

Appendix C

ANSWERS

This appendix contains answers (and in some places, only one of several possible answers) for some of the exercises suggested throughout the book.

Basic Knitted Fabrics: Alternate Moss Stitch

Here's the chart again.

12		
		11
10		
		9
8		
		7
6		
		5
4		
		3
2		
		1

The first two rows of alternate moss stitch are exactly the same as for 2x2 ribbing, then we “break” the 2x2 ribbing by moving the pattern over two stitches for two rows.

Here are just a few ways to write out the instructions for the swatch.

Most Explicit

CO 20.

Row 1 (RS): * K2, P2 *, rpt btw * across.

Row 2 (WS): * K2, P2 *, rpt btw * across.

Row 3: * P2, K2 *, rpt btw * across.

Row 4: * P2, K2 *, rpt btw * across.

Rpt rows 1–4 2 more times.

BO.

Slightly Simplified

CO 20.

Row 1 (RS): * K2, P2 *, rpt btw * across.

Row 2 (WS): Rpt row 1.

Row 3: * P2, K2 *, rpt btw * across.

Row 4: Rpt row 3.

Rpt rows 1–4 2 more times.

BO.

Very Compact

CO 20.

Rows 1 (RS) and 2 (WS): * K2, P2 *, rpt btw * across.

Rows 3–4: * P2, K2 *, rpt btw * across.

Rpt rows 1–4 2 more times.

BO.

Slightly Cryptic?

CO 20.

Row 1 (RS): * K2, P2 *, rpt btw * across.

Row 2 and all WS rows: Work the sts as they present themselves.

Row 3: * P2, K2 *, rpt btw * across.

Rpt rows 1–4 2 more times.

BO.

Cables and Twists: Upside-Down Braid

The chart reverses the directions of the cable crossings in Braid.

4		
		3
2		
		1
a		

UPSIDE-DOWN BRAID

multiple of 6

C4R: sl 2 sts to cn and hold to back, K2, K2 from cn

C4L: sl 2 sts to cn and hold to front, K2, K2 from cn

Foundation row A and all WS rows: P.

Row 1 (RS): C4L, K2.

Row 3: K2, C4R.

Rpt rows 1–4.

These instructions are for traditional knitters. How would they have to be rewritten for MIKs?

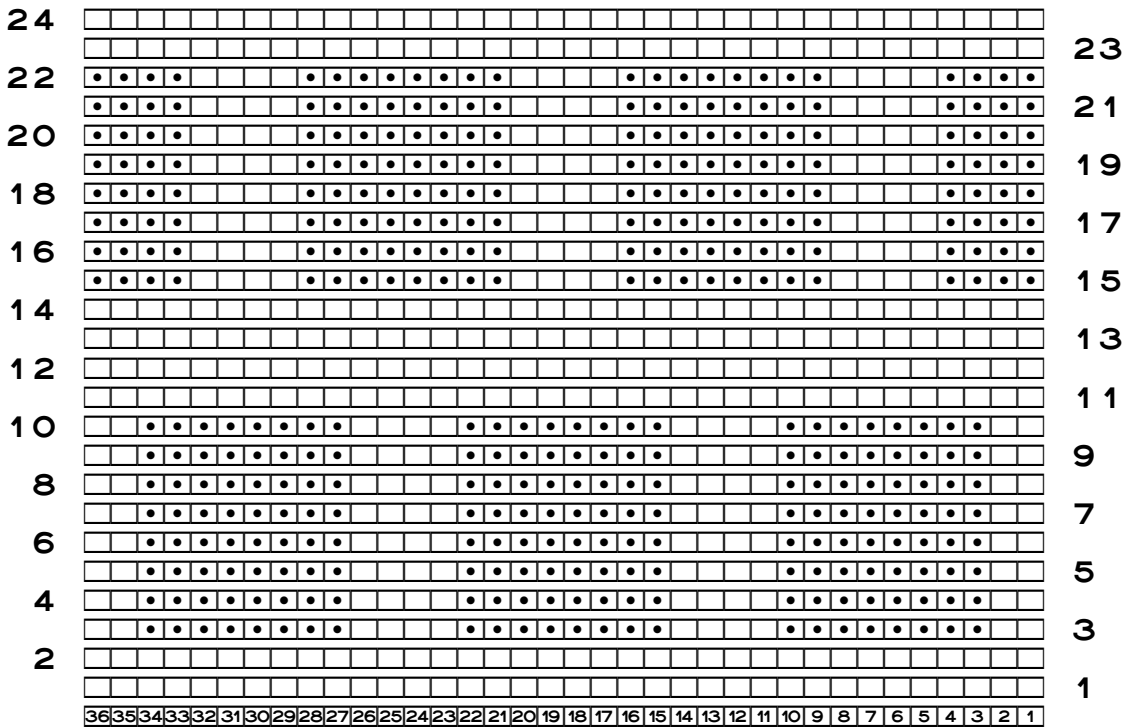
Project Aran Sampler: Least Common Multiple

