

Replace a pattern's straight skirt with a full, pleated one, and turn a classic dress into a party frock.



Pattern: Style Arc
Layla Dress (modified).
Fabric: stretch cotton sateen,
MoodFabrics.com.



M Pleat to Measure

Ingenious ways to calculate yardage and folds | BY LINDA BAKER

My husband and I love rock-and-roll dancing, a style of dance related to the Lindy Hop or swing. That means I need lots of full, swishy skirts, and I like to make them myself. I've often found a piece of fabric that would be perfect for a pleated skirt and wanted to make use of the entire length for maximum twirl potential.

With the help of my math-whiz spouse, I worked out a formula that tells me what knife-pleat width and spacing I need in order to use every inch of fabric. The formula gives me the numbers, and I make a template to use for marking the pleats on my fabric.

For box or inverted pleats, I'll show you a different formula: In this case, you decide how many pleats you want in your skirt, and the formula tells you how much fabric you need. Again, you'll make a template as a guide for marking the pleat foldlines. Both processes are easy, especially if you work in metric units rather than inches. Grab your calculator and a pencil—you're just steps away from a party-ready dress or skirt.

Linda Baker sews and dances in Chain Valley Bay, Australia. She travels the world in perfectly pleated dresses.

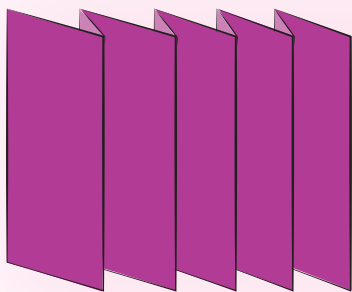
Factors to consider

A number of considerations come into play when you're making pleats, including the size of the base garment, the amount of fabric available, and the style of pleat. Think these through before starting. First, choose a pleat type, then do the math.

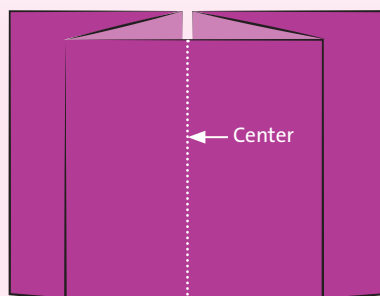
PLEAT TYPES

Knife pleats generally all face the same direction around a garment. Box and inverted pleats consist of two knife pleats. In a box pleat, they face away from each other; in an inverted pleat they face toward each other, with their folded edges meeting. An inverted pleat is, essentially, a box pleat from the wrong side.

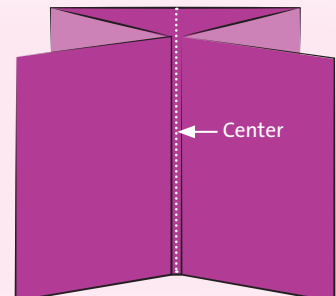
Knife pleats



Box pleat



Inverted pleat



continued >>>

LET'S GO METRIC

I'm Australian, so I use the metric system of measurement. Even if you don't typically prefer centimeters to inches, I encourage you to use them for the formulas explained.

When you perform the arithmetic, you will get the most accurate results using decimals rather than fractions. Converting fractions of an inch into decimals for the calculations, then

converting those decimals back to fractions of an inch, introduces opportunities for inaccuracy. When you're planning many pleats, a millimeter off in each one quickly adds up to a big discrepancy in the size of the final pleated piece. So turn your measuring tape over and use the side marked with centimeters—you'll be glad you did.

SEAM PLACEMENT

If the fabric to be pleated has joining seams, you have two options. You can decide simply not to worry about whether the seams are visible on the outside of a pleat, or whether they align with bodice seams. This works well on a patterned or textured fabric. Or, you can plan to pleat each panel separately to match the bodice section to which it's being joined, to ensure that the vertical seams align.

ALLOWANCES

Seam allowances are necessary at the beginning and ending of each pleated strip—of course. But you should include a wider seam allowance than usual, 3 cm at each end of the fabric, to allow for any possible minor adjustments. This includes the usual seam allowance plus a bit of extra length.

TIPS FOR SUCCESSFUL PLEATING

Test before sewing.

Always pin pleats in place and measure the fabric to be sure it's the correct length for the garment.

Fine-tune at the seam.

The seam allowances are added so you have sufficient fabric to finesse the last pleat and sew the final seam.

Adjust the waistline.

If free-falling pleats aren't hanging as straight as you want, feel free to reshape the waistline edge of the pleated fabric.

Topstitch the pleats.

For a flatter look from the waist to the upper hip, you can topstitch the top few inches of the pleats.

