the stock. Short call spreads have negative delta and if your short call ends up in the money and the other one isn't, you'll be short the stock long put spreads have a negative delta. You want the stock to go down and if your long option ends up in the money, then you'll sell the stock even if you don't have it. And then you'll be short the stock short put spreads, you want the stock to go up, you have positive delta, and if the stock moves down and that moves against you, then that

short put someone will sell you the stock and you'll end up owning the stock. So you can see that there's actually a similarity. They pretty darn similar risk and reward between long call spreads and short put spreads and ditto with short call spreads and long put spreads. They're pretty similar positions in most ways. Okay, well thank you all very much for attending. I'm happy to take a question or two if any come through, but based on the last session, there weren't too many. I see.

Amanda Kelley (01:37:08):

Hey Jason?

Jason Hitchings (01:37:09):

Yes.

Amanda Kelley (01:37:11):

So do you want to go ahead and share your Twitter handle because we did have one question come through the chat for that, but go ahead and share that.

Jason Hitchings (01:37:21):

Yeah, I'll pull that up. Yeah, it's at hitchings. Jason. I don't post too often but I know I, it's a good way to reach people so I'll be doing more of it in the future. Okay. Andre asks,

(01:37:46):

How do we handle the trading using trade machine triggers in a bear market when we probably do not expect the stock prices to change in our direction during earnings? How do we gauge what market conditions are best for the core trade machine type strategies? Yeah, well there are a lot of bullish strategies for sure in trade machine, but they're not only bullish strategies and there are some bear strategies, that's certainly an option, but I just took a long strategy. I mean the market's going down a lot and even in a down market, especially when you're shorting options and downmarket volatility is increasing and so options are getting more expensive. It can be a very nice time to take some short term spread, short spreads like this. I sold the put spread and I feel like that's a pretty good risk reward for me because options are very expensive right now.

(01:38:54):

It doesn't mean that I'm going to choose this time to get Meg along everything, but taking some calculated bullish bets inside of a bear market is a perfectly reasonable thing to do. And you can also just craft strategies. There's a lot of built-in strategies in trade machine and if you go to the scanner, there's also some short strategies, but those are there as a convenience and there's certainly nothing stopping you. And I do this all the time, crafting some strategies that are short. You can go back to time periods like in 2008 when there was a bear market and start creating strategies around trading options, whether you want to be long haul or shortfall or straddles and start constructing some strategies and test them over a basket of stocks using the portfolio and see how they did during various bear markets and then kind of come up with your own strategies and trade those. It's not quite as easy, but there's a lot of benefits to be had in it. Also, don't forget that a lot of the gains after a bear market are made early. Oftentimes the rally can happen fast too. So Covid was a unique condition, but there was a covid crash and then it just immediately skyrocketed and turned around. And that period of time for me was the most successful trading period of my trading career.

(01:40:29):

Great. Well thank you very much for attending everyone. In about two weeks we'll be having the third part of this series. Thanks for being members of Trade Machine and I'll look forward to seeing you guys next time around. Have a good one.