

Measured diamond patchwork quilt



A complete quilt of scrappy half-square triangles set in 2 x 2 groups so bold diamonds repeat across it, quilted in straight lines and bound in a solid. Choose how many 6 in units across and down: baby to queen.

Finished size	Skill	Time	Seam allowance
Finished width is 6 in times the number of units across; finished length is 6 in times the number down. The example has 10 units across and 12 down: a 60 x 72 in quilt, arranged as 30 groups of four units.	Confident beginner	14-20 hours for the 60 x 72 in throw	1/4 in (6 mm) for piecing and binding; 1/2 in for the backing seams

What you'll learn: half-square triangles two at a time, trimmed to size; setting units into repeating diamonds and nesting seams; pieced backing, basting and straight-line quilting; double-fold binding with mitered corners.

Fabric

Quilting / Patchwork Cotton, color A (the main fabric below): 4-6 saturated prints or solids such as teal, orange, mustard and aqua, mixed; color B: cream plus a few lighter or contrasting prints — rated **Best** for this project in the Sew Certain app (the top pick). Buy **2 5/8 yd** of 42 in wide fabric (includes 5% for prewashing and 2 in for squaring; see the cutting layout).

Also works: **Batik** (app rating: Works with care): Saturated color A prints that keep sharp points • **Muslin** (not in the app's list for this project): A soft, thrifty color B or backing; prewash it • **Flannel** (not in the app's list for this project): A warm backing; prewash using its care instructions • **Minky & Plush** (not in the app's list for this project): A plush backing; it stretches and sheds, so use a walking foot, a 3.5 mm stitch, clips and no iron on it

Colour b: 2 5/8 yd of 42 in wide (see layout).

Backing: 4 3/4 yd of 44 in wide (see layout).

Batting: 2 1/2 yd of 120 in wide (see layout).

Binding: 3/4 yd of 42 in wide (see layout).

Supplies: neutral 50 wt cotton or polyester thread for piecing; thread for quilting; 80/12 universal needle for piecing, 90/14 quilting needle, 1/4 in patchwork foot and walking foot; rotary cutter, mat, 6 x 24 in ruler and a 6 1/2 in square ruler with a 45-degree line; pencil or hera marker, spray starch, pins, curved safety pins for basting; a design wall or clean floor.

Sew it like the app says (Quilting / Patchwork Cotton)

Needle	80/12 Universal
Thread	Fine polyester or mercerized cotton 50 wt
Stitch length	2.5 mm
Presser foot	Standard; Walking for quilting
Seam finish	Patchwork quilt seams usually stay unfinished inside the layers. For garments or exposed edges, use a tested zigzag, overlock or enclosed finish where needed.
Pressing	Hot iron with steam. Press seams rather than ironing back and forth, and use a press cloth on dark or metallic prints.
Preshrink	Yes, if the finished quilt or garment will be washed: wash warm and tumble dry before cutting, then press. Many quilters skip it for pre-cuts and wall hangings.
Care & shrinkage	Machine wash washable quilting cotton warm or cool and dry by the finished quilt or garment's intended care. Test dark or hand-dyed colors for dye transfer before combining them with pale fabrics. Tumble low or line dry.

If you substitute a fabric, open it in the Sew Certain app and follow its Sew and Care tabs.

Measure first

Symbol	Measurement	How to measure	Example	Yours
C	units across (even)	Number of 6 in units across; must be even (each diamond is 2 units wide). Baby 6, throw 10, twin 12, queen 16.	10 units	_____
R	units down (even)	Number of 6 in units down; must be even. Baby 8, throw 12, twin 16, queen 16.	12 units	_____

Size examples — check against your measurements

Size	C	R
Baby 36 x 48	6	8
Throw 60 x 72	10	12
Twin 72 x 96	12	16
Queen 96 x 96	16	16

Every cut size below is a formula in these letters. The **Example** column shows the formula worked with the example measurements so you can check your arithmetic. Keep full precision while calculating related dimensions. Fractional cut-size labels are rounded to the nearest 1/16 in for display; use the formulas for matching seams and repeated divisions. Round up only where a formula explicitly says up8, up4, up2 or up1.

