

Chapter 6

PROJECT 1: PURL DIAMOND WITH SEED STITCH BORDER

It's relatively easy to combine knit and purl stitches to “draw” a shape.¹ Let's make a small piece with a series of purl bumps in a diamond shape on a stockinette background. A seed stitch border on all four sides will keep the edges from curling. A typical version of the instructions would be

CO 25.

Row 1 (RS): * K1, P1 *, rpt btw *
across, K1.

Rows 2–5: Rpt row 1.

Row 6: (K1, P1) twice, K1, P15, (K1, P1)
twice, K1.

Row 7: (K1, P1) twice, K8, P1, K8, (P1,
K1) twice.

Row 8: (K1, P1) twice, K1, P6, K1, P1, K1,
P6, (K1, P1) twice, K1.

Row 9: (K1, P1) twice, K6, P1, K3, P1, K6, (P1, K1) twice.

Row 10: (K1, P1) twice, K1, P4, K1, P5, K1, P4, (K1, P1) twice, K1.

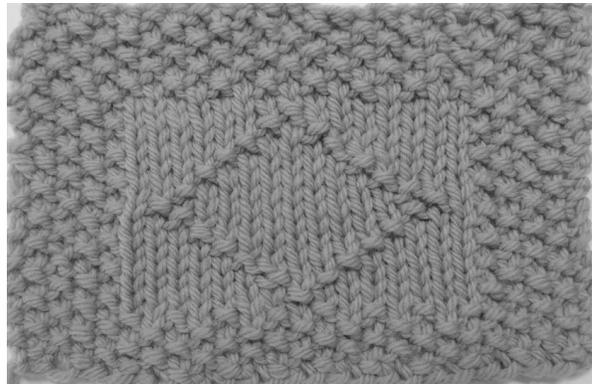
Row 11: (K1, P1) twice, K4, P1, K7, P1, K4, (P1, K1) twice.

Row 12: (K1, P1) twice, K1, P2, K1, P9, K1, P2, (K1, P1) twice, K1.

Row 13: (K1, P1) twice, K2, P1, K11, P1, K2, (P1, K1) twice.

Rows 14–25: Work rows 1–12 in reverse order.

BO.



Suppose we really like the diamond motif and want to make a different project with it, like a blanket or a baby sweater. Or maybe we want to make this little project, but we loathe seed stitch, so we want to use garter stitch for the borders.

With these written-out instructions, it's difficult to figure out where the stitches for the diamond motif are and where the seed stitch starts and ends. The charted version, however, makes both parts of the design quite clear, just as clear as the photograph, in fact.

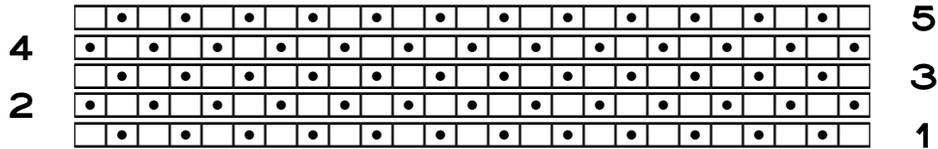
¹ Tips for designing a motif are in the appendix “Designing by Charting.”

The Bottom Border

Row one alternates twenty-five stitches between knit and purl, and it both starts and ends with a knit. So row one is



Rows two through five have the same instructions, but we have to invert the knits and purls on the private-side rows.



Yes, this partial chart shows the bottom border of seed stitch, so we're off to a good start.

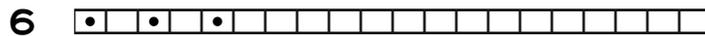
Row six has a big section of purl stitches in the middle of the row. That's clearly where the bottom border ends and the central panel of stockinette starts.

The Motif

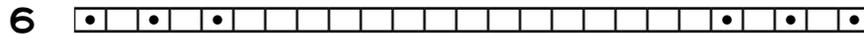
Since row six is a private-side row, we have to swap the knits and purls as we chart the symbols from left to right. We start with "(K1, P1) twice," which we treat as "K1, P1, K1, P1," then add the "K1," but we have to invert them to what they look like from the public side.



There's a big block of purls, which we must show as knits.



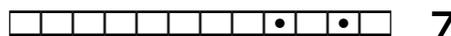
Then row six finishes the way it began.