The exercise was to figure out the least common multiple for patterns that are six, ten, fourteen, and twenty-two rows tall (ignoring any and all foundation rows in any pattern).

If we put those numbers into an Internet least-common-multiple calculator, we would find out instantly that to create a project chart that had complete copies of all four patterns with no gaps anywhere, we would need a chart with...2,310 rows! We'd need 385 repeats of the six-row pattern, 231 of the ten-row pattern, 165 of the fourteen-row pattern, and 105 of the twenty-two-row pattern.

Tweaking a Chart: Eight-by-Eight Basket-Weave

Here's the chart.



We use the standard procedure from “Finding the Pattern Repeat,” and we can also make a version that omits partial blocks on the rows of offset blocks.

	With Partial Blocks	Without Partial Blocks	
24			
22			23
20			21
18			19
16			17
14			15
12			13
10			11
8			9
6			7
4			5
2			3
			1
	NMLKJTIHGFEDCBA	XWVUTSRQPONMLKJTIHGFEDCBA	

If we wanted to end a project with a row of original blocks using either version of the chart, we would repeat rows one through twelve as the plus rows after working the twenty-four chart rows as often as desired.

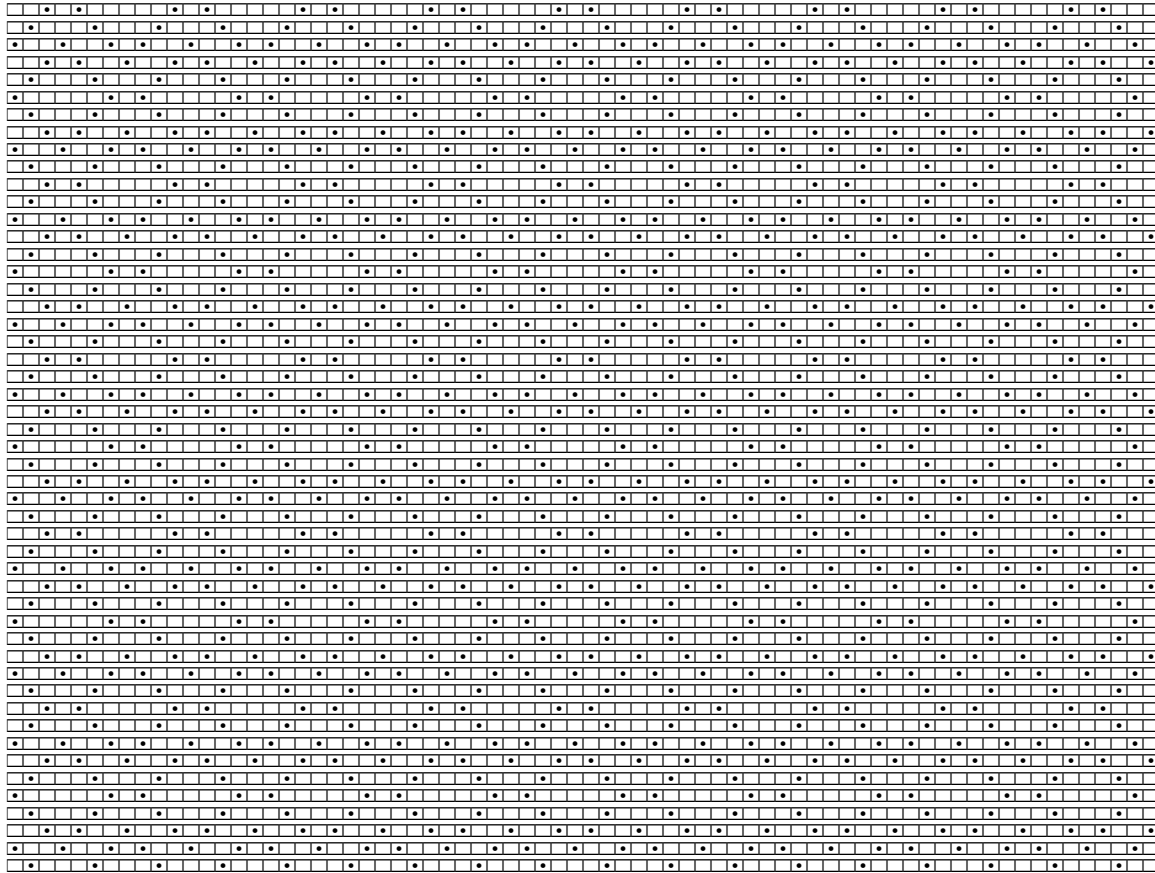
Changing a Motif to an All-Over Pattern: Variations on Interlocking Diamonds

