

THE SHAPE OF SHAWLS TO COME

An Exercise in Shaping and Variation

This originated as a mental gymnastics project I was working online at a knitting forum in the past. It has been expanded & revised several times.

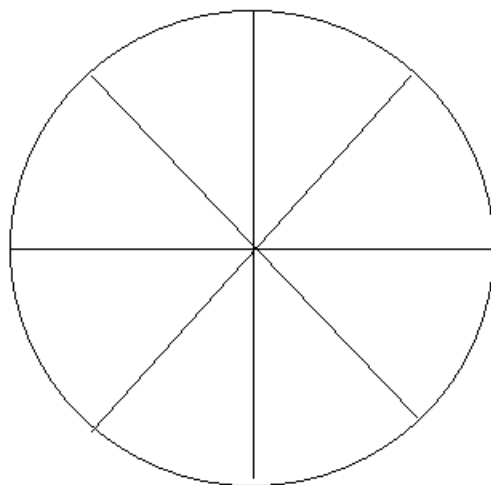
There is a lot of information here regarding the various methods of shaping for "standard" shawl types, and some less usual shapes.

NOTE: For the most part I have not included construction methods that involve piecing.

This is by no means an exhaustive listing of methods for shaping of shawls, nor does it take into account modifications that might be necessary due to patterning within the basic shape.

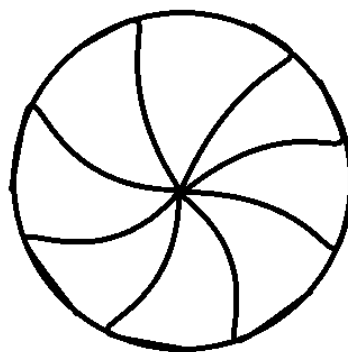
1) CIRCULAR:

The basic circle is 8 segments:



Eight increases every other row gives a spiral effect:

Eight PAIRS of increases every fourth row gives 8 balanced segments.



1a) Steady Increase

This is a pretty simple concept. If you increase the number of stitches evenly 8 stitches every other round you will end up with a circular shawl. (Technically it will be an octagon - but blocks quite easily to a circle) Many patterns take advantage of this and the motif is repeated 8 times, with the motif increasing 1 stitch every other row; or some variation on number of motifs and increase per row that works out to 8 increases every other row. Worked in-the-round.

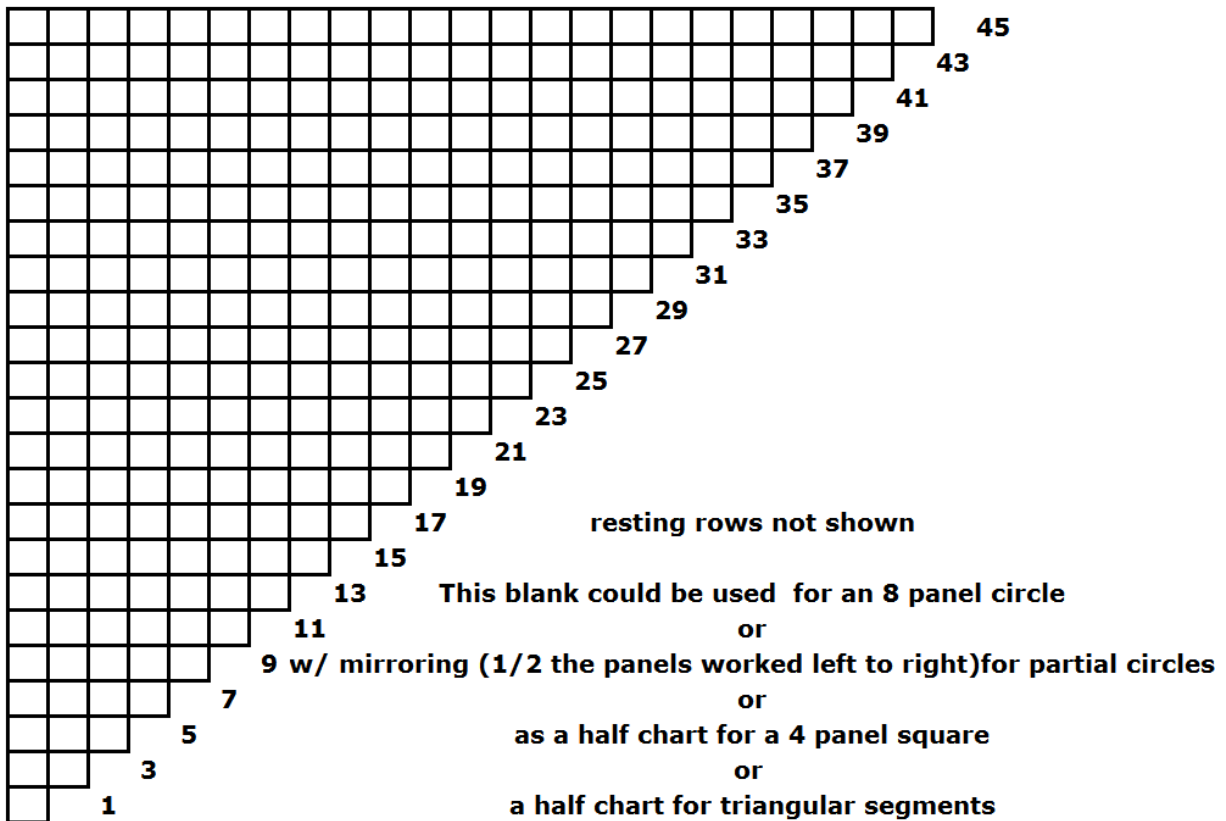
NOTE: for very lacy patterns the number of panels may be reduced to seven or even six and still yield a flat circle when blocked. WHEN this can be done is a learned thing.

The minimum number of increases per round for a flat piece of fabric would be 4 increases every row. However, unless the point of increase is changed frequently and with care, this will result in a four sided figure. (See SQUARE below)

For practical purposes to create a flat circle:

- 8 increases evenly spaced every other row
- 12 increases evenly spaced every third row
note: six pairs of increases to work a hexagon
- 16 increases evenly spaced every fourth row
Note: eight pairs of increases to yield an octagon
- 20 increases evenly spaced every fifth row
- 24 increases evenly spaced every sixth row
- Etc. (See the table at the end of the document)

Other rates of increase are possible - as long as the average lies somewhere near the 4 increases per round



1b) Punctuated Equilibrium

I stole this name from a theory of evolution, which theory supposes that genetic changes (increases) occur bunched together at intervals rather than as a steady state. This method is still based on the 8 stitches every other row equals a circle. Rather than a gradual increase over a number of rows this would have planned increase rows with wider spacing between the increases. The **average rate of increase** over the number of rows remains steady at 4 per row, but the increases themselves appear at **varying** intervals across the rows.

This is useful for doing concentric rings of lace motifs, especially if the lace motifs gradually grow larger as you get further from the center.

The rate of increase can be changed at any point where the number of rows completed times four equals the number of stitches in a round and you will still get a circle.

Useful for working spiral patterns - especially when the number of "spokes" in the spiral is NOT a multiple of four.

1c) 'Pi' shaping

This method of constructing a circular piece is based on the formula for the circumference of a circle.