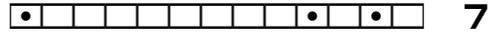
Row seven also has lots of knit stitches, but they're interrupted by a single purl stitch. We start off with the "(K1, P1) twice"



knit eight

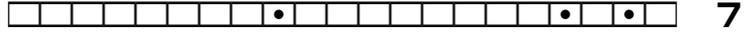


purl one



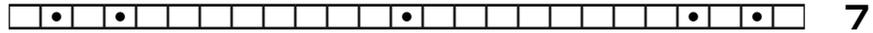
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knit eight



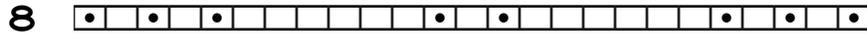
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and finish with “(P1, K1) twice,” which we can think of as “P1, K1, P1, K1.”

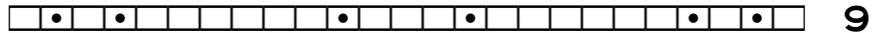


7

Row eight puts many purl stitches together, but there are a couple of knit stitches in the middle of the row.

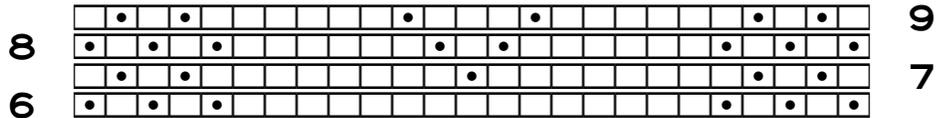


Row nine continues the theme.



9

Let’s put rows six through nine together.



That’s definitely the bottom point of the diamond starting to take shape. We chart rows ten through thirteen in the same way, watching as the pair of purls continues to move farther and farther apart.

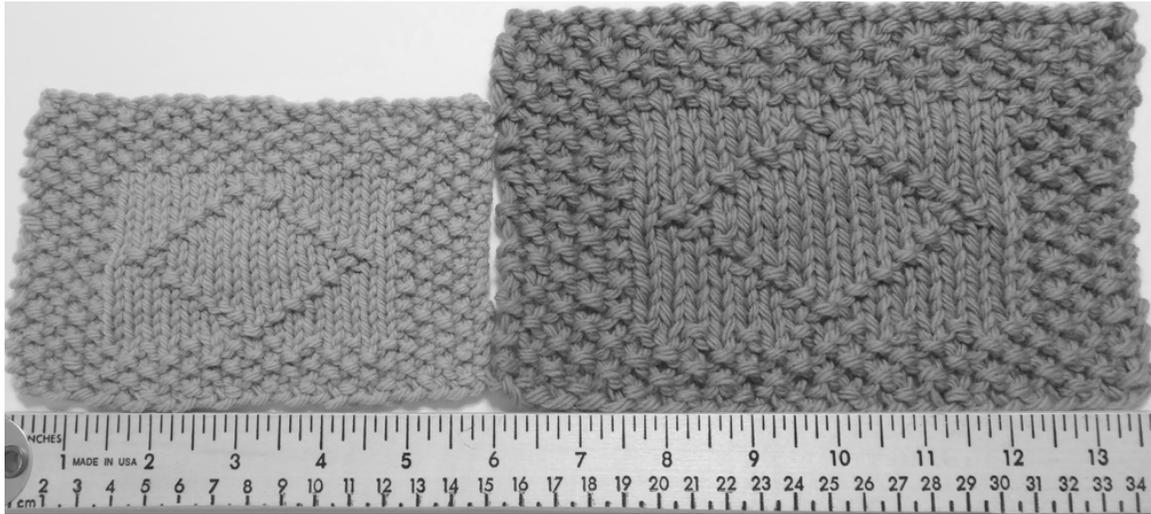
Since the instructions tell us to start repeating rows after row thirteen, we can guess that row thirteen must be the motif’s center row.



Let’s put the entire bottom half of the chart together.

Compare the Samplers with the Chart

The project chart is numerically square, twenty-five stitches by twenty-five rows, and it has exactly six stitches and just under 6.6 rows per inch.



In the worsted weight version, there are right at five stitches and seven rows to the inch. In the bulky weight yarn, the project has about 3.5 stitches and four rows to the inch.

The chart's dimensions and gauges don't match either of these samplers, which isn't necessarily a problem.

If we're typing up an **existing** design, then the fact that the chart will be taller than the project in yarn doesn't really matter.

