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## Draft and Sew Wide Leg Pants with Cal Patch

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### Chapter 1 - Draft and Sew Wide Leg Pants

#### Overview

(bright music) - Hi, I'm Cal Patch. I'm a clothing designer, teacher and author and I'm here to show you how to make a comfy pair of pants. People often think drafting their own patterns will be really difficult and they'd rather just buy one from a store. But actually, in many ways it can be simpler and you'll end up with a pair that fit you much better. We'll learn how to take measurements and draft your own custom pattern. How to do inset side seam pockets and elastic waistband and french seams. Make these in a really nice linen and they'll be super cool pants you can wear almost anywhere. Or make 'em in a really fun, cozy, flannel print and they're pajama pants to wear around the house. The pants-abilities are endless.

#### Materials

- Let's go over all of our materials. First you'll need two to three yards of fabric. We won't know exactly how much until you've drafted your pattern, but it'll be something in that range. Be sure to download the PDF worksheet so you can take your measurements on it. You'll need pins and a pin cushion. A tape measure. Some paper to draft your pattern on. A two by 18 clear ruler is my favorite, but you could use a different kind if you have it. Optional, but helpful is a hip curve or other type of curved tool. Some clear tape. One inch elastic or a different width if you'd prefer. Some scissors for cutting paper. Your fabric cutting shears, and a pen for taking your measurements with, and a pencil for the actual drafting. And, of course, you'll need your trusty sewing machine.

#### Taking measurements

- Following the worksheet, the length is your first measurement to take. So, you'll hold the tape measure at your waist where you'd like the pants to sit, and then measure down to the ankle where you'd like the end of the pants to fall, the full length. And, even if you think you might want to make some shorter pants, I would start with your pattern being drafted to a full length, and then you can always fold it up to have other, shorter lengths. The next one is cuff to knee, and that one you're going to measure along the inseam from that same spot where you said the length of the pants will sit up to the midpoint of your knee. And I know your knee doesn't really have a midpoint, but just some consistent point that you're then going to use for the next measurement. And that next measurement is knee to thigh. So, for that one, you'll follow that same point for your knee and measure up the inseam to the highest point of your thigh. Next is the thigh circumference. So measure around your thigh, either at the highest or the thickest point. So, up till now, we've been measuring actual body measurements, but the next two are going to be a little bit more like design choices. So, for your knee and ankle circumference, we're going to try to measure, but imagine what you want the finished pants to actually be like. So, you can hold the tape measure loosely around your knee and try to guesstimate how loose or fitted, but we're not really going for fitted here, so estimate what you think you'd like them to be. Another good way to do this could be to reference a pair you already have. And then you'll do the same thing for the ankle. Don't be afraid to add a lot of extra and have a nice loose-fitting, wide-legged pant. Next is the hip circumference. So, for this one, you want to find your widest point. For some people, it's lower down in the thigh, or it might be a little higher up, like up here. But find the place where you're the biggest around and measure there.

For the previous measurements, you wanted to be standing. But now I'm sitting on a nice flat chair. I'm gonna take my ruler, and I'm trying to measure the front rise depth. So, for that, I'm touching the ruler to the chair, sitting up nice and straight, and determining how high is the distance from the chair to where I want the waistline of the pants to sit in the front. So, I'd say right about here. And then I can see where that is on the ruler and write it down. Same thing for the back rise height. You'll hold the ruler behind you with the end of it touching the seat and measure up to where you want the back of the pants to sit at your waistline. Make sure that your back rise height is at least two inches higher than your front rise height, and, if it's not, just add an inch or two, so that it is. Let's go to the worksheet. We've filled in our basic measurements. Now we need to play with some of these numbers and add ease in order to be able to draft. Ease is the difference between your body measurements and the measurements of the actual garment. With woven fabrics, you always need some positive ease because the garment needs to be bigger than you, so that you can pull it on, and so that you're comfortable while wearing it. The first place we need to add ease is the thigh circumference. We have 27 inches, that's my thigh circumference. I'd say you want to add at least a minimum of two inches, maybe even more like three or four. Again, this is something where, if you don't know what you want, you could reference some pants you already have. I'm going to add two, and so that brings me to 29 for my total there. Next, we want to figure out how much of that is the front and the back side because most of us need a little more room in the back. So, I have a loose formula of something like 45% of this total of 29 is going to be the front, and 55% is going to be the back. Really, what I mean is, you are dividing it in half but having a little more in the back. So, you don't have to get too specific with those percentages. For 29 inches, I might say something like, if half of it is 14-1/2, I might just subtract an inch and say 13-1/2 for the front and 15-1/2 for the back. And, hopefully, that still adds up to 29. Then my knee circumference and cuff, for those we already added ease because we took them as desired measurements. So, those just need to be divided by two. So we've got 11 and 11. Then the hip is another one where we'll definitely want some ease. I'd say we probably want another two to three. Again, it could be four or five, it's up to you. I'm just gonna say two inches for my hip. So that becomes 47, and again that same formula for dividing our front and back hip. So, if half of 47 is 23-1/2, let's just say something like 22-1/2 for the front, and I think that leaves us with 24-1/2 for the back. Half of that front would be 11-1/4, and then that would be 12-1/4. We already filled in the front and back rise height, so the final one is the rise depth. For that one, there's a formula here, which is our front thigh minus our front hip. So, front thigh is 13-1/2, I'm just gonna jot that down, minus front hip is 11-1/4. That minus that is 2-1/4. Then, back side, we've got 15-1/2. Back hip, 12-1/4. And that one is 3-1/4. All done.