"Circumference equals twice the radius times the constant 'Pi' "

$$C=2\pi r$$

Once the math is worked out this means:

If you double the number of stitches in a round each time you double the number of rounds completed you will be making a circle.

The pi shaping method is extremely useful for doing concentric rings of lace patterns as the stitch count remains constant within each band of rounds between the increase rounds.

NOTE: "Pi-shaping" should be called "Two-R" shaping as mathematically the constant 'Pi' drops out of the equation, but the name is in use and will most likely remain so.

Though some variation is possible - a common pattern would be:

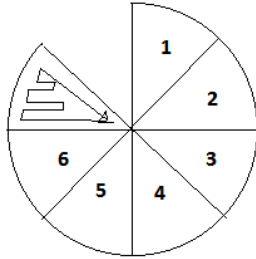
Cast on 9: double on the 1st, 3rd, 7th, 14th, 27th, 52nd, 101st, 198th rows.

Or you might double on 1st, 3rd, 8th, 17th, 35th, 71st, 143rd, & 286th

You want to try and maintain a number of stitches per round that averages 4 per round worked.

1d) WEDGES:

It is possible to construct a circle constructed by using short rows, forming wedge shapes. The simplest variation would be to have 8 wedges. After each wedge is reduced down to the minimum stitches, the return row is knit across the entire wedge and the next wedge started. When the number of wedges for the circle is complete, the final row is grafted to the cast-on edge.



In the simplest case each right side row would be two stitches shorter; with the eight wedges, this gives you the 8 increases per row to shape the circle. With 12 wedges, each right side row would decrease by 3 stitches. With 16 wedges, each short row would decrease by 4.

1e) Circumference inwards: For those who like making their life difficult.
(A method for the truly insane)

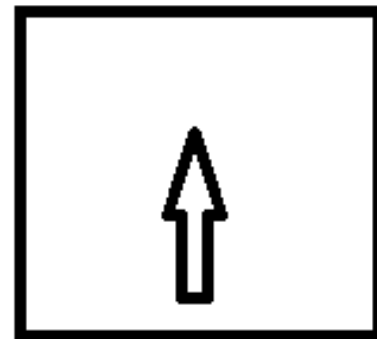
You CAN start with the circumference (outer rim of the circle) and DECREASE using methods a, b, or c; ending in the center. It is also possible to work in wedges, casting on/picking up additional stitches at the appropriate row to form the wedge rather than short rows.

2) SQUARE**2a) Edge to Edge**

Probably the simplest means of constructing a square - cast on the width desired and knit until the piece is square.

In garter stitch you will probably knit twice the number of rows as you have cast on stitches.

In stocking stitch the number of rows will most likely be closer to 1.5 times the number of cast on stitches.



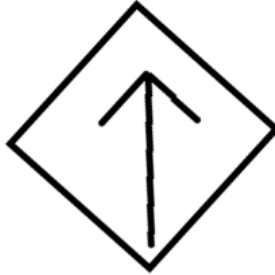
Exact numbers depend on your personal gauge, but the above figures are a common range.

2b) Corner to Corner:

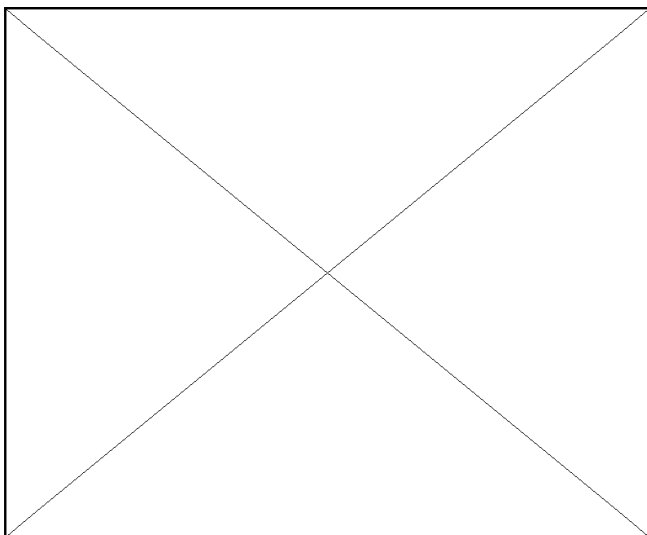
2b-1) Starting with a small number of stitches (usually no more than three) - add 1 stitch at the beginning (or end) of every row until the edges are the width desired for the square. Then; decrease 1 stitch at the beginning (or end) of every row.

2b-2) Starting with a minimal number of stitches (normally 3) you add 1 stitch At the beginning *and* the end of EVERY OTHER row to the midpoint (the square is half completed) and then decrease 1 at the beginning and end of EVERY OTHER row.

This alternate method in my opinion gives a more balanced construction.

**2c) Circular**

A square constructed in a circular manner seems a contradiction in terms. If you are knitting in the round and put 4 evenly spaced pairs of increases in every other round, keeping the increases lined up on each increase round, you will find that you are knitting a square by going around in circles! Each set of increase/row combinations that result in a circle will result in an even sided polygon when the increases are lined up in pairs rather than equidistant assuming that the figure is not distorted by the pattern itself or by blocking.



A simple square knit in the round might be 4 triangles worked consecutively side by side per round

If working from a half chart, the chart row would repeat 8 times per round, with every other repeat being read left to right.

2d) Mitered:

The simple single mitered square: Start with a cast on 4 times the width of your desired square. Every RS row, work a double decrease in the center of the row. If you have an odd number of stitches you may choose between either a pair of single decreases, or a double decrease; for even number of stitches use a pair of single decreases. Continue until you don't have enough stitches left to decrease!

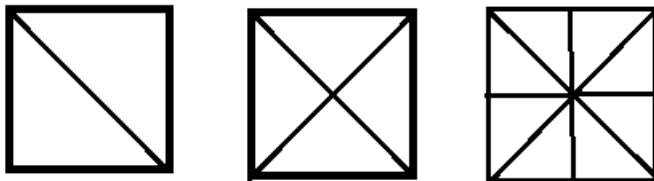
2E) Perimeter INWARDS

Combining 2c) and 2D)

Cast-on enough stitches to form the perimeter (outside edge) of your square, join and knit in rounds. Create double decreases (or alternatively paired single decreases) at beginning of round, the 1/4 mark, the 1/2 mark and the 3/4 mark every other round (the four corners) on right side rounds.

2F) Triangular Construction

A square can be formed of two, four or eight equal triangles pieced together. MORE triangles will fit together to form a square; but by that point you are really talking major constructions, and the size and shape of the triangles either begin to vary, or they form smaller squares that fit into the larger square.



Note that with eight triangles every other one is reversed. This approximates the mirroring that occurs when working a square in the round with a half chart.

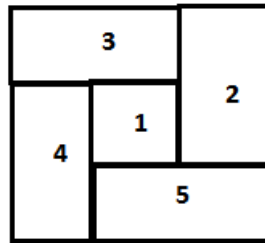
Squares using triangular construction can also be done piecing the individual triangles together, or can be worked with a continuous modular construction.

The two triangle square could be constructed with 2 double downs grafted together or two tip up triangles grafted along the hypotenuse. Technically it could also be done by using a provisional cast on and working the triangles with a decreasing method outwards from the center.