But if we're **creating** a design, then we must take a few simple steps to make our chart match our stitch and row gauges. Full details are in the appendix "Designing by Charting."

Catching Typos with a Chart

Suppose row nine of the written-out instructions had been slightly different.

Row 9: (K1, P1) twice, K7, P1, K3, P1, K6, (P1, K1) twice.

Let's chart this version. Since it's a public-side row, we can read in either direction. Let's read in the ordinary way, from left to right. We put the row number at the right, then keep adding symbols to the left. So, the chart starts

• □ • □ □ □ 9

What's different about this partial chart with the alternate version of row nine?

- ☉ Row nine is one stitch wider than the surrounding rows.
- ☉ The purl bumps do not form the straight and unbroken diagonal lines that the diamond motif requires.

The “K7” in the alternate instructions for row nine is a typo. It should read “K6” instead, as it does in the original instructions.

Removing one of the knit stitches from F through K on row nine will

- ☉ move the motif's purl bumps to the proper locations, from stitches L and P to stitches K and O
- ☉ shorten row nine to twenty-five stitches
- ☉ align border stitches V through Z with those in the rows before and after them by moving them to stitches U through Y

Charting a project's instructions allows us to catch these kinds of errors. Think about the time, frogging, yarn, and sanity we save by knowing we have error-free instructions before we even cast on.²

Chart Advantages: Single Motifs

What can we see in the chart that isn't obvious from the written-out instructions?

The Border Stitches and Rows Are Clearly Isolated

If we want to make the border wider, we can now see exactly where those extra stitches and rows would have to go. If we want to make it narrower, we can see which stitches and rows we have to remove. If we want to change the border to garter stitch, we now see which stitches have to be changed from purls to knits and knits to purls. If we want to isolate the motif, we can easily do a border-ectomy.

Typos in the Instructions Are Obvious in a Chart

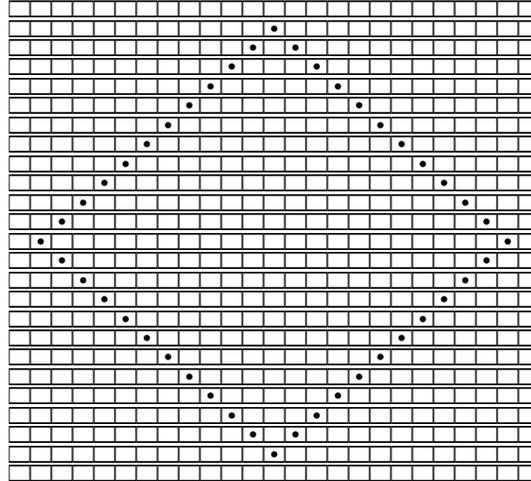
We can save time and frustration by charting the written-out instructions. Yes, someone else should have caught any errors, but now we know we can find them ourselves.

Does a typo matter much in this small project? Not really. But imagine a “K6/K7” typo early in the first row of a project on three hundred stitches. Yikes!

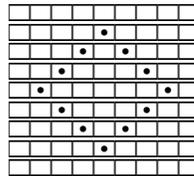
² Naturally it's much easier to make corrections if we're charting in the computer. If we're charting on paper and used a pen, one option would be to cut off the incorrect row from those above and below it, re-chart it on a fresh row of grid paper, then tape the three pieces together.

We Can Resize the Motif Easily

If we want to make the diamond larger, we can simply re-chart the purl stitches over a larger grid, adding both stitches and rows.



If we want to make the diamond smaller, we eliminate stitches and rows.

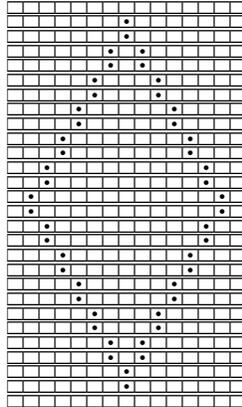


In either case, the basic idea is to make a chart the desired height (with rows) and width (with stitches) of knit symbols, then change some knits to purls to “draw” the desired shape.

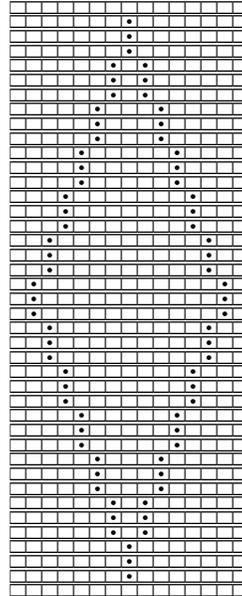
We Can Alter the Motif’s Proportions

Since stitches are usually shorter than they are wide, then if we want the diamond to be taller, we can just repeat each row that has part of the diamond motif.