### Drafting the pattern

- Prepare a piece of paper that's at least as long as your length measurement, plus a few inches like maybe four or five, and then at least as wide as your thigh circumference plus the ease, and then a few more inches from there. And then I've folded the paper in half to give me a line down the center that I'm going to use to draft off of. The first step is we're going to add some seam allowance to either side of the fold line, because that's going to become the center of the pattern, and we're drafting the front and back either side of it. And this is going to become the side seam that runs down the side of your leg. I like a half inch, I'm adding a half inch line on each side of this fold. We're going to mark the length of the pants by starting with a line just within a few inches of your edge of the paper, and then from there I'm making mine 37 inches long, so there's 18, 36, and I see I'm getting a little close to the edge of the paper, but we'll just tape on some more if we need it. So this

is indicating the top and bottom of the pattern, and from there we can move on to our cuff to knee and knee to thigh measurements in order to start plotting out the legs. The cuff to knee is 15, mark that, and then knee to thigh is 14 from the knee point, so this is where I can draw my thigh line. And that's kind of going to become the real route of the pattern, so that's the next line I need to create. This thigh line is our first horizontal line, so I need to make sure it's perfectly perpendicular or at least almost perfectly, so that's why we use the clear ruler and I've got it lined up so that one of these lines is on the fold, and that tells me that I'm perpendicular or 90 degrees from the fold line, and we'll make this line just continue pretty much all the way across the paper. That's the thigh line, if you want you could be labeling some of your lines. And now we can indicate how much of that is your front thigh and your back, and we'll be now designating which side of the pattern is which. Our front thigh for my measurements I've got 13 and a half inches. You will of course be using your measurements. Now that I'm starting to really get into plotting the lines, I wanna make sure you understand that the fold line that I began with that's actually the edge of the seam allowance. So these two lines that I drew in either side of it, they're the ones you want to actually plot all your measurements out from. So for this front thigh, I'm going to be measuring 13 and a half over from the line that's on this side of the paper. When I do the back I'll measure from that line to that direction. I can even indicate with an F and a B that this is now the front leg of the pattern and this is the back. Let's mark that front thigh, 13 and a half, and our back is 15 and a half, okay. From here I want to find the midpoint of each of these two sections, so that I can draft a line down, and that will become the center of each leg of the pattern. So for this 13 and a half, half of that would be six and  $\frac{3}{4}$  I think, and then the 15 and a half would be seven and  $\frac{3}{4}$  I believe, okay. From there let's drop a line down try to make sure you're staying parallel to your original lines. Now, I can draw in the cuff or ankle line and the knee line and get those measurements plotted out. So the cuff line was where this bottom original mark was that I made, just extending it out to a line perpendicular from my side seam. And we need to go across both ways, I'll send it up here, and let's do the same thing for the knee. And actually I can label these, I'll do that after I've drawn this line. This is the knee point. So right now I'm just making lines and there's not actual measurements, but I'm gonna come back and indicate the actual measurements, okay. So let's label this is your cuff line, just to help you get oriented, and this is the knee. Next, we'll need the knee and cuff circumference. I'm using 22 for both of mine, so half of them is 11. That means that on each of these lines, the cuff and the knee, on each side front and back I need to center an 11 inch segment over from the center line. So that might not have made a whole lot of sense, but I'm gonna show you how it works. Half of 11 is five and a half, so I'm lining up my five and a half on the center, and I'm marking my 11 inches centered there. I could come up and do the same thing on the knee, that's the front leg and then I'll do those same two steps for the back leg. Okay, now I can actually connect the dots on all of these little marks I made, so then we'll start to see some leg pattern pieces taking shape. We'll connect this cuff point to knee point, and then knee to thigh, and then same over here cuff to knee, knee to thigh, this time your thigh point is this intersection of the thigh line and the seam line. Then on the back we have cuff to knee again, and knee to that same point on the other side of the fold, and then cuff to knee, and knee to thigh. Okay, we've got two legs, now we can work on what happens above the thigh. I've realized my paper's a little bit short, which is something that happens all the time, so I'm taping on a little more. And this is exactly why I said to have some clear tape on hand. To begin plotting the rise depth and height, I'm starting with my front rise depth is two and a quarter, so I'm on the thigh line, and I'm measuring over from the inseam which is what this line we just drew here is, so that's two and a quarter. And then from there is where I can plot my rise height. This is the front rise height, so