In the chapter, we rearranged the placement of the purl diamond motif in two ways that took advantage of its diagonal shape. The suggested exercise was to create pattern repeat charts for both those variations as well as charts that avoided partial motifs on all four edges.

For all these variations, we'll use the procedure outlined in "Finding the Pattern Repeat."

The Hiccup Variation

The first variation had the diamonds positioned so that there were hiccups as we followed, say, the upper-left edge of a diamond from the bottom left corner of the chart upward and to the right.



Charts for the Hiccup Version

Since the diamond motif is our design element, we'll choose to have a whole diamond in the pattern repeat.¹ Note that we've left a knit stitch to the right of the right corner and below the bottom corner of the complete diamond.

¹ There are lots of ways to chart the pattern repeats for these two variations, including the alternative positions of plus stitches and rows. Other possible pattern repeats would not have a complete diamond in the repeat itself. All these variations would in turn require their own particular sets of plus stitches and rows.

Here are copies of the pattern repeat in a table with several columns and lots of rows, just so we can double-check that the pattern repeat is correct.

[illegible]

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of the left point of the left-most diamond to match the one to the right of the right-most diamond's right point, then we need to add a plus stitch. The blank column indicates the boundary of the stitch repeat, one of the charting options we've used elsewhere.

10				.		.				
			.			.				9
8		.			.			.		
		7
6			.			.				
		.						.		5
4			.			.				
		3
2		.			.			.		
			.			.				1
	I	H	G	F	E	D	C	B	A	

Variation for Whole Diamonds Only

For a version that has only whole diamonds, so that there are no partial diamonds on any of the edges, we need a chart with plus stitches and rows, just like we did in the first basket-weave variation. For complete symmetry, we'll make the top row of diamonds be the same as the bottom row.

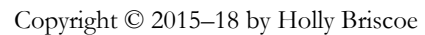
[illegible]

This chart uses blank columns and rows to show the boundaries between the pattern repeat and both sets of plus stitches and rows; the pattern repeat has the thick border.

The plus stitches are stitches A through H and Q through Y. (Stitch Y was put into its own table column, which I found easier than adding it to the left of the symbols in every row of the left edge's plus stitches.) Rows one through ten and twenty-one through twenty-nine are the plus rows.

The Aligned Variation

The second variation aligned the diamonds' sides by increasing the horizontal space between the motifs.



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October 2018

[illegible]

10			.			.											
			.					.									9
8		.				.				.							
				7
6				.				.									
			.							.							5
4			.				.										
				3
2		.				.				.							
		.						.					.				1
	K	J	I	H	G	F	E	D	C	B	A						











If we want whole diamonds only, we again need plus stitches and rows, determined by the normal method.