Motif Rows Repeated Once



Motif Rows Repeated Twice

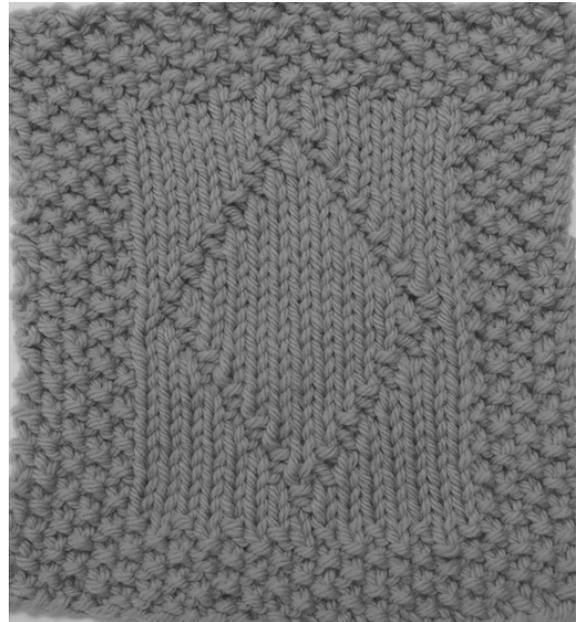


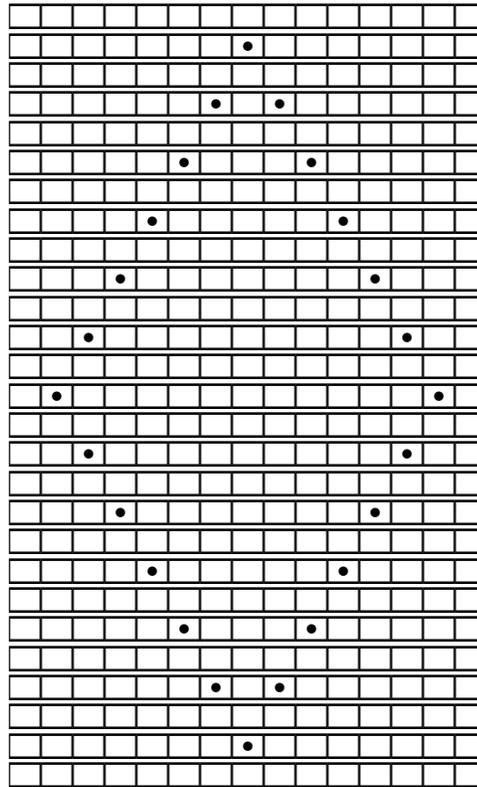
Here’s the double-height version in yarn.

It may be hard to tell from the photo, but instead of the diamond’s purl bumps projecting outward, they’ve actually all sunk into the surrounding fabric.

This disappearing act is what **vertical** columns of purl stitches do. Think about the appearance of 1x1 ribbing. Unless the fabric is stretched sideways, we usually can’t even see the reverse stockinette columns between the obvious stockinette columns.

We’ve seen that diagonal lines of purl bumps show up nicely. So will horizontal lines of purl stitches (they make the very prominent ridges of garter stitch). But vertical? In this wool yarn, they don’t. Other fibers may let the purl bumps stick out like we expect, but that entails the *s* word: swatching.