from that mark perpendicular to your thigh line, and mine is 10 inches. Then we'll do the same thing over on the other side for the back. So our back rise depth is three and a quarter marking that from there the back rise height is 13. I need to extend up our three original lines, so that I know where that side seam will be. One of them is the fold that I'm just going to extend it as a line because I didn't fold the paper extension. Okay, now I can make these rise seams into some nice curves, because currently this is sort of a corner and that's not something we're going to want in our pant. We're gonna want a nice, blended, curve. I'm gonna grab my hip curve tool. This is optional, you don't necessarily need it, but I'm going to show you how it is used. But I'll also show you that you could just freehand this curve. So we want to draw a nice curve into this section. Mostly this is going to still be a straight line, and then just a little bit of curving happens down in the lower maybe the lower third or quarter of this height. So you can see that this hip curve is really giving me a nice curve that's pretty much just what I want. I might place it something like there, and draw that in, but if you don't have something like that nearby you can just try to draw in a curve that's basically very gently blending out of your vertical rise line, and then curving down to actually being perpendicular at this corner. Then we'll do the same thing over on the back side. Our back rise depth is usually a little bit deeper than the front, well, it's I mean it's supposed to be that's how we planned it, because we usually have more curving going on in the back than the front. So sometimes I actually angle this line out a little bit to help fill in some of this curve. If my back rise depth was about three inches, I'm going to just kind of visually divide that into thirds, and then take that first third, and angle the line over to meet it. So this is just sort of making this back rise a little more of a gentle slope than a 90 degree angle. And now when I fill in the curve, it's just gonna be a little bit easier, and a little more comfortable. So something like that should do the trick, and that looks like a nice back rise curve. Next, I'm going to fill in my waistline, if you've ever taken a pattern drafting class from me before you'd know that our major corners all need to be 90 degree angles. I'm making this a nice perpendicular, give yourself about three or four inches doesn't really matter at the moment, but you want a few inches of a line there. And then we want to be perpendicular to our new angled line here, so draw three or four inches there. So I've got the two ends of my waistline, place the ruler between them, and then draw filling in, so now I have a connector. It's sort of like a very gently sloping S curve. And then I might grab by curve again, and just sort of just smooth out those little bumps so that you almost wouldn't even notice that this isn't just one long straight line. And again, if you didn't have a curve like this you could just fill it in with your pencil freehand, and there's our waistline. All that's left to do is add our seam allowance. My preferred seam allowance is a half inch, but many people like 5/8, and that's totally fine if that's what you like you should do it. We'll continue it up here, then we have a little curvy bit for the rise seam. Whatever your corner of the pattern is doing, the seam allowance needs to reflect that same kind of angle. So if it's trying to be 90 degrees or close on the pattern, it should be similar on the seam allowance. Along this curve, I'm just going to keep bending the ruler to reflect the curve as accurately as I can. I usually just make a dotted line in these sections, 'cause I find it a little easier. And then when I'm back to a nice straight line I can just line up that ruler and try to keep it still and draw. Across the waistline we're still gonna do our half inch, and then down the other side. Some people like to do these curves this way, so you could also be holding the ruler this way and making a dotted line if that feels more comfortable, but either way works. Just make sure that this width here is staying consistently a half inch or whatever is your preferred seam allowance. Back to a nice straight line down here, and I'm noticing that I forgot to come back and blend these two lines into a little bit of a curve, so I might even just do that freehand. 'Cause we don't really want a little angle there, so something like that which means the