The four triangle square can be done in the round, pieced or as a continuous modular construction.

2G) Log Cabin construction

Familiar to quilters; Log Cabin construction begins with a small square. Rectangles of equal width and of a length to project past the square by the width of the square are then added along each edge in turn. The growth may be terminated at any time by ending the last rectangle evenly with the edge of the square.



The direction of knitting for each section of the log cabin construction may vary. The pieces may be knit separately and assembled or they may be knit and attached simultaneously in an entrelac-like manner.

3) Variations on a circle:

3A) Open Circle

For an open circle you knit back and forth from the ends of your "round" rather than in a circle. This works best with patterns that are either solid or that have a strong center line or straight edge to them. Selvedge stitches would need to be added.

3B) Super-circle aka Hyper-circle

In most cases, if you take a circle with a motif that radiates from the center - and increase the number of repeats (for example from 8 to 10, or 12) then you end up with a super-circular piece. The individual motifs will lie flat, but the piece as a whole will ruffle if you try to lay it out, and when folded in half will form MORE than a half-circle. Some patterns which require extreme blocking to lie flat in the original may require more or less additions in order to become hyper-circular.

3C) Semi-Circular

By REDUCING the number of motifs necessary for a full circle AND knitting back and forth (flat) with an opening you can do any number of semi-circular shawls.

LESS than a half-circle isn't very useful as a shawl; but any portion of the circle greater than half gives a good shape to a shawl and improves the fit around the shoulders.

Laid out flat these will look like pies with a slice (or multiple slices) removed until you have a half-circle.



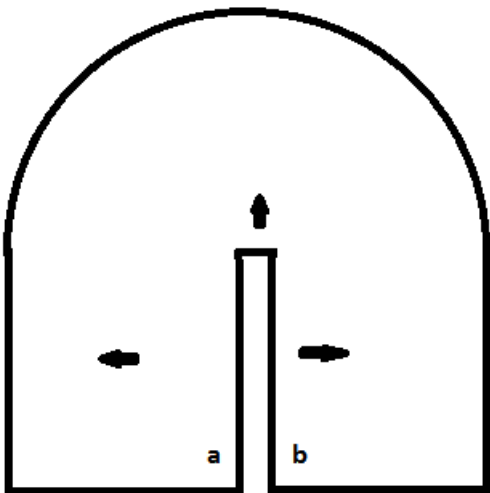
Assuming an 8 segment circle the illustrations to the left show the shapes of 7, 6 and 5 segmented open circles.

4 Segments would yield a half-circle.

3d) PI-R2 style

NOTE: Neither of the methods below is the actual way the original "Pi-r-squared" was shaped; but in my opinion the "true" method is needlessly complex. The methods I have given I believe produce the same basic shape with a lot less hassle

I wasn't sure if this should be in its own section or in the "ruana" section. If you take two squares or rectangles, lay them side by side and then connect them across the top with a half-circle you end up with what I consider the Pi-R-square shape.



This could easily be done by piecing it, but also simply knit by knitting the two square/rectangular pieces edge to edge, while forming the half circle from stitches cast on between the two square pieces.

The diagram shows the above method. The arrows indicate the direction of growth. The cast on forms the "neckline" and the piece is worked flat between points a & b. The semi-circular back is formed with either pi-shaping or another semi-circular construction.

An alternate method would be to knit one square, then use short row shaping until you have formed a complete half circle and then knit the second square

4) Stole:

By stole I mean a long, rectangular wrap - the longer edges being your top and bottom of the wrap and the shorter edges being the "sides"

4a) Lengthwise:

4a-1) edge to edge

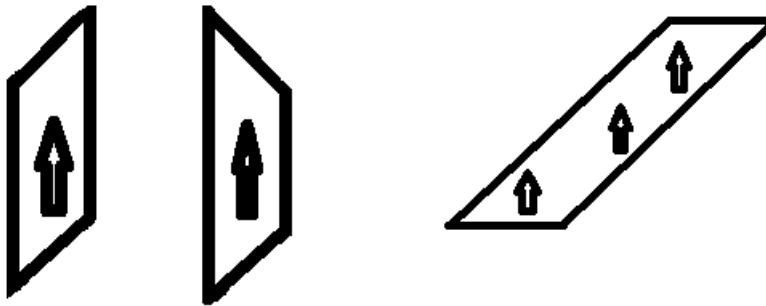
This would be simply casting on the desired width/depth and continue until the length is appropriate.



Note: arrows show the direction of growth. The knitting is perpendicular to the direction of growth.

4a-2) on the bias

Starting with a few stitches and increasing along one edge until the desired width is attained. Once the desired width is obtained you can either knit straight (which is essentially 4a-1 with a shaped end) or more often with this type the increases on one edge are then balanced with decreases on the other edge so that the knitting proceeds on a biased slant) until the desired length, when decreases mirror the increases of the beginning end.



4b) worked across

Cast on enough stitches to form the length of the shawl and knit until desired depth is achieved.



4c) balanced halves - For this variation the two halves are worked separately allowing one to mirror the lace/pattern in direction.



4c-1) from the ends - half the length of the shawl is knit from each end and the two pieces joined at the center.

4c-2) from the middle - a provisional cast on at the beginning - work half the length of the shawl to the end , then return to the cast-on, pick up the stitches from your provisional cast-on and work second piece to the end.

5) Triangular

5A) Single triangle:

Tip to neck - increasing



5A1) increasing 1 at beginning (or end) of EVERY row having started with a minimal number of stitches.

5A2) increase 1 at beginning AND end of every ALTERNATE row

NOTE:

5A2 would be the "standard" charted triangle - normally charted without the resting rows.

5B) Single triangle:

Tip to neck - decreasing



5B-1) Cast on stitches equaling the length of the two sides adjacent to the tip.

Work a single decrease at the center of every row.

5B-2) Cast on stitches equaling the length of the two sides adjacent to the tip.

Do a double decrease (or a pair of single decreases) at the center of every ALTERNATE row.

Of the two methods above; the second is much simpler to track as the former method means you alternate between an even and an uneven numbers of stitches.

5c) Double triangle - tip to neck, decreasing



Starting with a cast-on equal in length to the length of the two sides of the triangle: For Every alternate row: perform a Single decrease at the beginning and end of the row; PLUS a double decrease (or pair of single decreases) at the CENTER of the row.