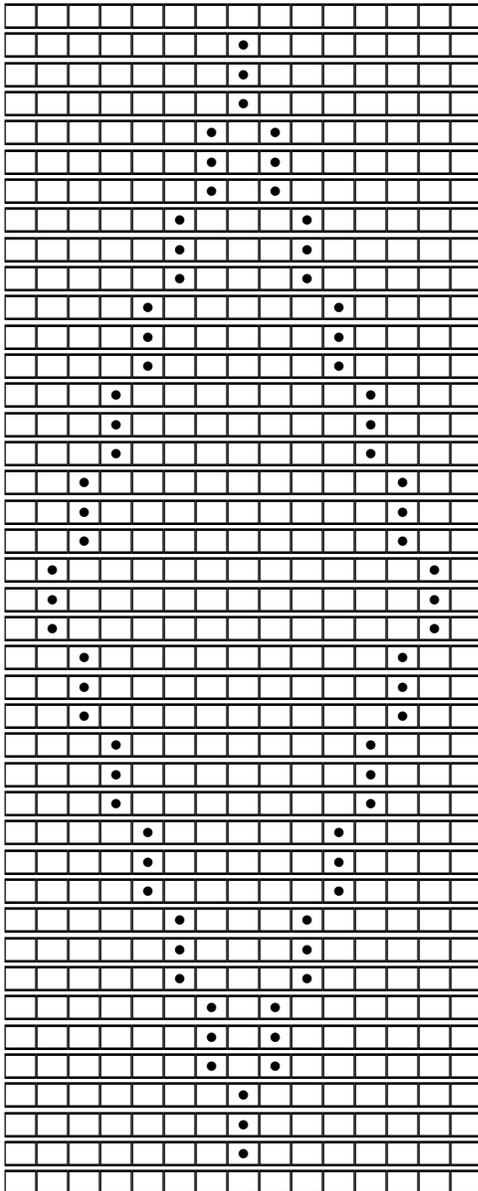




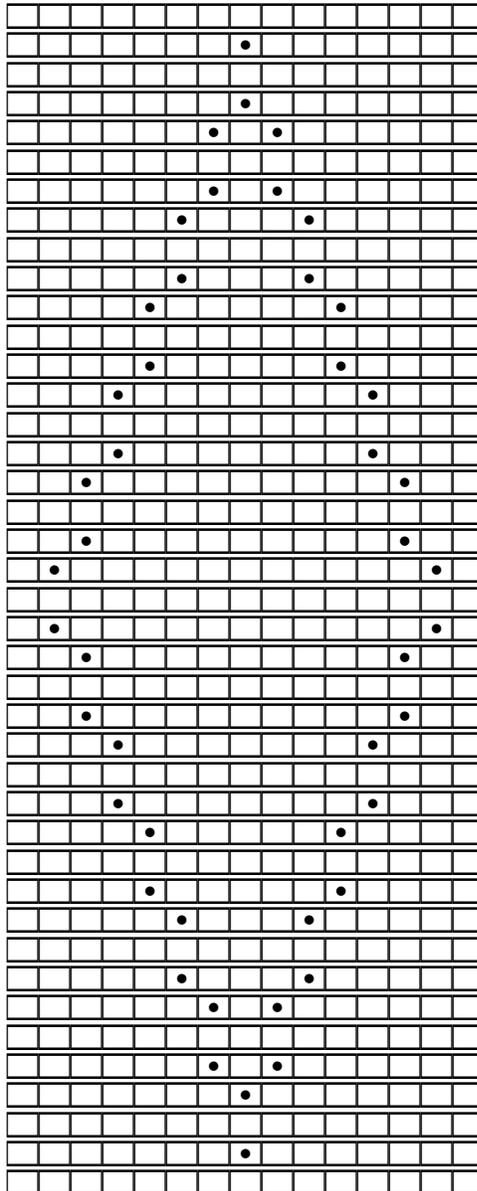
Since we're only doubling the motif height, all we've **really** done is just put a plain stockinette row between each motif row.

If we wanted the diamond three times as tall? We triple up each motif row, then in every place in the motif where there is a column of three purl stitches, we change the center purl to a knit.