seam allowance will also blend into a nice, gentle curve. I can do the same thing for these two side seam lines. So I know it can get a little confusing in this middle section, 'cause you have a lot of lines here, these three center lines that we started with aren't really in effect anymore from the thigh down. Up here they are serving their purpose of separating the front and back and making sure we have some seam allowance automatically built in from the beginning. But now we just need to add the seam allowance to the lower sections of the lines. So here I'm blending this to meet the fold. I like to use an inch for my hem allowance on just about everything. Okay, I think that does it for our seam allowance. If you wanted to keep these pants really simple, you could do a fold over waistband, and then you would just add a two inch extension to the waist, so that you could fold it down and insert the elastic right into it. We're gonna do a little bit fancier pocket, and that requires us to have a separate waistband. So now I'm going to show you how to draft that pattern. To draft the waistband pattern, you'll need your hip measurement, mine is 47. I'm just going to draft the pattern half of the hip measurement, and we'll cut it on the fold, because I don't really want to make a 47 inch long piece of paper. So half of 47 is 23 and a half, so I've got 18 and then I'll need five and a half more to get to 23 and a half. One, two, three, four, five and a half, okay that's the length of the pattern piece. To figure out the width of the waistband, I'm going to take my width of the elastic is one inch, then I need a little extra room to have the elastic floating around, so that's about a half inch. Once and a half inches if I double that, because we're folding the waistband in half, that gives me three inches and then since this is just a rectangular piece I can go ahead and add the seam allowance right in there, so that'll make it four inches. Four inches up from this end to and then we can connect. I'm realizing for the length of this I used half of my hip measurement, so I do need to add one half inch of seam allowance on one side, and then the other side will get cut on the fold, because I didn't want to make the full length of pattern. Often you'll find you might not actually have a continuous piece of fabric that measures that full length, so you often might even cut your pattern in two pieces, and then you would need seam allowance on each side. So just keep that in mind, but for now I'm going to assume I'm cutting this on the fold and I'll just label that to remind myself. So remember that seam allowance is already built into these two sides. If you want you can draw in your seam lines, but I don't think I need to. We've drafted our pattern, when I teach this class in real life, now is the part where you would cut out your pieces, take some inexpensive fabric either muslin, an old bed sheet, something you have on hand, whip up a really simple version to try it on and test the fit. If you're happy with it, then you could move on to the next steps. I've already drafted this pattern several times and done my testing, so I'm ready to move on and show you how to draft an inset pocket. We're working just on the front pattern piece, and this is the corner, this is the side seam, so this is where your pocket's going to be. There are two curved lines that we need to plot in to create this pocket. And the first one is the opening, so that's where your hand is going to insert itself into the pocket. So I'd say that is going to look something like we can probably use this line that's here for the opening shape. This could look a lot of different ways, the main thing is you do wanna make sure your hand is going to fit into it. But I can see that that should work, so then we need to draft what's called the pocket bag. So to do that I usually like to lay my hand as though it's being placed in the pocket, and kind of use that as my guide. So I'm just gonna sketch kind of a dotted line to start with, and basically by using your hand you're making sure that you're really getting a shape that's big enough and shaped like a hand is going to fit into it. 'Cause that's what we often put in our pockets the most. But there will be plenty of room there to hold things as well. So then I might just clean that up a little bit. Maybe I'll make it a little bit deeper down here. And then it needs to extend over to the seam allowance. And this will also extend over, and then we

actually need to add seam allowance to the pocket piece. So up here the seam lines will just continue to the outer seam allowance of the waist line, and then we need to fill in seam allowance on these two curved edges. On this little curved opening line, I would just like to add a quarter inch because it's such a small curve, you would end up trimming away your seam allowance if you add more than that. So in situations like this, I just usually add a quarter. And then, around this outer edge I can add my normal half inch. I've drawn the pocket pattern onto the pants piece, but I need to transfer it to another piece of paper, so that I have a separate pocket pattern piece. If you're using paper that you can see through, you'll be able to go ahead and just use that. Otherwise if your paper is too thick, you might need to use some tracing paper for this step. For one of the pocket pieces I'll be tracing around. You might not be able to see this, but I can just see my lines through this paper. So one of these pieces needs to land on the pocket opening line like this, that's just a straight line so I'm going to draw it in straight. That's one pattern piece with the opening, now we need to do one that fills in that corner piece. So if this part of it is the same, and then up here we just continue to follow the original waistline. And then, again, straight line for the side seam. And I'm using the seam allowance line of my side seam, my actual side seam is here. I'll draw it in just so you can see it. But we had already added the seam allowance to that part of the pants, so it's automatically in the pattern. Let's just draw in these seam lines, so that it's more clear. This is the pattern piece that will actually show through. So basically this corner is going to show as part of your pants. This pattern piece will be hidden. It'll be the pocket lining. So you could use a fun contrast fabric, you actually could do that for either one of these, but this one will show, this one will be completely hidden. One last step before you cut your pattern pieces out is to label them. You might wanna name the entire garment something like lounge pants. Then you've got a front, a back, a waistband, a pocket lining, and a pocket facing. And the most important thing is to put cutting instructions, so you remember how many pieces to cut out, All of our pieces are basically cut two, with the one exception of the waistband which is currently cut one on the fold, though depending on your fabric you may end up cutting it as two separate pieces. If you do that you'll have to remember to add an extra seam allowance at the fold end. And then, you're ready to cut out your fabric.

