

WELCOME to BEGINNING RULER WORK

BASIC TOOLS NEEDED

- Sewing Machine with Needle Up/Down feature
- Sewing Machine with Speed Control
- Extension table
- Ruler Foot
- 12" Arc template
- Westalee Spacing Gauge
- Stable Tape
- Machinger Gloves (incredibly helpful for gripping fabric and template)
(Cut thumb and first two finger tips on each glove above top knuckle for easier access to pulling up bobbin thread, access to phone, etc)
- 12 x 20 (green) Grid Glider– **OR** smaller 11 x 14 (peach colored) Grid Glider for smaller extension tables - (to help fabric slide easily)
- A ruler for marking (*Consider Westalee 6.5" or 8.5" 8-Point Crosshair Ruler*)
- 40-50 weight Thread
- 90/14 Topstitch Needles (**OR – for Janome computerized machines, use the Janome Purple Tip 14 Needle**)
- Curved tweezers
- Frixion Felt-Tip (not Ball-Point) Pen or Clover Chaco Pen
 - **Felt-Tip Frixion pen (Before using pen, spray fabric with starch and press. Then starch and press again. This will keep pen marks from reappearing when quilt gets cold.)**
 - **Clover Chaco Marker (Replace chalk in marker with Pounce Iron-Off Chalk) (DO NOT USE starch and press method with Chaco Marker)**

OTHER ITEMS YOU MAY WANT TO CONSIDER PURCHASING

- Sampler Set 1 (these can each also be ordered separately)
 - Clamshell Ruler
 - 5-1/2" Circles on Quilts Spin-e-Fex #36 Template
 - 3-1/2" Spin-e-Fex #4 Template
 - 4" Arc Template
 - 6" Spiral Template
 - 2" Circle Template
 - Clamshell Template
 - Spacing Gauge
 - Westalee 6.5" 8-Point Crosshair Ruler (for marking reference points)
- Stitching Line Disks
- Echo Guides
- Westalee Design Edge to Edge Template Set (for connecting motifs for an all-over design)
- Pounce Iron-Off Chalk (White) (for Clover Chaco pen)
- G-Easy Ruler Stickers
- Centering Ruler (from Sew Steady)
- Table Polish (to help fabric slide easily)
- 5" and 4" Wandering Ways Templates
- 3" Ribbon Candy Template
- Feathers Templates (Set of 4 – 2", 3", 4", 5")

NOTE: Enroll FREE at Sew Steady University where there are 50+ FREE and a plethora of paid classes.
<https://sew-steady-university.teachable.com/> Read and watch everything in the FREE Ruler Work 101 class

RULER FEET and TEMPLATES

1. **Westalee Ruler Feet** – require manual adjustment
 - **Medium and Low Shank Ruler Feet need Low Shank Templates**
 - Use a Low-Shank Foot with Low Shank Templates. In most cases, you CANNOT use a High Shank Template with a Low or Medium Shank machine without the shank of your machine hitting the template if the template is used behind the shank
 - **High Shank and High Shank Special Ruler Feet SHOULD be used with High Shank Templates**
 - Difference between High Shank and High Shank Special:
The High Shank Special Ruler Foot has a longer arm between the ankle and the round part of the Ruler Foot. If your machine needs a High Shank Special Ruler Foot and you use a High Shank regular Ruler Foot instead, the needle will touch at the FRONT of the Ruler Foot instead of being centered in the middle of Ruler Foot as it should be
 - **High Shank machines and Ruler Feet CAN be used with Low Shank Templates.**
 - High Shank (4.5mm) machines CAN use Low Shank Templates. However, the High Shank Templates are thicker, less prone to breaking, and less prone to accidentally being run over and hit with your Ruler Foot
 - **Bernina 72 Foot**
 - The only domestic machine, using THAT foot, that can use the 6 mm Longarm Templates
2. **Custom Ruler Feet for Machines WITHOUT AutoLift** – require manual adjustment
 - Janome/Elna – Ruler Foot has a spring – which helps it glide over seam intersections more easily
 - If your machine came with an FMQ foot that has an interchangeable open toe, closed toe, and echo feet, you can just purchase the ruler foot part that also interchanges with those – it is called a 1600P
 - If your machine didn't come with an FMQ foot and only a hopping foot, you will want to purchase the custom Ruler Foot with the spring.
3. **Ruler Feet for Machines WITH AutoLift**
 - These machines have Ruler Feet with no spring to adjust because the machine allows you to electronically raise and lower the foot via computerized Ruler Foot settings to accommodate the thickness of fabric and batting.