This may not work

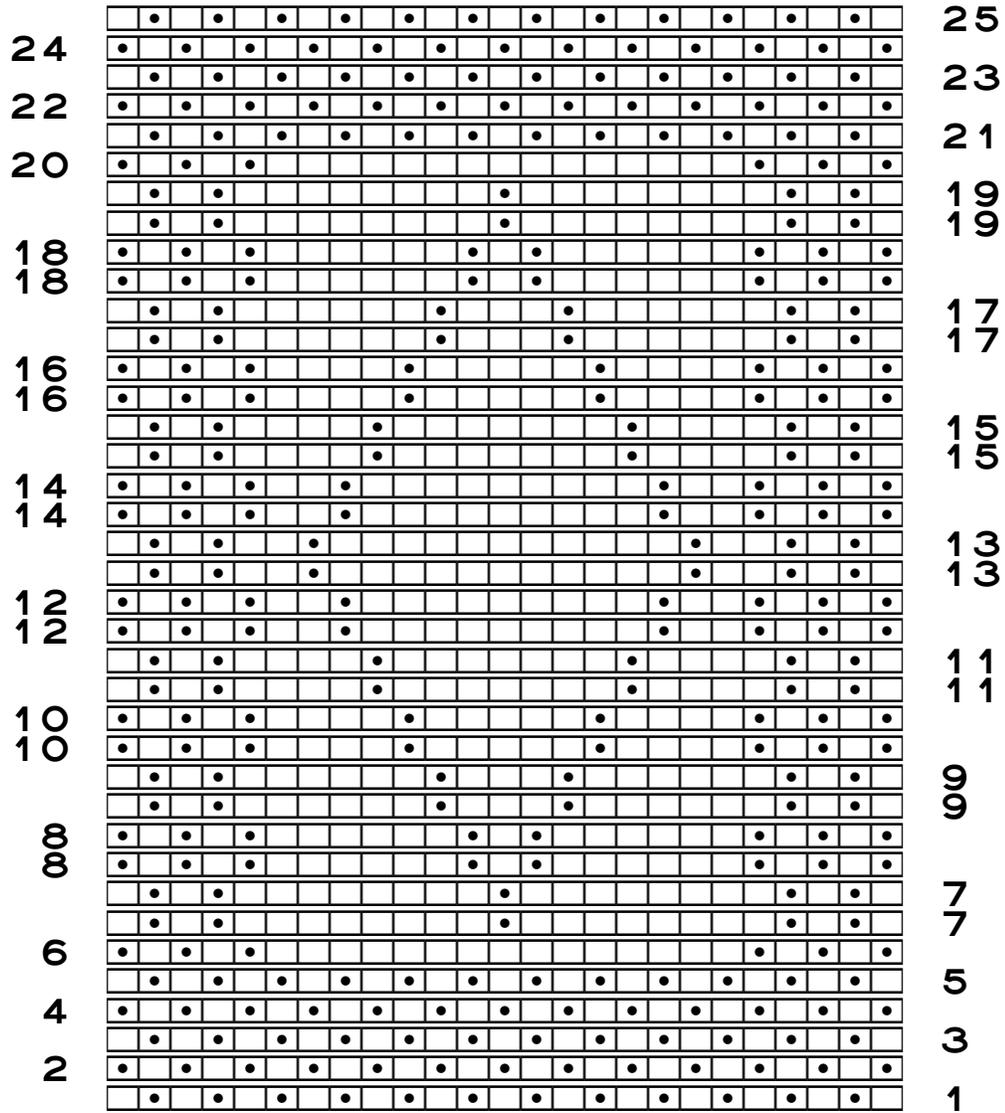


Try this instead

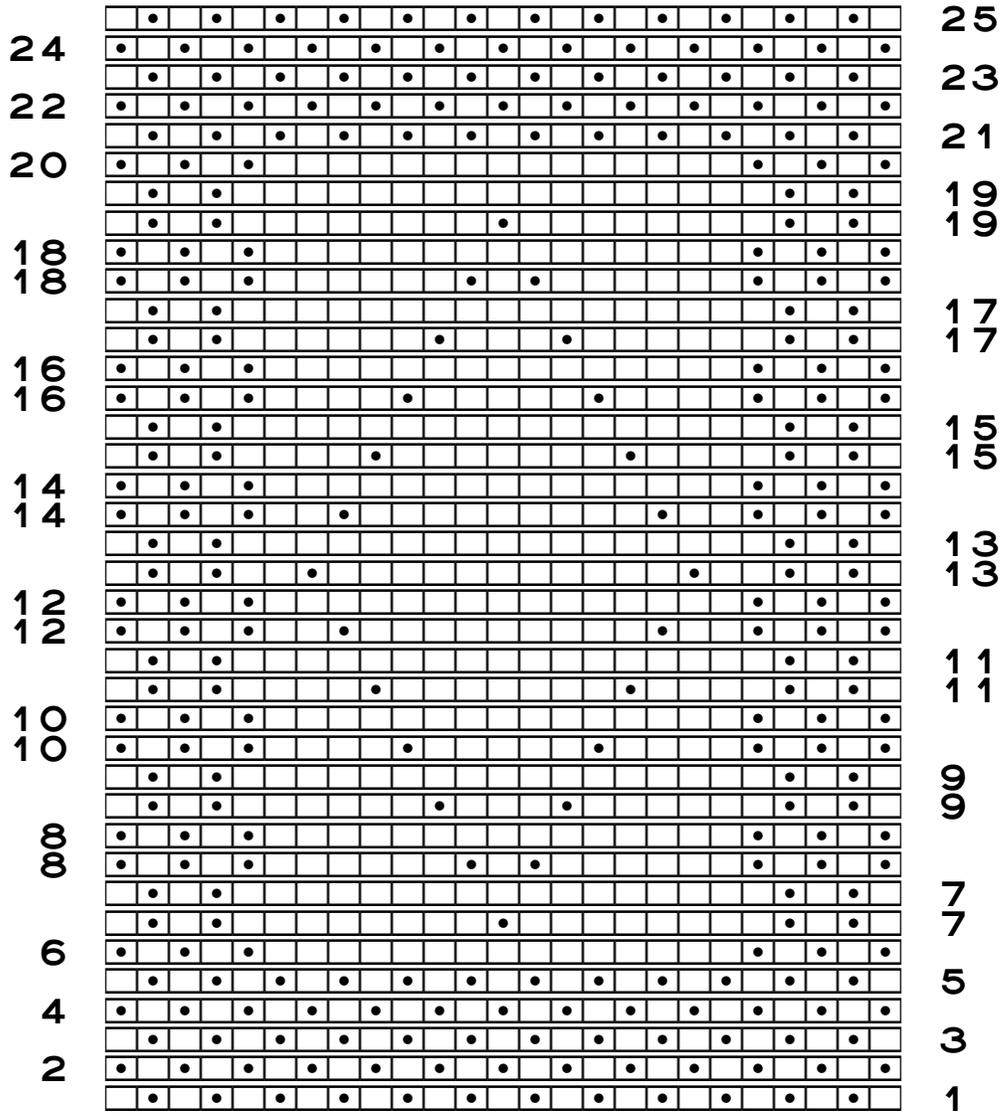


A Closer Look at Doubling the Motif Height

Let's look at the full chart with the motif rows doubled (the row numbers have not been fixed yet, to make it clear which rows were copied).



Now let's change the top purl symbols in the motif portion to knit symbols so that we avoid 1x1 ribbing's pulling-in effect.



Our diamond motif is now twice as tall, and we know that the purl bumps will stand out nicely.

But There's a Problem

Do you see how the duplicated rows **do not** keep the seed stitch left and right borders in pattern? On the motif rows, those border are now moss stitch. There are at least three ways to handle this situation.

- ☞ We could fix the chart so that the left and right edges have the proper checkerboard

placement of knits and purls that seed stitch requires. We would probably also want to renumber all the rows to avoid confusion.

- ☉ We could just ignore the border stitches as charted on the doubled-up rows and instead work them correctly. Since the left and right borders are seed stitch, we know that we knit the purls and purl the knits for the first five and last five stitches of every row in this project.