### Assembling the pants

- We put our pants on one leg at a time, and that's exactly how we'll sew them. You'll need one of your pants leg fronts and your two pocket pieces. You'll start with this pocket lining piece, the one that has the cutaway, and you're placing it with right sides together onto your front leg. And we're just lining up and pinning this little curved edge here. So make sure they're really lined up. So I'm pinning close to that area where we'll be stitching 1/4 inch away. For 1/4-inch seam on most machines, that's usually just the very edge of your presser foot, so that's what I'm lining up with. You can take that first pin out. And of course we're gonna do a little backstitch first to lock things in place, and now I can go ahead and sew the seam. (sewing machine whirring) Now we need to clip this seam because it is curved and we're going to be flipping the pocket piece the other way. I'm clipping from the edge of the seam allowance just to the stitch line, but being very, very careful not to cut through the stitching. Probably about 1/2 inch apart. And it's a fine line between getting really nice and close to my stitches but not actually touching them. Because if you cut your stitches, they're not holding together. If you didn't do this and you tried to turn the curve right side out, it would be all lumpy and not pretty. So now we can flip this. And I'm just going to finger press it to smooth it out, but you could go to your ironing board and give it a good press. I think that'll be fine.

So next I'm going to edge stitch along this edge, so I want to pin it to keep it in place. I like to kind of roll that seam just slightly to the inside as I'm pinning so that it doesn't show. So you can do that as you go with your fingers. Just kind of one of those finer points that makes things look really nice. And then I'm gonna go back to the machine and edge stitch right along this edge. For this edge stitching, I'm going to use the hole in the presser foot to line up my edge so that, let's see if I lower the needle, there you can see better that it's going to put the stitching line about 1/8 of an inch in from the edge. So I'm keeping my eye on that hole to make sure that the edge is always visible within in. (sewing machine whirring) And this edge stitching is just going to keep those layers from rolling around, which will make it look like a nice finished pocket. (sewing machine whirring) Next, we will flip this over to the backside and take our other pocket piece, the one that shows through from the outside, line it up with the other pocket around this whole edge, that's really what we're focused on now, and we will pin that edge. We're only pinning the two pocket pieces together, so don't pin through to the pant piece. Okay, we'll go to the machine and we're gonna sew around this seam at 1/2 inch. (sewing machine whirring) When you get to the end of the pocket where you've got this little jog there, just follow along that edge and do the same thing. Kind of curve it over and come straight over to the side seam. (sewing machine whirring) Okay, now we just need to finish this raw edge with a zigzag that we'll take right over the edge to kind of act like a serger. So I don't need to pin it 'cause it's already sewn together, but I do need to adjust my settings. That looks like our zigzag stitch and it's defaulting to 3.5 wide. I think I'd like it to be five millimeters wide and two millimeters long. Should be a good setting so that we have a little bit of width to go back and forth over the edge. And just like with the edge stitching, I want to be looking into this hole in the presser foot and making sure I can see the raw edge of the pocket within that hole. And that way, when the needle goes down on the right side, I want it to just go off. So just like that. That way it's really sealing the raw threads into the zigzag stitch. (sewing machine whirring) So you can see how this zigzag is really wrapping over the raw edges and finishing them so they can't fray and unravel. This is one of the easier ways to finish edges, but I'm always a big fan of finishing every raw edge. You shouldn't really have a garment that ever has any exposed edges in it. So the next step will be to just flatten out our three layers. We've got two layers of pocket and the pants and we need to make sure that they're all working together. And we're just going to pin them together here at the side seam where you've got one, two, three, but nothing's attached so it's kind of like an accordion. We're gonna baste them together so they stay in place. And we're gonna have the same thing up here. So I'm going to put two pins up there, as well. And I'll just do a line of stitching in each of these places to hold everything together. We'll need to go back to straight stitch and I like it with the needle in the middle. It's defaulting to 2.5 millimeters, so that sounds good. Often for basting you might use a longer stitch length, but that's because sometimes you might take those stitches out later, but we won't need to. And keeping it a nice, normal stitch will also help it be a more reinforced pocket. So I want to be just shy of my usually 1/2-inch seam so that this stitching won't show later. And I'll go ahead and backstitch, too. (sewing machine whirring) And I can feel that the edge of that pocket is right there, so that's where I'll stop. Maybe a little bit past it, and a couple backstitches. Same thing for this little top section. (sewing machine whirring) This pocket is finished. Go ahead and do the same steps for the other pocket on the other front piece. Then we're ready to attach our fronts and backs. I've got my back pant piece underneath and I am putting the front on top of it. And you might notice that I've got the wrong sides together. That's because I'm doing French seams, which are always my favorite seam finish, so they begin with the wrong sides together. I'm matching up the inseam so that I can pin it. And sometimes you have to make them match up if they