5d) Single triangle - neck to tip; decreasing



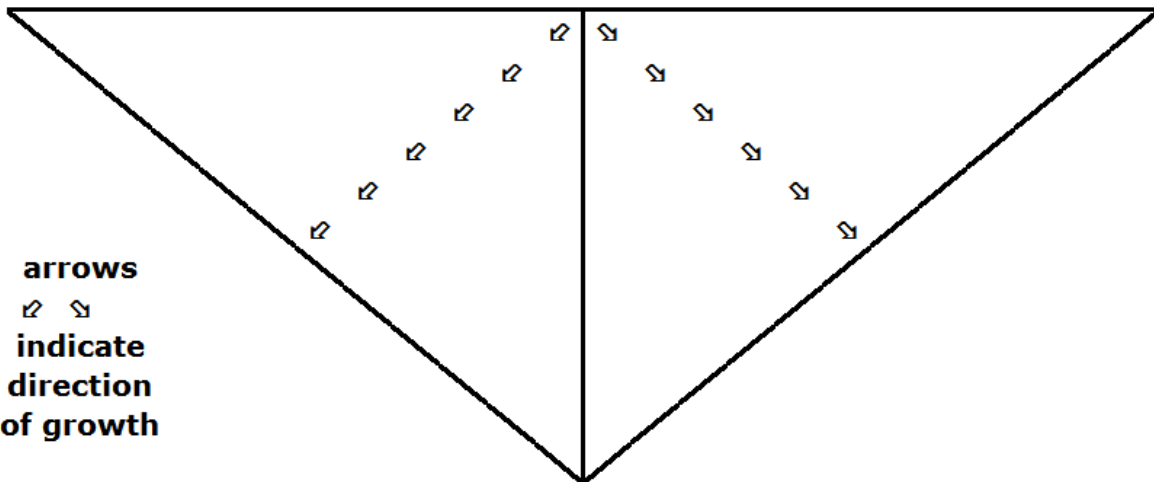
5D1) beginning with a cast on equal in length to the width of your finished shawl, double decrease consistently at beginning or end of EVERY row

5D2) Beginning with a cast on equal in length to the width of your finished shawl: double decrease at the beginning **and** end of every ALTERNATE row

5e) Double triangle - neck to tip, increasing

This is the method I describe as a "Double Down Triangle"

Start with a minimal number of stitches. On every ALTERNATE row, work single increases at beginning and end of row, **plus** a double increase at the center.



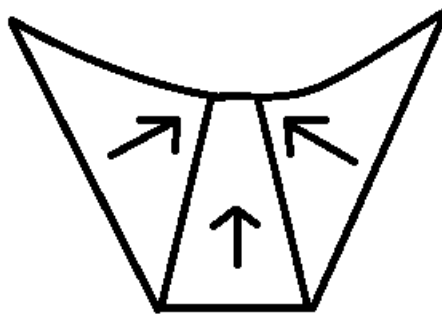
arrows
↗ ↘
indicate
direction
of growth

The "double down" is two standard triangles worked side by side from the neck down to the tip of the conjoined triangle

6) Faroese

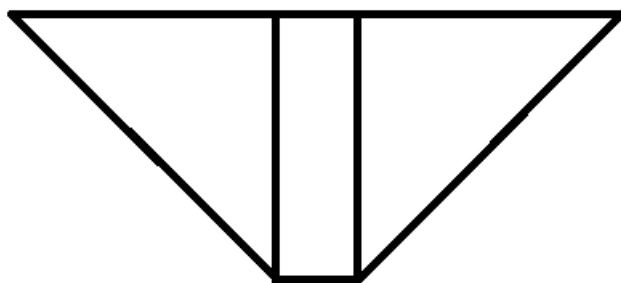
I bought the book **Bundanaurriklaedid** with the English translation of the text from Schoolhouse press. It has a wealth of information regarding the traditional Faroese shawl.

A Faroese shawl is basically two shaped triangles with a center panel (usually also shaped) - the shaping helps the shawl fit over the shoulders and stay on. Traditionally they are done in a garter stitch, starting at the outer edges and ending at the center neck. As a result of the shaping the basic triangle shape morphs into a 'butterfly' or 'angel wing' shape, with the arms of the triangle curving up around the center. The amount of shaping determines the shape and length of the curve.



6a) Faroese - edge up. This is the traditional manner. A huge number of stitches are cast on (enough to equal the length of the two outer edges of the shawl plus a central panel) and regular decreases at the outer edges and either side of the center panel make the basic shape. Additional decreases spread evenly through the side panels and to a lesser extent the central panel, provide the special shaping. One could also knit an edging long enough to equal the cast-on length and pick up stitches along the edge before knitting the body of the shawl.

6b) Neck down - basically, again, a double triangle with a central panel inserted between the two. Regular increases occur at either edge and on either side of the central panel. Additional increases spread through the side panels and to a lesser extent the central panel, provide the special Faroese shaping.



The psuedo-faroese is worked with less shaping than the traditional version but fits better than standard triangles.

6c) "mock Faroese" or "psuedo-faroese" double triangle with a central panel - worked in either direction but without the additional shaping. This still "fits" better than a straight triangular shawl as the center panel fits around the neck. May be worked as the double triangle either neck to tip or tip to neck.

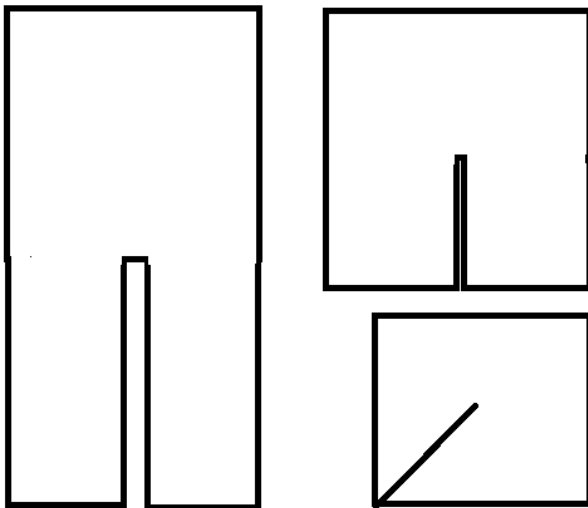
7) Ruana

The Ruana is about as close as a wrap can be to being a poncho without being a poncho. The traditional shape for a ruana would be square with two rectangles attached that form the front of the wrap, the space between the rectangles forming the front opening and the neckline.

See the pi-R-square (which is very much a rounded variation of a ruana).

An alternate construction would consist of three parallel rectangular strips; the outer two identical and the third half the length and only as broad as the neckline.

I would include in this category the "open square"; open either from the center to the midpoint of a side; or open from the center along the diagonal to one corner. Multiple methods can be used to produce these shapes in either the traditional formats or the square formats.



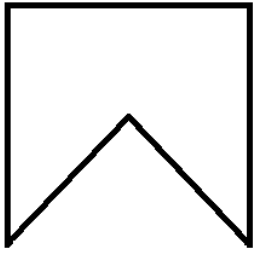
The traditional ruana has an overall rectangular shape, whereas the open square is (oddly) square.

Open squares can also be worked with the opening on the diagonal so that the fronts of the piece are pointed.

Which leads to the:

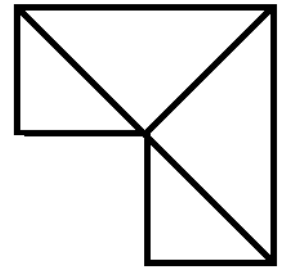
8) Fichu

The typical "fichu" shape is a three triangle construction. The easiest technique is the same as a neck to tip double triangle, only *instead* of repeating the triangle *twice*, with increases at either edge plus either side of the central point; the triangle is repeated **THREE** times, with increases on either edge and on either side of **TWO** spines.



Some people like this form (on left) as it is straight across the rear hemline.

An alternate construction divides the third triangle in half, working one half on each edge - preserving the point.