- ☉ We could change the top and bottom borders to moss stitch to make them match the “wrong” left and right borders.

What If We Don't Need to Re-Do the Chart?

In fact, if what we really want is for the motif to be twice as tall, we might not even need to re-do the chart **at all**.

What?!

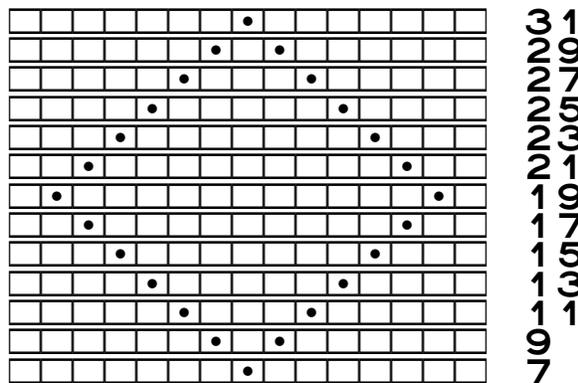
What we want is to work **two** rows for each row with a portion of the motif, making the purl bumps as charted on the public side going across, then working plain old stockinette in the motif portion on the private side coming back.

We Can Shorten the Chart

When we work the duplicated private-side motif row, we simply work the motif portion of each row as stockinette. If we're working in the flat, we purl all the motif stitches, and if we're working in the round, we knit all the motif stitches.

We could shorten the chart to show only public-side motif rows, and the instructions would say, “On private-side rows, work the motif stitches to make stockinette.”