NEEDLES and THREAD

- For 40 wt (e.g. King Tut) or 50 wt thread, use a 90/14 Topstitch needle (or Janome Purple Top needle) Because it is a Topstitch needle, it has a bigger eye and is not as likely to shred your thread.
- For Twin Size and larger quilts, change needle before starting and change halfway through.
- Needles go from low number (e.g. 70/10 – smaller) to high number (e.g. 110/18 – thicker)
- Thread goes from high (e.g. 90 or 100 wt – thin) to low (e.g. 40 wt or lower – thicker)
- Thread for Ruler Work – Polyester vs Cotton
 - Both work well
 - For beginners, suggest using Polyester with a sheen (e.g. Glide or Floriani) to begin with because you will be a little jerky, and Polyester is more forgiving.
 - Suggest 50 or 60 wt (thinner) in a color that blends with your fabric as you begin – because it shows less
 - Suggest using same weight / brand of thread in bobbin as you use on the top because you will be less likely to experience tension issues.

MACHINE SET UP

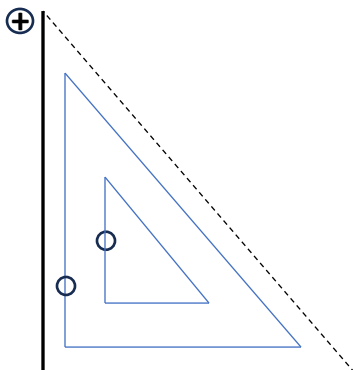
1. Adjust your chair so your lower arms are at a 90 degree angle to your sewing machine bed/extension table
2. Disable Dual Feed (if you have this)
3. Attach and level your Extension Table so it is flush with the top of your machine bed
4. Lower Feed Dogs / Stitch Length – 0 (zero)
5. Put in a new 90/14 Topstitch Needle OR Janome Purple Top Needle (the purple is a 90/14 and a ball point tip)
6. Put in a full bobbin and thread your machine
7. Position the Grid Glider on the Extension Table, being careful not to cover the feed dogs
8. Attach Ruler Foot using ankle screw that came with the machine (loosely tighten screw to begin with)
9. Position Quilt Sandwich under needle (leave at least 3” from the edges)
10. Put Presser Foot *down*
(Our goal is for the Presser Foot to skim the top of the quilt sandwich – with no more than the thickness of a business card or credit card between the Ruler Foot and the quilt sandwich. Some of the Brother/Babylock machines require touching the FMQ icon to access the Settings to adjust the Foot Height . . . AND it will still not appear that the fabric can move under the Ruler Foot until you actually begin to sew.)
11. Do a Needle Down, using the Needle Down button. (Foot will probably adjust up when you put the Presser Foot and Needle down)
12. **Tighten ankle screw**
13. Pull up Bobbin Thread *(so you don't have a knotty mess on the bottom)*
 - Have about a 3-4” top thread tail and hold it in your hand
 - Needle Down / Needle Up, holding on to the top thread
 - Do a “floss” under the presser foot with the top thread, which pulls up the bobbin thread
 - IF the bobbin thread is too short, use tweezers to pull it up to the top and pull both threads to the left
14. Then Needle Down into the exact same spot – and take 2-3 stitches in place to secure
15. Set Speed Control to MEDIUM / Optional: Turn foot control around so that the BACK is closest to you. When you press on it, it will go full throttle at the speed you have set. This is your “stitch regulator”
16. Sew (Free Motion sew) some stitches to test the tension and how well the stitches look – top and bottom. If you're not familiar with Free Motion sewing, try sewing cursive “e's and l's since we all have the muscle memory for cursive writing)
(Do NOT use scissor feature when FMQ or RFQ as it will leave too short a bobbin tail)
17. If you hear “flapping”, the Ruler Foot is too high and is causing the fabric to “flag” (go up/down with the needle)
 - In this case, lower the Ruler Foot so it just barely skims the fabric
 - **NOTE:** Any time you have skipped stitches or shredded thread while Ruler Foot quilting, check the height of the Ruler Foot and try lowering it. Also check your needle. A worn “eye” of the needle can cause shredding.
 - Those with a Westalee Ruler Foot or Custom Ruler Foot with a spring will lower their Ruler Foot manually by using the screw OR the spring to lower it. *(Right – Raise / Left – Lower)*
 - Those who have an AutoLift machine will adjust the height of their Ruler Foot on the Ruler Work screen of their sewing machine (Janome) or on one of the “pages” in the Menu/Settings (Brother/Babylock)
18. Test your stitches again.
19. Put Stable Tape on Arc Ruler
 - Not one long piece or it will teeter/totter
 - Peel down backing on Stable tape and THEN cut into half-inch pieces
 - Strategically place 5 half-inch pieces on WRONG side of Arc Ruler template
20. Last Test:
Placing your thumb and first two fingers of each hand on the template, and the other two fingers of each hand on the fabric, use straight edge of Arc Ruler and stitch diagonally from lower right to upper left. *(This is the most difficult direction to sew on most machines.)* If you have no skipped stitches, you are good to go.
If you have skipped stitches, adjust the foot down just a tad more.
21. Adjust tensions IF NECESSARY. It is sometimes helpful to raise the tension from 4 or 5 up to 7 when Free Motion or Ruler Foot Quilting. Also check top and bobbin threading.