9) Heart Shaped

The heart shaped shawl approximates the shape of a faroese shawl without resorting to the center panel or additional shaping internally (which can wreak havoc on lace patterning). It provides a better "fit" around the shoulders than the standard triangles.

The most common method used to produce this shape is similar to the double down triangle, using six increases per pair of rows (for most or all of the piece).

The increases can be arranged in varying manners, each of which produces a slightly different form and each of which also has specific difficulties fitting (and charting) lace repeats into the finished fabric.

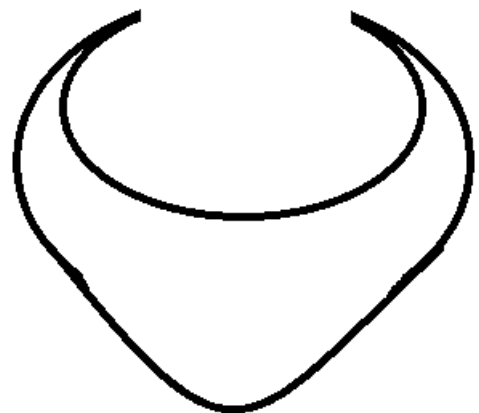
9A) Single increases on right side rows at either end, plus a double increase at the center

PLUS a double increase at the center on wrong side rows.

9B) Double increases at the either end of right side rows plus a double increase at the center

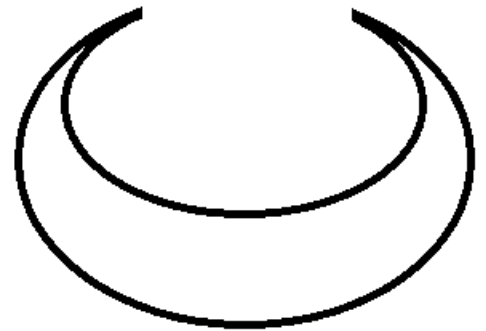
9C) Single increases on right side rows at either end, plus a double increase at the center

PLUS single increases at either end of wrong side rows.



10) Crescent

This may be thought of as a curved stole or a shallow semi-circle. Many consist of a semi-lunar shape in garter or stocking stitch with lacework along the hemline and/or the neckline.



10-A) End to end

10A-1 with short rows

short rows are used to form the curve of the body as you progress the length.

10A-2 increasing and decreasing

the body of the shawl is increased to form a curve to the center point then decreased to mirror



10-B) Hemline up

10B-1) with short rows

The shaping consists of short rows starting at the center and getting longer as you progress UP the body

10B-2 - with decreases

Decreases can be worked spaced as if the piece were a chord of circle larger in diameter than the desired "wingspan" of the piece.

10C-3 decreases at ends only - 2 on either end on right side; 1 on either end on the wrong side (makes a strong curve)

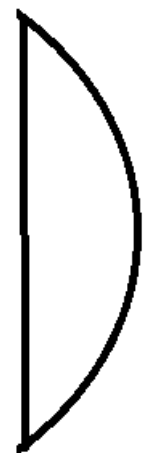
10-C Neckline down

10C-1) - with short rows

The shaping consists of short rows that gradually get shorter as you progress DOWN the body

10C-2) - with decreases

Casting on the complete neckline decreases can be worked spaced as if the piece were a chord of circle larger in diameter than the desired "wingspan" of the piece.



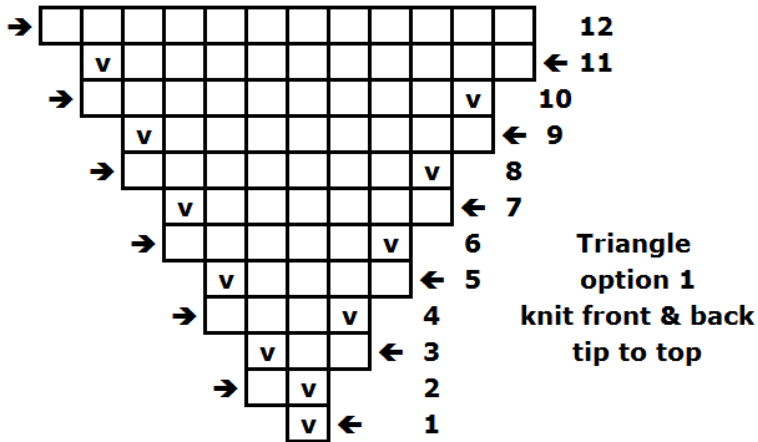
10C-3 - with decreases at the ends only
Right side rows increase twice at either end
Wrong side rows increase once at either end
This forms a strong curve.

The Diagrams reflect possible shapes of crescents, not necessarily that achieved with any one particular method of construction.

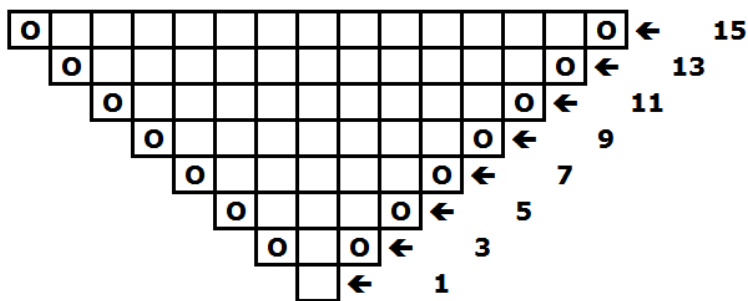
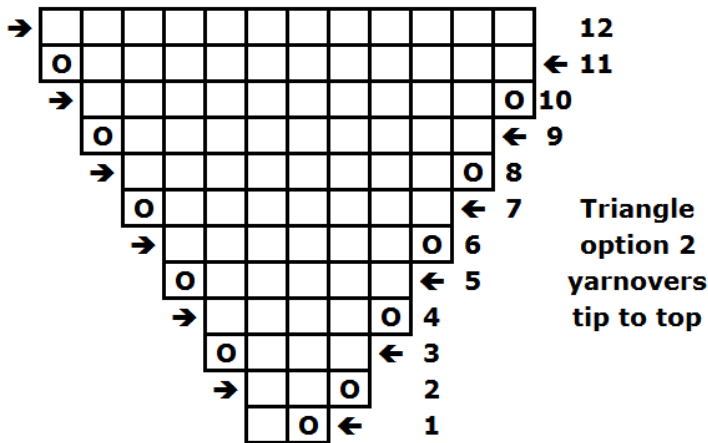
NOTE OF INTEREST:

The 6 increases per pair of rows on the ends only method can be used to produce a heart shaped shawl with less depth than the adaptation of the double down shaping; if you start with just a few stitches.