The chart would thus be only half as tall. Note also that since the chart shows only public-side rows, there are no private-side row numbers and the entire column of public-side numbers had to be filled in.



Do you notice anything different about this chart? Here’s a hint: carefully compare the top and bottom points of the diamond.

After we change the motif portion of the private-side rows to be simple stockinette, we now have an extra row of stockinette above the top point of the diamond. At the bottom of the diamond, there is only one row, row six, between the border and the motif. But at the top of the diamond, we have two rows, rows thirty-two and thirty-three, between the motif and the border.

If we are feeling very fussy, we can eliminate row thirty-three and fix the rest of the row numbers.

36	••••••••••••••••••••	37
34	••••••••••••••••••••	35
32	••••••••••••••••••••	33
30	••••••••••••••••••••	31
28	••••••••••••••••••••	29
26	••••••••••••••••••••	27
24	••••••••••••••••••••	25
22	••••••••••••••••••••	23
20	••••••••••••••••••••	21
18	••••••••••••••••••••	19
16	••••••••••••••••••••	17
14	••••••••••••••••••••	15
12	••••••••••••••••••••	13
10	••••••••••••••••••••	11
8	••••••••••••••••••••	9
6	••••••••••••••••••••	7
4	••••••••••••••••••••	5
2	••••••••••••••••••••	3
	••••••••••••••••••••	1

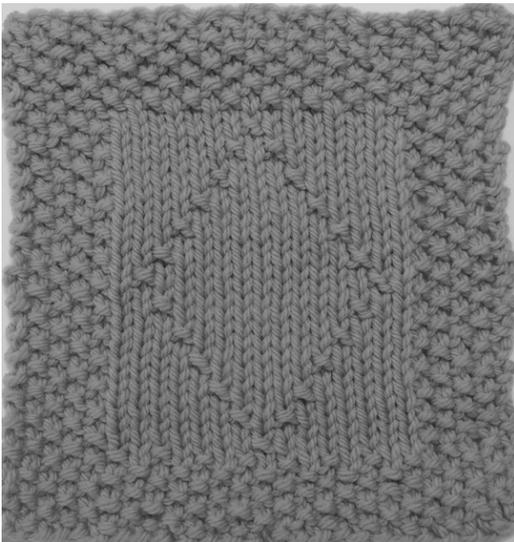


Chart Borders Separately

If we’re charting on paper, we can draw the left and right borders on their own narrow strips of grid paper and put them at the edges of the piece of grid paper we’ve drawn the motif on. If we’re charting in the computer, then we should put the left and right borders in their own table columns.

Lesson Learned

Chart left and right borders separately from the motif or stitch pattern. We draw them on separate narrow strips of grid paper, or we type them in separate table columns.

If we’ve made a chart on regular lines and now want to re-chart in a multi-column table,

the part four chapter “Convert Ordinary Lines to a Table” describes a method that minimizes the amount of effort we’ll need to do so.

For Mirror-Image Knitters

All knitters, traditional and mirror-image, must construct the charts exactly as shown in this chapter. After MIKs finish drawing the chart, they may, if they so choose, swap the positions of the row numbers before they work from it with needles and yarn.

Traditional Knitters		Mirror-Image Knitters	
36	••••••••••••••••	37	••••••••••••••••
34	••••••••••••••••	35	••••••••••••••••
32	••••••••••••••••	33	••••••••••~•••••
30	••••••••••~•••••	31	••••••••••••••••
28	••••••••••~•••••	29	••••••••••~•••••
26	••••••••••~•••••	27	••••••••••~•••••
24	••••••••••~•••••	25	••••••••••~•••••
22	••••••••••~•••••	23	••••••••••~•••••
20	••••••••••~•••••	21	••••••••••~•••••
18	••••••••••~•••••	19	••••••••••~•••••
16	••••••••••~•••••	17	••••••••••~•••••
14	••••••••••~•••••	15	••••••••••~•••••
12	••••••••••~•••••	13	••••••••••~•••••
10	••••••••••~•••••	11	••••••••••~•••••
8	••••••••••~•••••	9	••••••••••~•••••
6	••••••••••~•••••	7	••••••••••~•••••
4	••••••••••~•••••	5	••••••••••~•••••
2	••••••••••~•••••	3	••••••~••••••••••
	••••••••••~•••••	1	••••••~••••••••••