Work these out first

W	$6 \times C$	60 in	_____
L	$6 \times R$	72 in	_____
K	$C \times R / 2$	60	_____
B	$W + 8$	68 in	_____
D	$L + 8$	80 in	_____
Nb	$\text{ceil}((B-1)/41)$	2	_____
pw	$(B + Nb - 1) / Nb$	34 1/2 in	_____
nb	$\text{ceil}((2 \times (W + L) + 12 - 2.5) / 37.5)$	8	_____

Cut plan

Piece	Cut	Fabric	Cut size (seam allowance included)	Grain / notes
Color A square	60	main	7 × 7 example: 7 × 7 in	length. Mixed prints. Each A square with a B square makes two units.
Color B square	60	colour B	7 × 7 example: 7 × 7 in	length. Cream and light prints.
Backing panel	2	backing	pw × D example: 34 1/2 × 80 in	length. Joined along their long edges with 1/2 in seams pressed open they make a $(W + 8) \times (L + 8)$ backing, 4 in bigger than the quilt all round.
Batting	1	batting	B × D example: 68 × 80 in	any. Low-loft cotton or 80/20, from a 96 or 120 in roll (120 in for the queen) or a package at least this size. Cut by hand.

Binding strip	8	binding	40 × 2.5 example: 40 × 2 1/2 in	cross. Cut across the usable width after removing selvages; each strip is 40 in long. The nb formula allows 2 1/2 in loss at each diagonal join and at least 12 in beyond the planned finished perimeter. Recalculate before cutting if the usable width is smaller.
---------------	---	---------	------------------------------------	--

Cutting layout, main fabric: 40 in usable, 84 in used, buy 2 5/8 yd

selvages excluded; the fabric length runs top to bottom

Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color

Cutting layout, colour B fabric: 40 in usable, 84 in used, buy 2 5/8 yd

selvages excluded; the fabric length runs top to bottom

Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color
Color	Color	Color	Color	Color

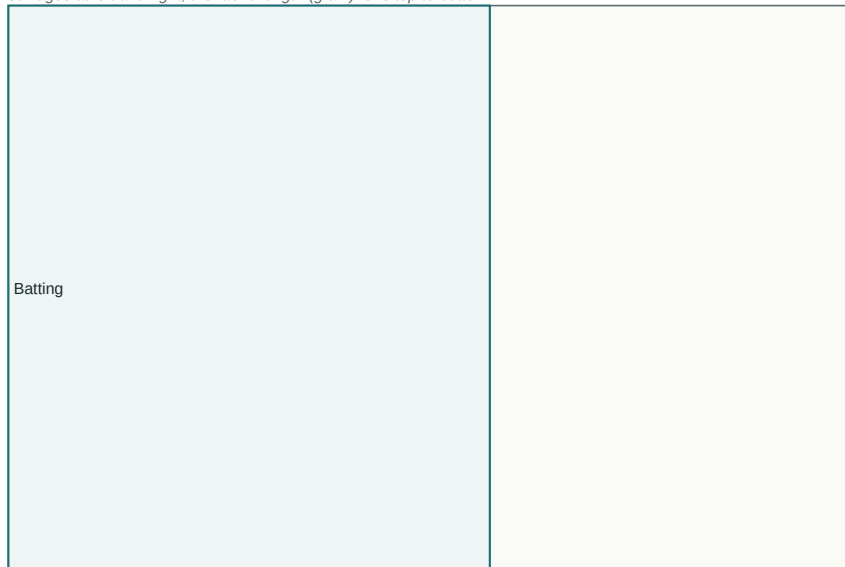
Cutting layout, backing fabric: 42 in usable, 160 in used, buy 4 3/4 yd