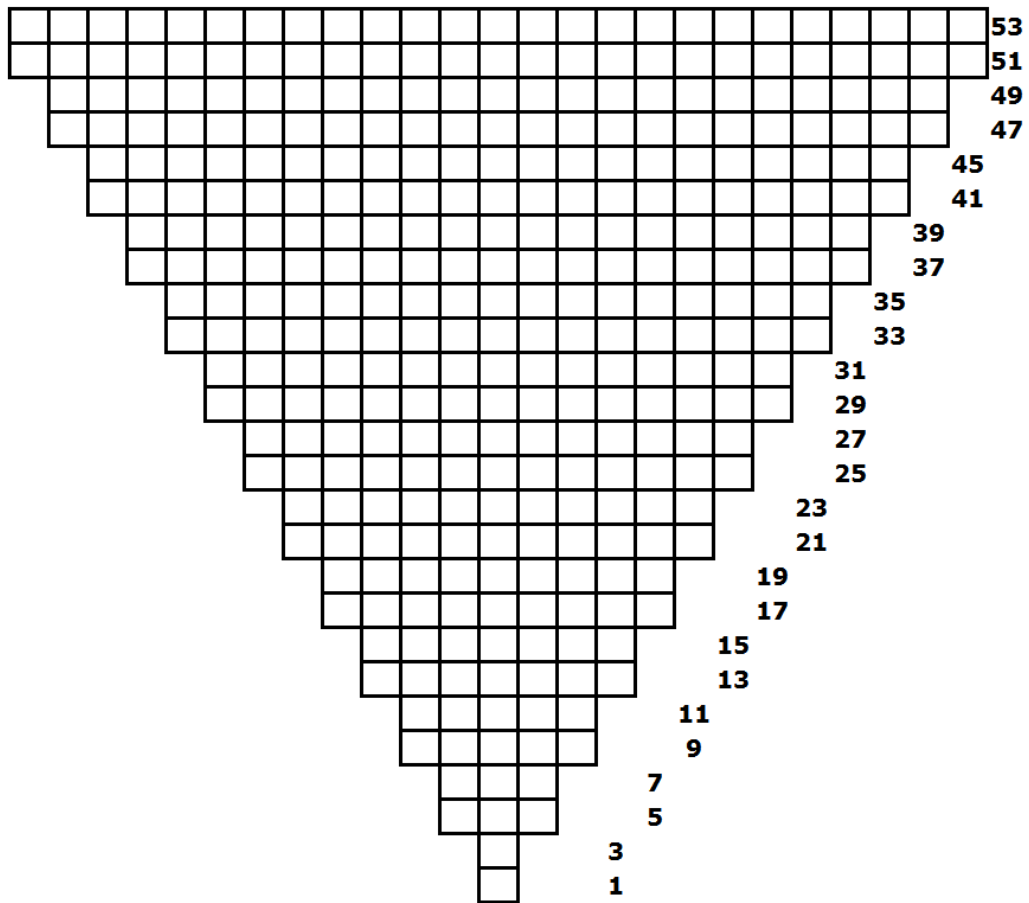
If the piece is started with a significant portion of the neckline (say the width of the shoulders) as the cast on edge then a shape closer to a crescent stole is formed.