Knife pleats

Use this formula to determine the size and spacing of pleats for a given amount of fabric to fit a specific waist circumference. For example, you have 2 meters of fabric and want 24 pleats. This formula tells you how wide and how far apart the pleats should be.

Givens

Given	Abbreviation	Example
Length to be covered (e.g., waist circumference)	Length	76 cm
Fabric to be pleated, minus two seam allowances of 3 cm	Fabric	200 cm - 6 cm = 194 cm
Desired number of pleats	Pleat quantity	24

Formula

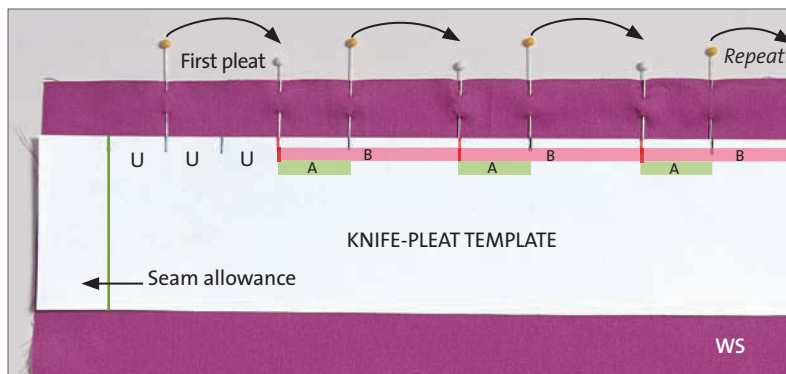
Calculation	Formula	Example
A = length to be covered divided by number of pleats	$A = \text{length}/\text{pleat quantity}$	$76 \text{ cm}/24 = 3.1 \text{ cm}$
B = fabric length divided by number of pleats	$B = \text{fabric}/\text{pleat quantity}$	$194 \text{ cm}/24 = 8 \text{ cm}$
U = initial pleat units	$U = (B - A)/2$	$(8 \text{ cm} - 3.1 \text{ cm})/2 = 2.4 \text{ cm}$

MAKE THE TEMPLATE

Use a metric ruler and a sharp pencil or pen to make the template. Cut a strip of paper about 40 cm long. Mark the template as shown in Step 1. Use different colored pens for the marks, and label the marks with the appropriate designations.

MARK AND FOLD KNIFE PLEATS

1 Pin-mark the pleat foldlines. With the fabric wrong side up, align the template strip along the edge to be pleated, and insert pins to correspond with the *A* and *B* lengths. Use different colored pins for these marks, or position the pin heads in opposite directions. Shift the template when you reach its end. Skip the seam allowance and pleat units and continue marking the *A* and *B* lengths until you have 3 cm of fabric left.



2 Fold the first pin to the second pin to form the first pleat. Fold the next pin to the pin following it. Repeat to the end of the fabric. The last pin should fold to the start of the final seam allowance, leaving you with about 3 cm of fabric.



For this skirt, a cross-grain 2.25-meter length of fabric was folded into 39 knife pleats, each 1.8 cm wide. The only seam is at the center back.

Box or inverted pleats

You decide how many pleats you want, and this formula tells you how wide to make them, and how much fabric is needed to cover a given waist circumference. For example, you'd like 10 pleats evenly distributed around the skirt. Follow these instructions to find out how much fabric to buy and how big to make the pleats. In this formula, the seam allowance is added after the calculations are made.

Givens		
Given	Abbreviation	Example
Length to be covered (e.g., waist circumference); no seam allowances	Length	86 cm
Desired number of pleats	Pleat quantity	10

Formula	
Formula	Example
Pleat width = length/pleat quantity	86 cm/10 = 8.6 cm
Marker width = pleat width/2	8.6 cm/2 = 4.3 cm
Fabric length = (length x 3) + 1 pleat width + allowance	(86 cm x 3) + 8.6 cm + 6 cm = 272.6 cm (round up to 273 cm)