selvages excluded; the fabric length runs top to bottom



Cutting layout, batting fabric: 120 in wide, 80 in used, buy 2 1/2 yd

selvages at left and right; the fabric length (grain) runs top to bottom





Cutting layout, binding fabric: 40 in usable, 20 in used, buy 3/4 yd

selvages excluded; the fabric length runs top to bottom

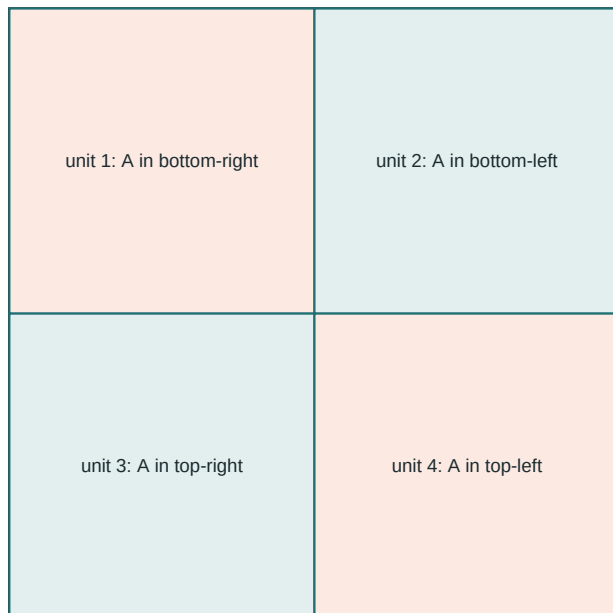
Binding strip
Binding strip
Binding strip
Binding strip
Binding strip
Binding strip
Binding strip
Binding strip

The layout and yardage above use the example measurements. With your own numbers, lay the pieces out the same way: longest pieces first, side by side across the width.



Print check. This square is 1 in x 1 in. Print at 100% / Actual Size, never Fit to Page. The cut sizes in the table govern; nothing here needs tiling.

One diamond group of four units (repeats across the quilt) (base piece: Color A square, 7 x 7 in; not to scale)



- Each group is 2 units by 2 units (12 in finished). In every unit the color A triangle sits in the corner that touches the group's center, so the four A triangles make one diamond (a square on point) and the B triangles fill the corners.
- Where four groups meet, their B corners make a cream diamond, so diamonds of A and B alternate across the quilt.
- Drawn here on one square only to show the four positions (not to scale).

Sew it

1. Plan, prewash and cut Choose even numbers C and R (10 and 12 for the throw). Work out $K = C \times R / 2$ (60). Prewash the fabrics separately as their care instructions allow, then press. Use starch if suitable for the fabric. Cut 7 in strips across the width and cut them into 7 in squares: K color A squares in your mix of prints and K color B squares. Cut the backing panels, the batting and the binding strips from the cut plan.

Tip: Shuffle the A squares before pairing so the colors spread naturally, like the photo.

2. Make the half-square triangles Draw a diagonal on the wrong side of every B square. Pair each with an A square, right sides together. Sew a scant $1/4$ in each side of the line with a 2.0-2.5 mm stitch, chain-feeding the pairs. Cut on the line: 2K units (120 for the throw). Press the seams towards A, from the front, with an up-and-down motion.

3. Trim to 6 1/2 in Lay the square ruler on each unit with its 45-degree line on the seam; trim two sides, turn, align the 6 1/2 in marks with the cut edges and trim the other two. Every unit is now 6 1/2 in square with the seam exactly corner to corner.

Tip: An accurate trim is what makes the diamond points meet; do not skip it.

4. Lay out the diamonds On a design wall, work in groups of 2 x 2 units: top-left unit with A in its bottom-right corner, top-right with A in its bottom-left, bottom-left with A in its top-right, bottom-right with A in its top-left. Fill C units across and R down this way. Step back and photograph it; move units so no two of the same print touch.

5. Sew the rows Sew the units of each row together with a scant $1/4$ in seam. Press odd rows' seams to the left and even rows' to the right. Each row measures $6C + 1/2$ in (60 1/2 in).

6. Join the rows Pin row 1 to row 2, nesting the opposite-pressed seams and pinning at each diamond point. Sew, stitching through the point where the seams cross. Add all the rows, alternating the sewing direction. Press the row seams open or all one way. The top measures $6C + 1/2$ by $6R + 1/2$ in (60 1/2 x 72 1/2 in). Staystitch $1/8$ in from the edge.