Since this variation's chart has more than twenty-six stitches, it switches from boxed letters to boxed numbers for the stitch labels.

The pattern repeat, bounded by the thick border, matches the pattern repeat we determined earlier.

A Simpler Alternative

But what if we type up the aligned variation's original pattern repeat (the one without the plus stitch) slightly differently? The only thing we've done in the next chart is substituted the symbol used elsewhere for a yarnover in place of all the purl symbols that make up the partial diamonds in the corners of the pattern repeat.

10		
		9
8		
		7
6		
		5
4		
		3
2		
		1
	J I H G F E D C B A	

Let's copy this chart several times both horizontally and vertically, putting thick borders between the pattern repeats.

Repeat 4										Repeat 3										Repeat 2										Repeat 1											
																																									29
																																									27
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J	I	H	G	F	E	D	C	B	A	J	I	H	G	F	E	D	C	B	A	J	I	H	G	F	E	D	C	B	A	J	I	H	G	F	E	D	C	B	A		
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1		

If we look carefully, we can see that where four copies of the pattern repeat meet one another (the six places where the thick borders cross), we have full diamonds even where the stitch symbols have the open circles. The copies of the pattern repeat around the edges of the project chart, where only two pattern repeats are next to each other either horizontally or vertically, make only partial diamonds with the open-circle symbols.

We can use these facts to work the pattern repeat in such a way that we don't have to have a large chart that shows the plus stitches and rows explicitly (which means, among other things, that we can use a much larger font size). How?

Reinterpreting the Chart

Since the open circles represent stitches that make only partial motifs, then we work them as

motif stitches only where the corners of **four** pattern repeats meet. We would work the open circles as background stitches anywhere else.

So in the first three rows of the project chart, we have the top portions of five partial diamonds (where the open circles are) and the bottom points of four complete diamonds (where the solid circles are). Since we don't want partial motifs, then we would work all the open circles in the first three project rows as background stitches. For the rest of the project, we would work those same open circles as motif stitches only when the end of one stitch repeat is followed by the beginning of another stitch repeat. That means that we always work the open symbols in project stitches one through three and thirty-seven through forty as background stitches, never as motif stitches.

In the first full row of diamonds made with open circles, project rows seven through thirteen, we would work as motif stitches only those open-circle symbols where repeat one touches repeat two, where repeat two touches repeat three, and where repeat three touches repeat four. We would work as background stitches the open circles at the beginning of repeat one and the end of repeat four, because, again, there is no pattern repeat before repeat one or after repeat four.

Let's highlight in a small project chart the open circles that would be worked as background stitches:

If we use a different symbol for all the stitches that make only the partial motifs, then when we are working the first or last stitch repeat on a project row, we do not work as motif stitches those that would make partial motifs at the very edges of the piece. They would be worked as background stitches instead. We work as motif stitches only those that will wind up making full motifs away from the edges of the piece.

In the same way, when we're working the row repeat for the first or last time in the project, we again work as motif stitches only those that form complete motifs in the interior of the item. We work as background stitches those that would make partial motifs at the bottom or top edges of the project.

Once we understand this idea, then we don't need such a large chart to show the plus stitch(es) and row(s) explicitly. We instead change **how we interpret the chart** while we're working at the project's edges. And once we got used to the idea, we wouldn't even have to use a different symbol for the stitches that form only partial motifs in the pattern chart. We would simply realize, "Oh, at this point in working the project, I won't be able to make a full motif, so I'll work these stitches as background stitches instead of as motif stitches."

In Colorwork

If we want the diamond motif not as purls on stockinette but as knits in a different color from the background color, this same idea would also work.

Again, the motif stitches around the edges of the project would be worked as the background color to avoid partial motifs. Those stitches would be worked in the motif color only when they would form complete motifs with stitches in adjacent pattern repeats.

Did You Notice?

I actually changed the terms from *background knits* and *motif purls* to *background stitches* and *motif stitches* in the last few sections.

That's because the chart is symbolic, and we always have the option of making any of the symbols mean anything we want in a particular chart. Since we might like colored diamonds on a project, we can redefine



to mean "use the motif color."