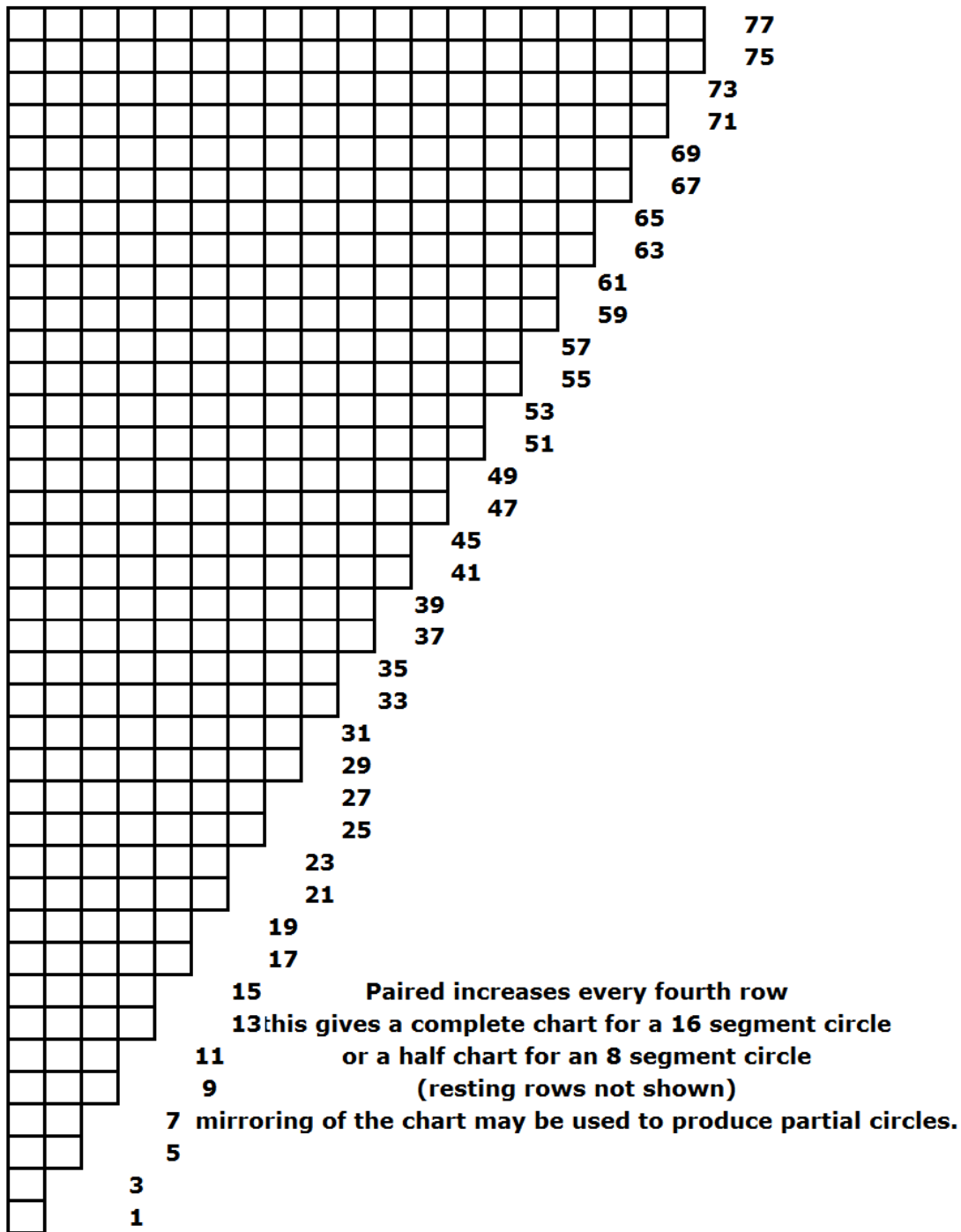
basic triangle adds 1 stitch per row



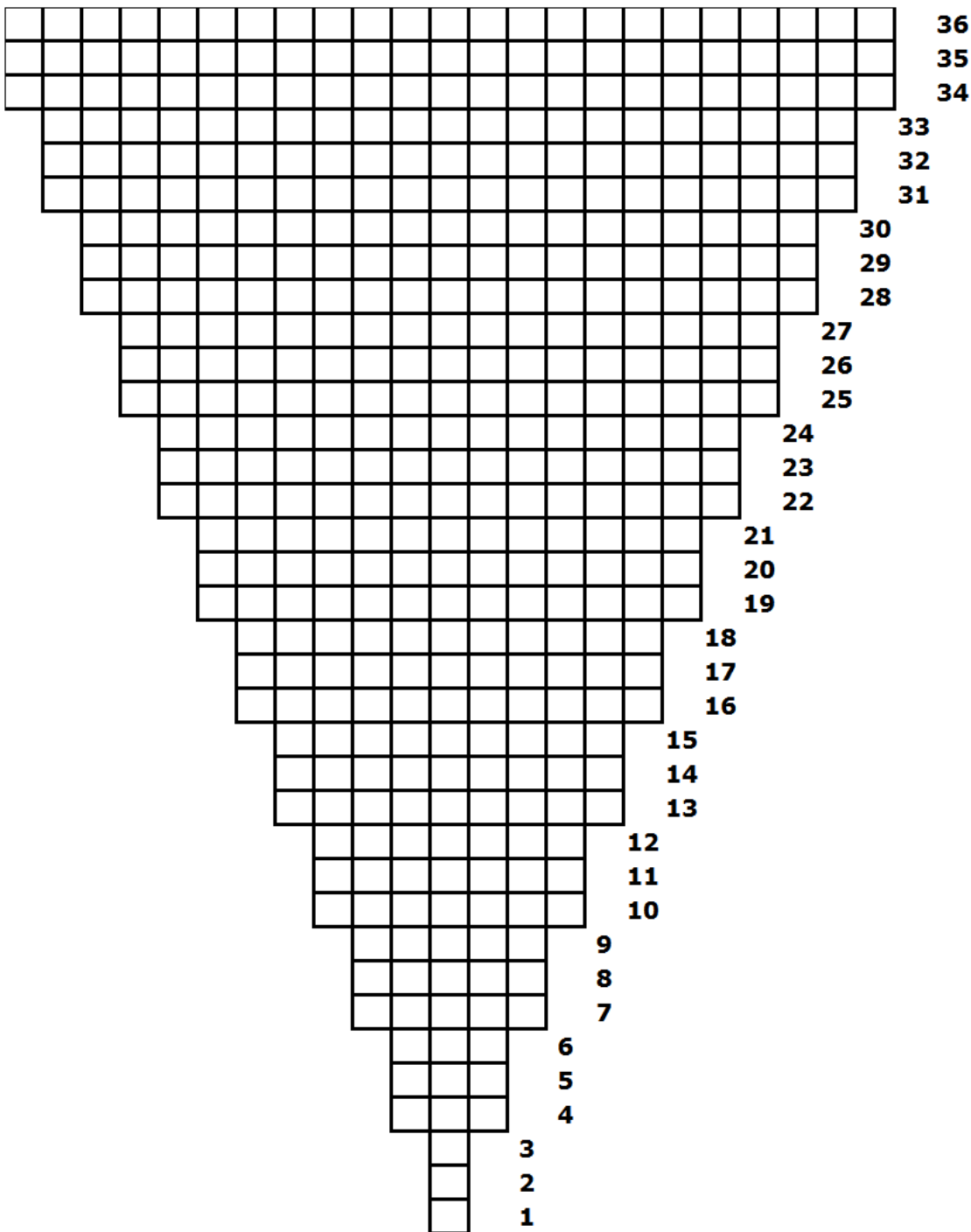
"Standard" triangle
2 increases every other row
resting rows not shown



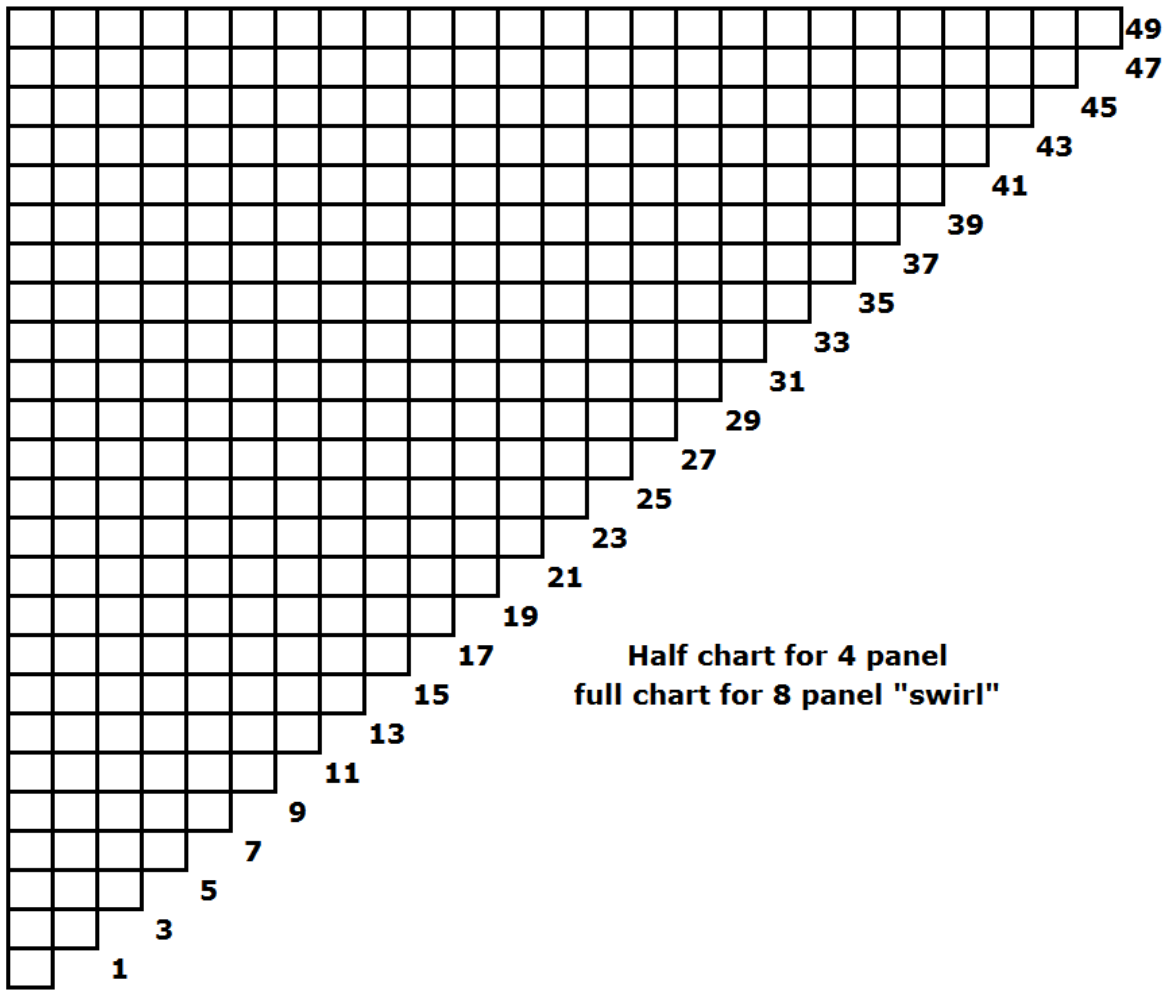
**Paired increases every fourth row
 this gives a complete chart for an 8 segment circle
 w/ balanced segments
 (resting rows not shown)**



NOTE: if used as a 16 segment circle the design will "swirl" as the increases are not paired and are biased in one direction.



One increase per three rounds gives a six panel hexagon or circle (depending on blocking). Note the resting rows are shown.