EXERCISE –Using Ruler Foot, Ruler, and Spacing Gauge to Sew on Lines – and Connect Lines:

- **Draw a 6-inch x 5-inch capital “L” on your fabric.**
- With needle down at top of “L”, place Spacing Gauge PERPENDICULAR to Arc template touching bottom of downward line of the “L” to determine an accurate 1/4” from edge of Ruler foot to straight edge of Arc Ruler
- Sew on the “L” you marked – from Top to Bottom, then from Left to Right, following these directions.
 - Medium Speed
 - Foot Pedal turned around
 - Pull up bobbin thread, “floss”, and stitch in place 3-4 times to secure
 - Gloves on. Hands on template (thumb and first two fingers); other two fingers on fabric.
 - After stitching “L” using Arc Ruler, (top to bottom, then left to right), move Arc Template at a diagonal where bottom of template is pressed against Ruler Foot on the **left** side. Place Spacing Gauge so it is 1/4” to **outside left top** of “L”. This will allow you to sew a diagonal line that meets at top of “L”. (see pic below)
 - Take 3-4 stitches in place to tie off - and cut with scissors – **NOT** with sewing machine cutter.
 - OR – instead of cutting threads, you can choose to bury threads
 - ▲ After making last stitch, Needle Down / Needle Up
 - ▲ Pull fabric away from needle (toward yourself) and grab extra thread with left hand
 - ▲ Then bring fabric back and with your needle, Needle Down and Up into same spot
 - ▲ Pull thread forward and clip
 - ▲ See Donelle McAdams video on doing this and burying your thread. https://youtu.be/36_G6goR9iY

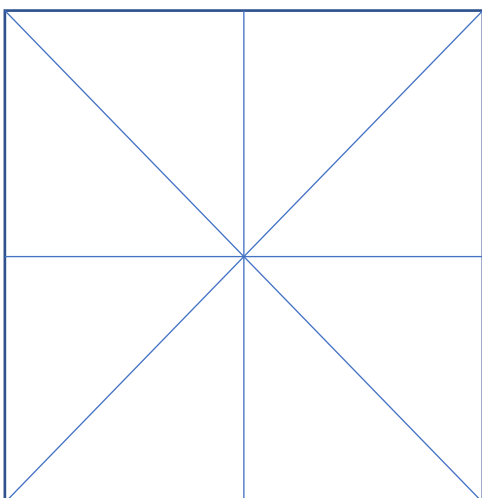
EXERCISE – Echo stitch 1/4” inside triangle using edge of ruler, and then 1/2” inside THAT triangle using first reference line of Arc Ruler. (Start these at bottom left of triangle and work your way around)

- Remember to bring up bobbin thread
- When Ruler Foot is touching two lines of any corner, you are 1/4” away from each line.

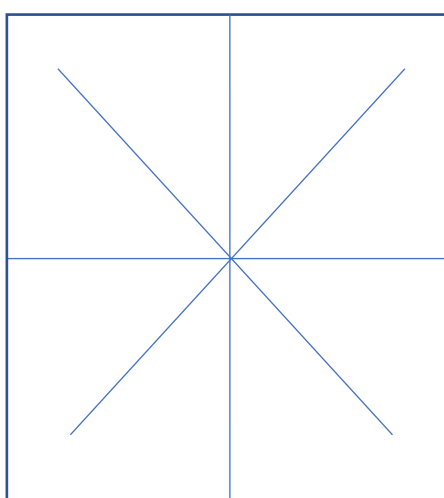


EXERCISE - Using Cross Hair 6.5” or regular ruler and Chaco or Frixion marker, draw 6” square divided into 8 spaces