don't want to. You're the boss. It's always good when you're pinning to kind of start at each end and the middle rather than starting at one end and working your way to the other because things will often shift if you do that. So I've got my key points matched up and now I can divide and conquer. Then I will do the same for the side seams. So don't let it bother you that this whole area isn't going to match up. It's not supposed to just your inseam and your side seams. These are slightly different shapes, so you have to finagle them into place. And you can see it's not all gonna lay flat because they're two different shapes. But our body is not flat or the same front and back, so why should our pants be? Pin this corner. And sometimes you have to keep wrestling with it the whole time and make sure your edges are really, truly matching up. Okay, I think that should do it. The inseam is pinned. The side seam is pinned. We can now sew both of these seams. For French seams, as I said, the wrong sides are together and now we're just sewing a skimpy 1/4 inch. So our total seam allowance is 1/2 inch, but together the two seams need to add up to 1/2 inch, so this one is basically 1/4 inch, but I would try to keep it even a little bit smaller, so you'll see my edges are not even quite coming out from under the presser foot. (sewing machine whirring) Same thing for this seam, skimpy 1/4 inch. (sewing machine whirring) After sewing that first seam of the French seam, usually you want to go back in and trim your seam allowances down a little bit 'cause you'll see there's a lot of raw fraying threads, and maybe in some places the seam allowance is just a tiny bit wider than a skimpy 1/4 inch. What we wouldn't want is for when we sew the next half of the seam for any of this to be poking out of the seams. So that's why we will go ahead and trim the whole thing down just a little bit. (scissors cutting) There might be spots where you don't really need to, but it's often just a good idea to trim the whole thing a little bit. Here it looks pretty good. And we'll do that on the other side, too. (scissors cutting) Now we can turn them inside out. And I'm just going to smooth out these seams so that I can try to neatly fold them right on the seam line. So this is another situation where you could go to your iron and press your seam flat. It might help you fold it right on the seam line because that's what we're trying to do. I usually just kind of finger press. And this fabric is behaving pretty well, so I'm able to fold it right there and get the seam right at the edge of the fold. What you don't want is when it's sort of collapsing inside like that and if you just folded it but it wasn't right at the seam, that wouldn't be good, but you can kind of roll it out. So you'll do this for the whole length of both seams. For the second half of the French seam, it can be just a little bit wider than 1/4-inch seam allowance. So I like to place it with the edge just extending a tiny bit beyond the edge of the presser foot. But other than that, it's just a regular seam. I can feel the thickness of the first seam allowance with my finger, and I like to make sure I'm next to it. But because I trimmed it down, it feels like I'm exactly in the right place. (sewing machine whirring) And the same thing on the other side. (sewing machine whirring) And keep always making sure that your fold is really on the seam. (sewing machine whirring) And go right over the pocket. My French seams are finished. You can see how beautifully clean and tidy they look. So I can turn this leg right side out. And we're starting to look like we've got some pants here. So whenever I sew a French seam, I always like to at this point just take a look and inspect it and make sure there isn't any raw edge or threads poking out of the seam. If you see that there is in, like, a small section, you can just flip them back inside out and just sew again in that section, maybe another 1/16th or 1/8th inch over, blending into your original line. If you see it for the whole thing, you might need to move the whole seam over, but you don't have to remove the first seam. You can usually fix it pretty easily. So that's looking really great. Repeat those steps for the other leg and then we'll put the two legs together. Take your two pant legs and you're going to turn one of them inside out. And then that one will get stuffed inside of the right side out one because we're going to sew the raw seams together with a

French seam, therefore, we're putting our wrong sides together. And I like to start this matching up of the two sides at the top of the inseams. So I'll match those up first. And I like to push the seam allowances in two opposite directions so that it minimizes the bulk a little bit. I'll put my first pin there. Then I'll match up the corners. These are the front corner, center front waistband of the pant. And then here's the back corner. Okay, so I've got a nice one, continuous u-shaped seam and I'll just fill in a few more pins in between. We'll go to the machine and since this is a first half of a French seam again, we're sewing that skimpy 1/4 inch. So that skimpy 1/4 inch means our edge is not quite sticking out from the foot and (sewing machine whirring) then we'll need to trim the edges of this seam just a little bit so that we don't get any popping out from the next seam. A lot of it actually doesn't need any trimming 'cause I was pretty small with my seam allowance, but you want to clean up some of these thready raw edges. Okay. We can now turn this other way around again and fold the seam back on itself, making sure that the seam is right at the fold, just like on the previous seams. Kind of finger press it as you go. It's a little more of a curvy seam than the inseams and side seams were, but it should still be pretty smooth sailing. Okay, so we can take this back to the machine. I probably need one more pin here. Better to have more pins just to keep everything from shifting around. And we'll sew that second half of the seam. Since this is the second seam of the French seam, we're doing a little bit fatter than 1/4 inch, so you can see my edge is sticking out from the presser foot just a tiny bit. Make sure everything's nice and smooth around this curve. (sewing machine whirring) It's a little bit thick there so I'm just gonna give it a little pull from behind to get across that seam. (sewing machine whirring) We can bring this leg back right side out, and we're starting to look like pants. Pretty cute. So I think we can go ahead and do the waistband.