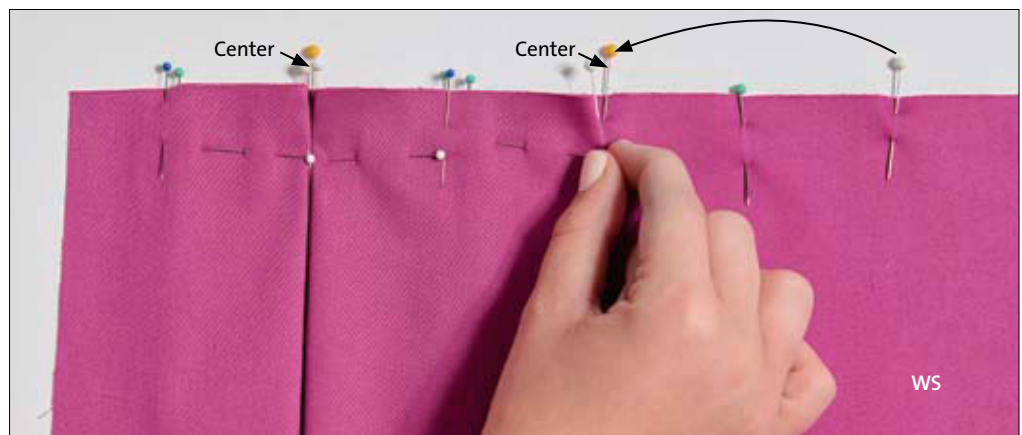
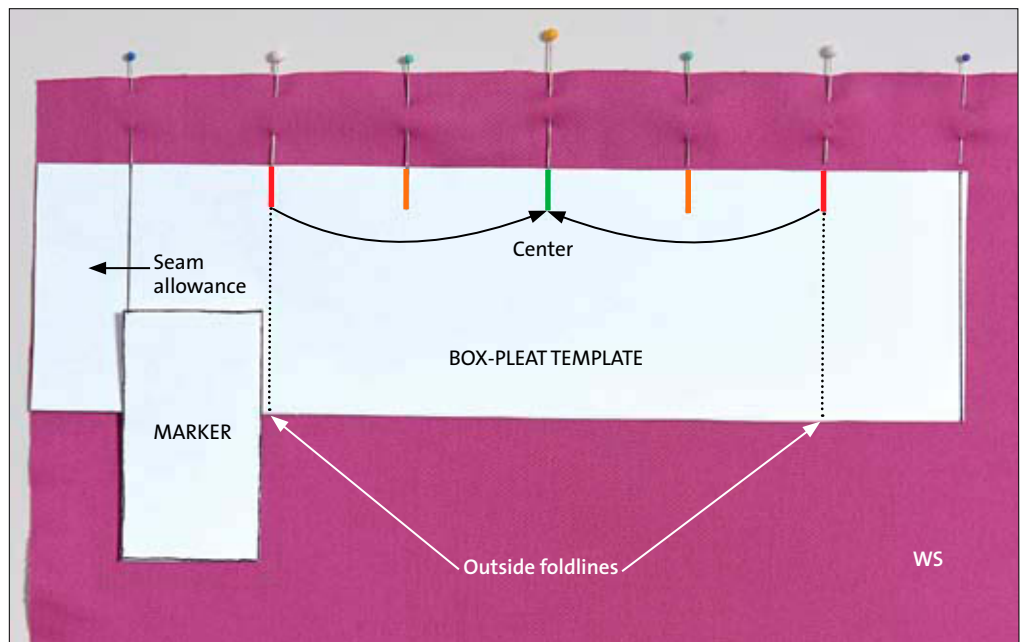
MAKE THE TEMPLATE

Cut a paper or oak-tag marker the "Marker width" as determined above. Cut a strip of paper at least six times as long as the marker width, plus 3 cm. With the marker as a guide, mark the paper strip as shown. Each full pleat is six marker widths. Label the center line and add arrows, as shown.

MARK AND FOLD THE PLEATS

1 Pin-mark the foldlines. With the fabric wrong side up, use the template as a guide to mark the edge to be pleated. Use pins with different colored heads, or alternate the direction of the heads, to indicate fold and center lines. Move the template along as you mark, omitting the 3-cm seam allowance for all subsequent pleats.

2 Form the pleats. For each pleat, bring the outside foldlines toward the center. Pin in place. Fold the number of pleats you selected at the beginning of your calculation. At the end, you'll have some excess fabric for seam allowances and fine adjustments.



Photos: (p. 44; p. 47; right; p. 49) Jack Deutsch; all others, Mike Yamin. Illustrations: (p. 44) Rosann Berry; all others, Abigail Lupoff. Stylist: Jessica Saal. Hair and makeup: Nancy Cia della. Styling credits: neclace—Jcrew.com; belt—BCBG (Nordstrom Rack).

tip

Check the fit. Either measure the pleated fabric length and compare it to the waistline length, or pin it to the waistline, matching centers and openings. The excess allowances at the ends enable you to make minor adjustments, keeping them on the underlay portion of the pleats. Trim away excess beyond the seam allowance.

web extra

For a video demonstrating how to mark and fold pleats, visit ThreadsMagazine.com.

Knife pleats add controlled volume, and now you can incorporate them into any dress with a waist seam.