6” SQUARE MARKED WITH RULER

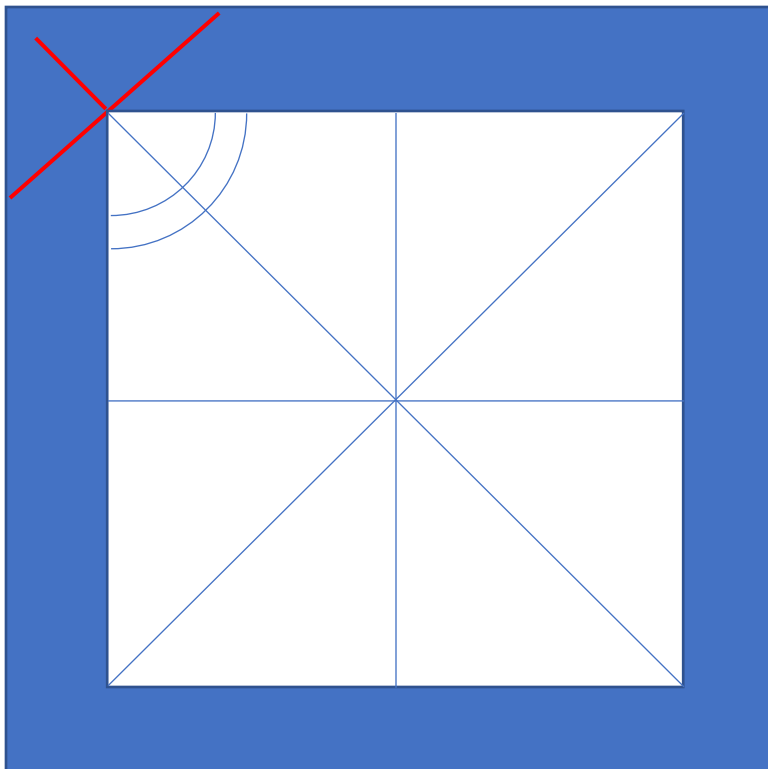
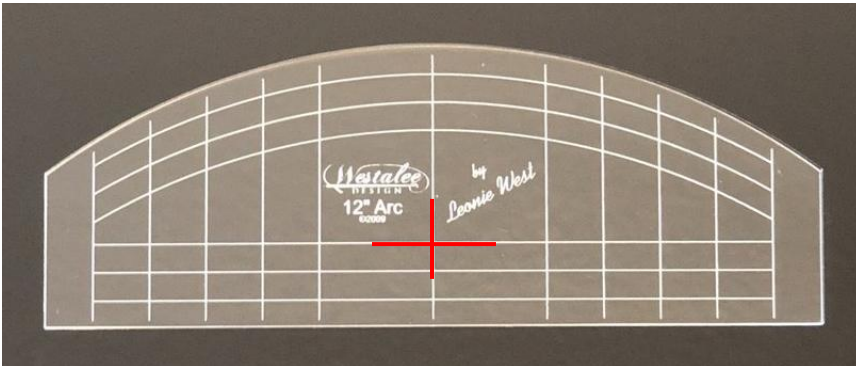