7. Make the backing Trim the selvages off the backing panels. Sew them together along their long edges with 1/2 in seams and press the seams open. The backing measures $(W + 8) \times (L + 8)$ in (68 x 80 in).

8. Baste Tape the backing wrong side up to the floor, taut but not stretched. Smooth the batting on it, then center the top right side up with 4 in of batting and backing showing all round. Pin baste every 4 in from the center out.

9. Quilt With the walking foot, a 90/14 needle and a 3 mm stitch, quilt straight lines like the photo: stitch diagonally through the HST seams in both directions (a diagonal grid about 8 1/2 in apart), then add lines 1/4 in either side of each, or horizontal lines every 2 in. Start in the center and work out, rolling the quilt under the machine arm. Stay within the batting's maximum quilting distance.

Tip: Mark the first line with painter's tape corner to corner through the diamonds; the others follow the seams.

10. Trim and join the binding Trim the batting and backing flush with the top and square the corners. Join the binding strips end to end with diagonal seams (strips at right angles, sew corner to corner, trim to 1/4 in, press open) and press the long strip in half lengthwise to 1 1/4 in.

11. Bind Starting in the middle of one side, leave a 10 in tail and sew the binding's raw edges to the front at 1/4 in. Stop 1/4 in before each corner, fold the binding up at 45 degrees, then down along the next side, and sew on. Stop 12 in from the start, overlap the tails by exactly 2 1/2 in, join them with a diagonal seam, and sew the last stretch. Fold to the back, miter the corners and slipstitch, or stitch in the ditch from the front. Wash once to crinkle and inspect.

Final check

- Finished size: 6 in times C units across by 6 in times R units down (60 x 72 in for the example). Diamonds repeat evenly with sharp points.
- Backing flat with no pleats; quilting even and within the batting's distance.
- Binding full, miters closed, final join flat.
- No loose threads; washed once.

If something goes wrong

If the diamond points do not meet — the units were trimmed off-center or the row seam was off. Unpick 2 in either side, re-pin at the point with a pin straight through both seams, and re-sew through the crossing.

If the backing puckers while quilting — it was not taut when basted or the pins were too far apart. Unpick the puckered line, re-baste every 3 in and quilt from the center out.

If the rows are different lengths — the seam varies. Sew a test: two 2 1/2 in strips should measure 4 1/2 in. Adjust, and ease small differences by pinning the ends and center.

Make it yours

- Yardage by size: select the baby, throw, twin or queen measurements and regenerate the cutting layout before buying. The quantities on page 1 are for the selected size and include the usable-width margin, shrinkage and squaring. For a 108 in backing, redraw the backing layout; do not reuse quantities calculated for 44 in cloth.
- Zigzag or pinwheel from the same units: turn every other group, or set all units the same way for chevrons.
- Ombre: grade color A from light to dark across the rows.
- Two-color modern version: one solid for A and one for B.
- Bigger units: 8 in starting squares, trimmed after piecing to 7 1/2 in, make 7 in finished units. Finished width is 7 in times C; length is 7 in times R. Recalculate the yardage and cutting layout before using this size.



Care

Machine wash cool on gentle with a color catcher the first few times, tumble dry low; expect a soft crinkle. Press cotton with the heat the bolt label allows.

BlueChop

Cut file: **sew-certain-measured-diamond-patchwork-quilt-pattern.svg** (also .dxf). Every piece is a closed outline with seam allowance included, grain, notches and placement marks, laid out for the 800 x 2000 mm bed: 7 passes in all. The bed layout keeps every piece inside one pass, so it uses a little more fabric: main 2 3/4 yd, colour B 2 3/4 yd. **Too big for the bed:** Backing panel, Batting. These are in the file for projection only; cut them by hand. **Quilting / Patchwork Cotton: laser SAFE.** Natural or cellulose fiber: cuts cleanly with a lightly charred edge. Prewash to remove sizing; check for synthetic blends or coatings. Check every other fabric in the cut plan against the BlueChop laser table before cutting it.