### Finishing

- When we drafted our waistband pattern, we drafted it to be cut on the fold, but I did mention that depending on your fabric you might need to cut it into two pieces and add an extra seam-allowance at the fold end, so that's what I needed to do, partly because I wanted to cut my waistband on the cross-grain also, so that the lines go in the opposite direction as the rest of the pants. So I've got two pieces, and our first step will be to sew the two short seams together. I'll just pin these little guys, probably with two pins, and these'll just be plain-old regular seams, so not French, because they're going to be folded back onto itself and closed inside, so we don't need to worry about finishing the edges. So that means half-inch seam allowance. (machine beeps) (machine beeps) (machine beeps) And the other end, same thing. (machine beeps) (machine beeps) (machine beeps) We can just finger-press those two little seams open. You could use an iron if you want. This fabric seems to be responding fine to just a little finger-pressing. We're going to now attach this to the pants, but I want to create a notch so that we have something to match our waistband to the waistline of the pants. So I'm just folding the two seams together to find the center of each side, front and back. And I'll just cut a tiny snip out of there. I've cut these two notches now, which will match up to my center-front and center-back rise-seams, and the side-seams will match up to the side-seams of the pants. I may have to adjust a little bit because actually our front and back of the pants is slightly different measurements, but at least I have four equal points of the waistband to help distribute things evenly. So I'm going to start with one of my seams, matching it up to one of the side-seams of the waistline, and I've got right side of waistband touching wrong side of pant because we're gonna start on the inside of the pant and then the second step will be to wrap it over to the outside. But for now, right side of waistband touches wrong side of pant. So let's pin that side, and then let's go over to our other seam and do the same thing here. Then let's match our

center-notch to our center-rise-seam. It doesn't matter which way you send that seam allowance, it's going to go to one side or the other. Mine seems to naturally be wanting to go left, so I'll just let it do what it wants to do. Okay, so now I can see that I do have a little more waistband, 'cause this is the front and it's a little smaller. So I'll actually shift this seam over until that section is matching up and laying flat, and that should be giving us just what we need to get around the back. I gotta do the same thing here. I kind of recall that we had an inch bigger in the back, so this is about an inch that it's moving over, and that's going to allow it to line up just right. Okay, so let's see now. If we take the back and match this notch to the back-seam, back-rise-seam, and you can see that this section is matching up just right because we shifted those sides over. So we will just sew this complete circumference around the waistline with a half-inch regular seam. I like to start at one of my side-seams because it's kind of a discrete place to start and stop, and have that little overlap. (machine beeps) When you get back to where you started, you'll just overlap a little bit. Maybe a half-inch, or an inch. And then back-stitch. Here's the front. We're going to fold about a half-inch of the waistband down, and press the seam-allowances up into the band, and then you're matching the fold just down to the seam and slightly beyond it, to cover it. You can place a pin there. So I would do exactly that at your four points that the other side-seam and your center-front and center-back, and then come back and fill in between. So again, turning a half inch, and then fold the whole band down. Other side-seam. And the back-seam. And then fill in, on each of those quadrants, with the same thing. The last pin, and we're ready to sew. Again, I'd like to start at the side-seam, and we're just now trying to edge-stitch along this bottom, folded edge that we just panned in place. So I'm going to use the hole in the presser foot again to be my guide for keeping close to that left folded edge. (machine beeps) Also, I should mention that we'll be stopping before we come all the way around on this seam, so I like to do a little trick and remind myself, because I'm likely to forget, so I'm putting a second pin next to the last pin before I come back to where I started, and that's gonna remind me to stop there so that I have a hole to thread the elastic through. Now I can carry on, staying nice and close to that folded edge. And keep making sure with your finger that the fold is staying nice and neat, and that you're covering that seam underneath as you go. It's good to use lots of pins on this step because this whole waistband could definitely kind of escape as you're sewing if you don't have it really securely pinned. I'm approaching the two pins, which is the point when I'm always glad that I remembered to do that, because that's where I'll stop sewing. Can take those out and just do my little backstitch. (machine beeps) We're ready to put the elastic into the casing-tunnel that we just created. I would love it if I could give you an exact rule of thumb, like your waist-measurement minus an inch, or something like that, however, elastic comes in lots of different styles and types, and some of them are super stretchy and soft. Some are really pretty rigid, and don't stretch a lot, so depending on the type of elastic you have, you're gonna want different measurements. Like if it's not super stretchy, you'll want it pretty close to your waist-measurement, but if it's really soft and stretchy you might need to make it a lot smaller in order to really keep your pants on. So what I like to do is wrap this around my waist with about an inch of overlap, and find that place that's going to give you a nice, comfortable feeling, but also secure enough to really hold the pants on you. I've grabbed a safety pin and I'm going to just use that to help feed this elastic through the tunnel. So I stick it to one end, and then start feeding it through. (fabric scrapes) (fabric scrapes) (fabric scrapes) Sometimes you'll come to those little seam-allowances inside and you might just have to wiggle past it, but you'll get through it. Just keep moving those scrunched up bits down along the elastic. As you start getting around to the other side, it's going to get a little harder 'cause there's so much bunched up, but just keep working