6” SQUARE MARKED WITH CROSS-HAIR RULER



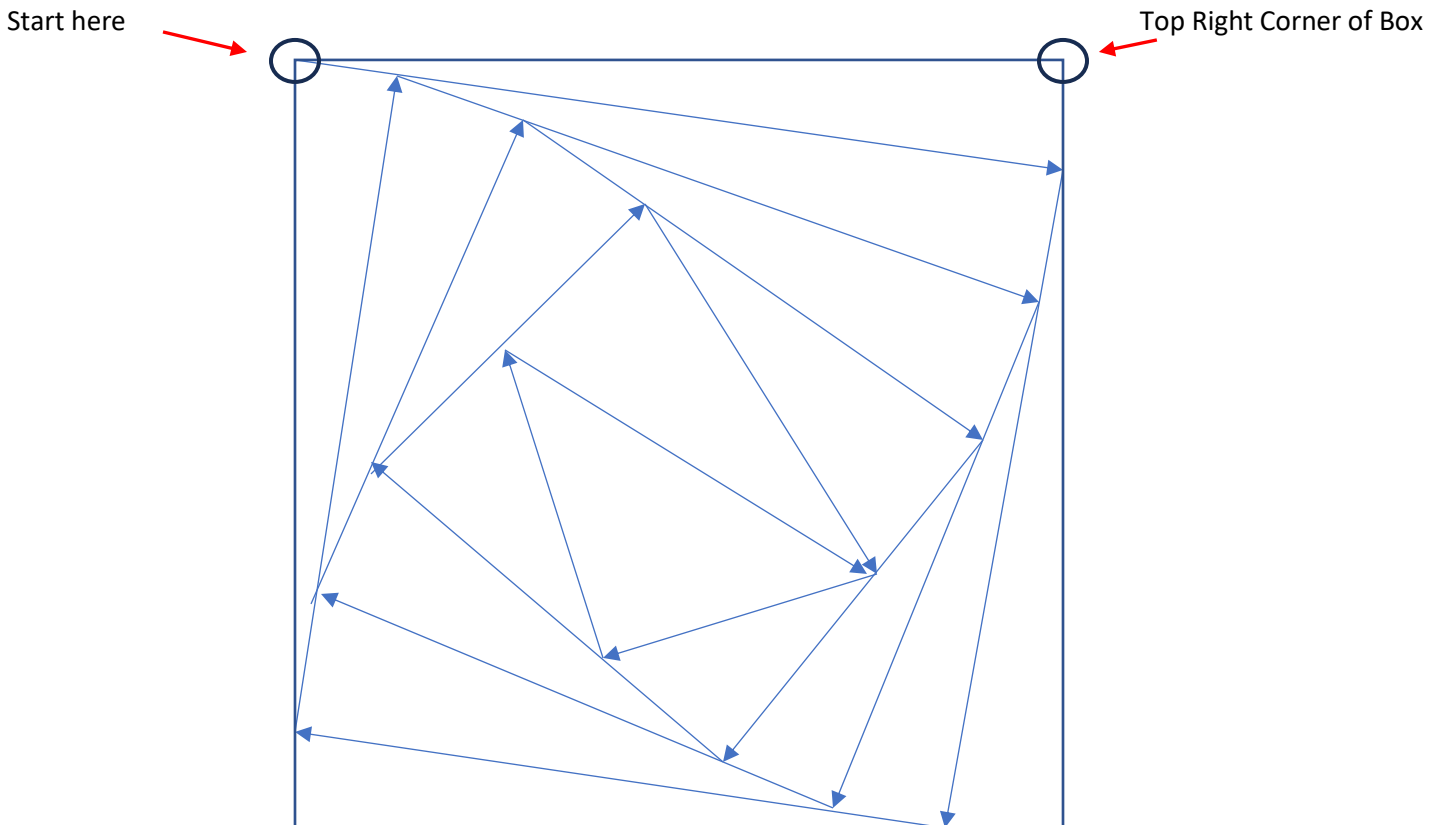
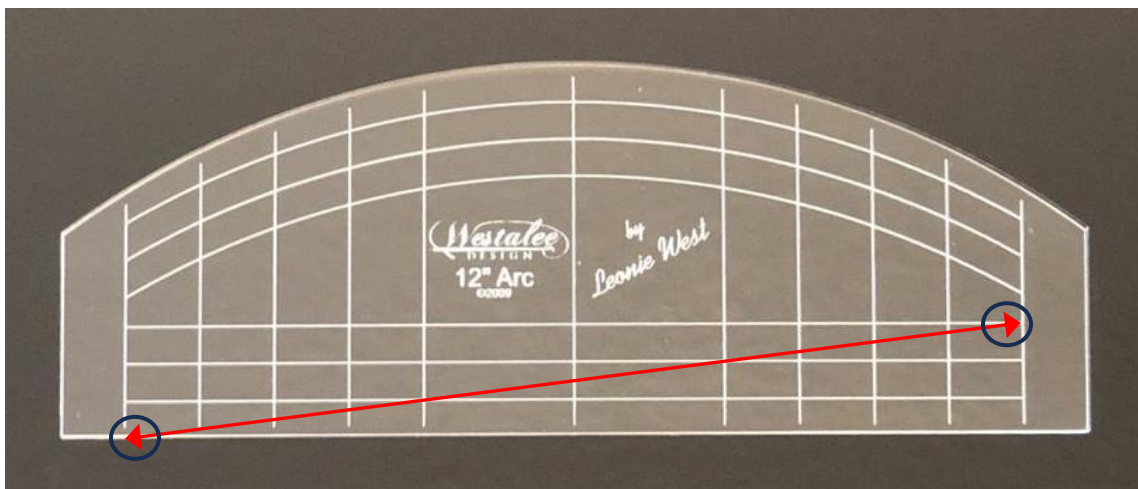
GRADUATED ARCS FROM THE CORNERS