through it, and I'm almost done here. When you get the elastic out the other side, you can try to distribute this around a little more, and then take your two ends, try to make sure it's flat and not twisted, which is not always easy. I think we're flat in there. And then I'm going to pin the two ends together so that we can check we made the right size of elastic. So they're pinned together. Let's really try to smooth that all out in there. Now you can take these and try them on, and make sure that the elastic feels just right, not too loose or too tight, so that we can then sew it together and finish the waistband off. Once you've tried them on and determined that your elastic is the right size, you can take away the pin, and you're going to go to the machine with this little overlapped section, and we're just going to stitch it together. I should probably put one pin in there so that they hold. And it doesn't really matter how you stitch this, it just needs to be secure. So something like maybe a square around that section of overlapped elastic should be fine. Definitely do some backstitching. I'm gonna turn and go backwards on this side, just 'cause it'll be less awkward than turning it all the way around (machine beeps). And I've got a nice little sturdy square of stitching, so now we can let this fall back into the waistband, and I'm gonna close up this little section here. So you might need some pins, you might not. I think I'll be okay without a pin, 'cause this is laying pretty flat. I'm going to back up about an inch from where my stitching finished so that I'm overlapping a little bit. (machine beeps) And then go forward. And I do want to make sure that as I sew this I don't catch the elastic, so I'm gonna push it all the way to the right side of the tunnel and pull this edge over to the left so that I can feel I'll be sewing just next to the elastic but not through it, or it would cause my waistband to get stuck. (machine clicks) And then just sew onto where your stitches began on the other side. Backstitch. (machine beeps) Stuck 'cause it's a little bit thick right there. And there's our lovely elastic waistband. We're ready for the last step, hemming. I'm at the bottom of one of my cuffs, and I like to trim off the bottom of these French seams because they're a little bit thick. There's four layers here, and once we turn that twice, it'll be a total of three times those four layers, which would be 12 layers, which would be really thick. I'm gonna even this up a little bit too. So by trimming off the corner here, it's going to lay much flatter as a hem. So I've trimmed that little bit, and then I like to come in and pull out those in-between layers and trim them off too. That's really going to reduce the bulk. So same thing over on this side. Trimming this at an angle, 'bout a maybe 3/4 inch I'm trimming off, and then come in and pull out those middle layers. Let's get rid of those threads, and let's see if this one, yeah. Let's even it up a little bit too. So now I'm ready to turn a half inch. Actually, you might wanna try these on before actually sewing your hem, and make sure you're happy with the length, but once you've done that, you can continue and pin the hem into place. So I'm turning a half inch and then another half inch, and I like to do that once at one of my seams, then come over to my other seam and do the same thing. And this way I can compare this one to the other one, make sure they're the same, so it doesn't matter so much that it's exactly a half-inch, but what does matter is that as you work around you're doing consistently the same measurement. And if it's more comfortable for you to measure and mark with chalk or something, you can do that, but I usually just fold and keep comparing to the original section I pinned to just keep my consistency. The more you do it, the easier it gets to just naturally measure everything evenly. All right, now we can go to the machine. I like to start at my inseam, so just check that the seam you're at is the inseam, because it's the more discrete place, and this'll be similar to the last step of the waistband where, again, we're sewing along this left-side folded edge, so I'm using the hole to make sure that the needle is coming down just inside that left fold. (machine beeps) It's a little bit thick here at the seam, but because we trimmed off those extra bits of seam-allowance, it's really not too bad. And I'm back to where I started, so again, I'll just overlap

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little bit, maybe a half an inch. (machine beeps) Backstitch. (machine beeps) I usually like to cut these threads off right at this point so that I don't have to come back later. Do that to the other leg, and your pants will be finished. Our pants are finished, they're looking very cute, they've got these great, very useful pockets, and lovely French seams, an elastic waist, and I think they'll be your favorite pants to wear everywhere. I wanted to show you some other pants that I've made just to give you some ideas about different fabrics you might use. This pair is made from a nice French terry stretch-knit, so they're really thick and cozy, and I did an exposed elastic waistband 'cause I found this great purple and was excited that it would match. Here's another nice linen pair. These look a little dressier, I think, in this pinstriped linen, but they still feel like comfy sweatpants, but I think you could wear them to a little bit of a more dressy place. And here's another heavy linen with some cool patch-pockets for fun. This pair is a little sort of short bloomer version that I wear under dresses in the summer, or little tops. And here's one that I did, kind of a shirt-tail hem at the bottom, just for fun. And here's just a simple, light cotton plaid for some nice summery pajamas. And then a fun flannel print with some crazy echinacea flowers that are my favorite cozy winter pajamas. So there's all sorts of ways you can play with just different fabrics, different pockets, hemlines, waistbands. Before you know it, you'll have a whole plethora of lounge pants.