- Mark a 6" square on your quilt sandwich
- Needle Down/Up to pull up bobbin thread; then "floss" to bring thread to top of quilt sandwich
- Use the straight edge of the Arc Template to sew around on the four lines of the square TWICE ("Traveling" is less obvious if there is already a double line of stitching), then tie off.
REMEMBER – for the most part, **do not turn fabric** – which would defeat the purpose of using the rulers!
- Lay the Arc Ruler diagonally at the corner of the square on your quilt sandwich, with the **third horizontal line** and the **middle vertical line** meeting at one of the corners of the square
- Sew an arc in that corner
- Use straight edge of template to sew 1/2" up on the border line of the square (OR you can FMQ up 1/2")
- Move the ruler up one curved reference line, **so the first reference line is laying directly on the arc you just stitched**
- Sew another arc. This one will be 1/2" away from the first one because you are using the first reference line, NOT the edge of the template
- Use straight edge of template (or just FMQ) and sew 1/2" up the border line so you can start another curved line
- Move the ruler up one curved reference line, **so the first reference line is laying directly on the arc you just stitched**
- Sew another arc
- Using this method, sew 5-6 arcs at each of the four corners. Lines will begin to intersect on the four sides of the square



TWISTED LOG CABIN DESIGN

1. Draw a 6" box on your quilt sandwich.
2. Start at the top left corner of the 6" box.
3. Needle Down/Up to pull up bobbin thread; then "floss" to bring thread to top of quilt sandwich
4. Stitch in place 3-4 stitches to secure and end with Needle Down
5. Place **first vertical reference line** (bottom left of Arc Template - see red arrow below) – against Ruler Foot
6. To sew a diagonal line 1" down from Top Right Corner of Box, with the template on the OUTSIDE of the block, place **third horizontal reference line** (see red arrow below) at **Top Right Corner of Box** and, with edge of Ruler Foot against side of template, sew a line along the straight edge of the template. Continue to hold ruler outside block – NOT inside – as you sew your lines.
(Because you are stitching 1/4" away from edge of template, and each marked reference line is an additional 1/4", the third reference line has you actually sewing 1" down on the right side of the box.)
7. Follow the arrows on the drawing below, always using the **first vertical reference line on the bottom left of the template** and the **third horizontal reference line on the right side of the template** to move in 1" each time you complete a cycle inside the drawn box.



HOMEWORK –

After enrolling in Sew Steady University (where many FREE Ruler Work classes await you!):

- Search for and take the FREE Ruler Work 101 class
 - Download and read the Ruler Work Guide (This will cover much of what we covered in class, but will be a good review.)
 - Download and read the Tips and Tricks Document
 - Put both of these in a 123 Beginning Ruler Work notebook for future reference, along with this handout
 - IMPORTANT – Listen to the video hosted by Sew Steady, and featuring Leonie West (inventor of the Westalee Rulers) in THREE exercises. Exercises are at:
 - Minutes` 23:28 through 26:30 where Leonie goes over setting up your machine and ruler foot.
 - Then at minutes 27:57 through 43:20 Leonie teaches grid work.
 - At minutes 43:30 to 50:00, Leonie takes a DIFFERENT approach to the third exercise we did in class – the Wonky Square.
 - *I highly recommend doing all three exercises that she demonstrates.*

FOR SESSION 2 of our 123 BEGINNING RULER WORK CLASSES:

- Bring 2 Fat Quarter sandwiches
(i.e. 4 Fat Quarters [18" x 21"] and 2 pieces of batting) – made into two Fat Quarter sandwiches.
(Highly recommend medium-colored solid fabric and a pretty contrasting thread. The markings on the Westalee rulers are white, and it can be hard to read the reference lines at first – against a light-colored fabric)
- Bring all supplies listed for Session 1
- Bring a long (6-1/2" x 24") ruler – if you have one
- Bring a Frixion marker or Chaco pen *in a color that shows up WELL on your fabric*
- Bring blank drawing paper (5-6 sheets of 8-1/2 x 11)
- Bring a mechanical pencil and a good eraser (for drawing with the Stitching Line Disks – for trying out ruler work patterns with your Sampler Set templates)