Half charts are useful as they allow more legible information to be fit on the page. The leftmost column is normally the pivot point. Each chart row is worked in the normal fashion from right to left, then worked back from left to right; skipping the leftmost column and reversing the decreases as appropriate (mirroring)

When worked as a full chart (reading right to left only) such a chart normally produces a swirled design as the increases are biased in a single direction.

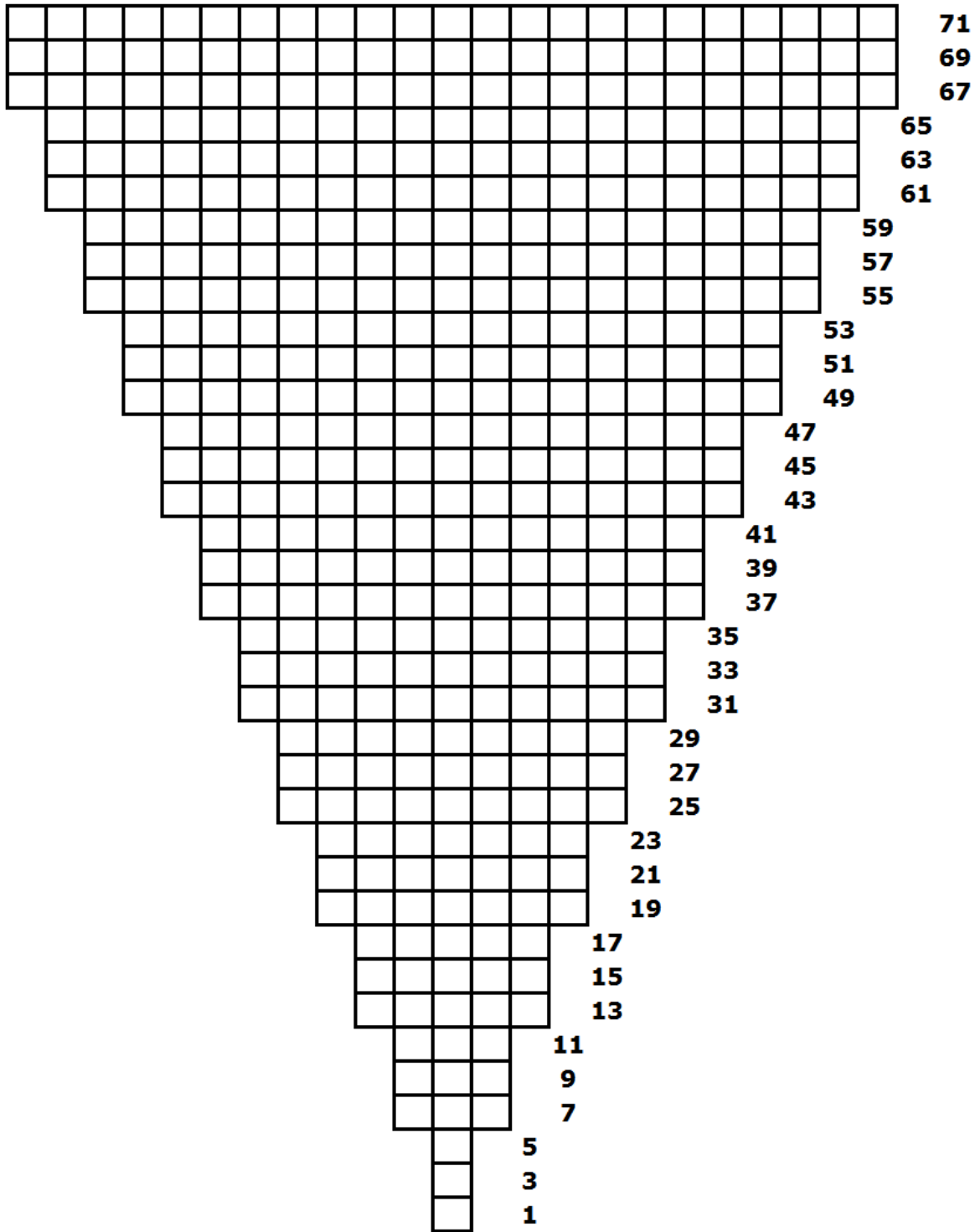
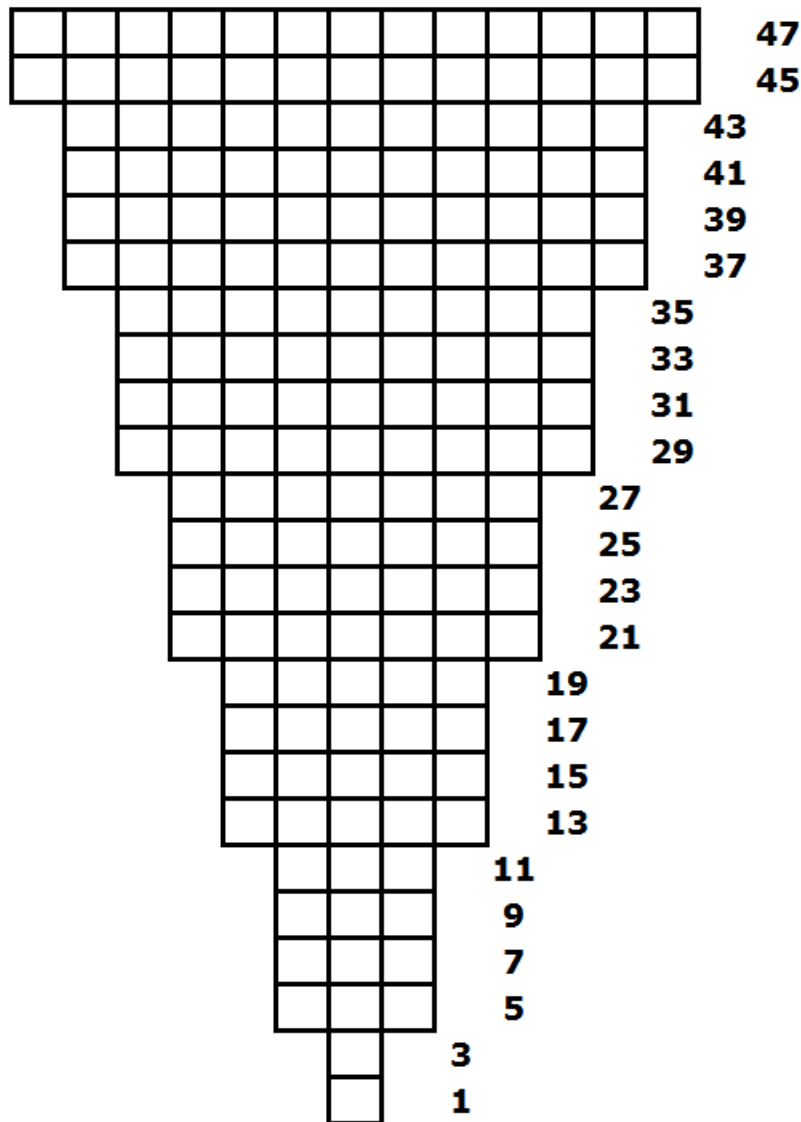
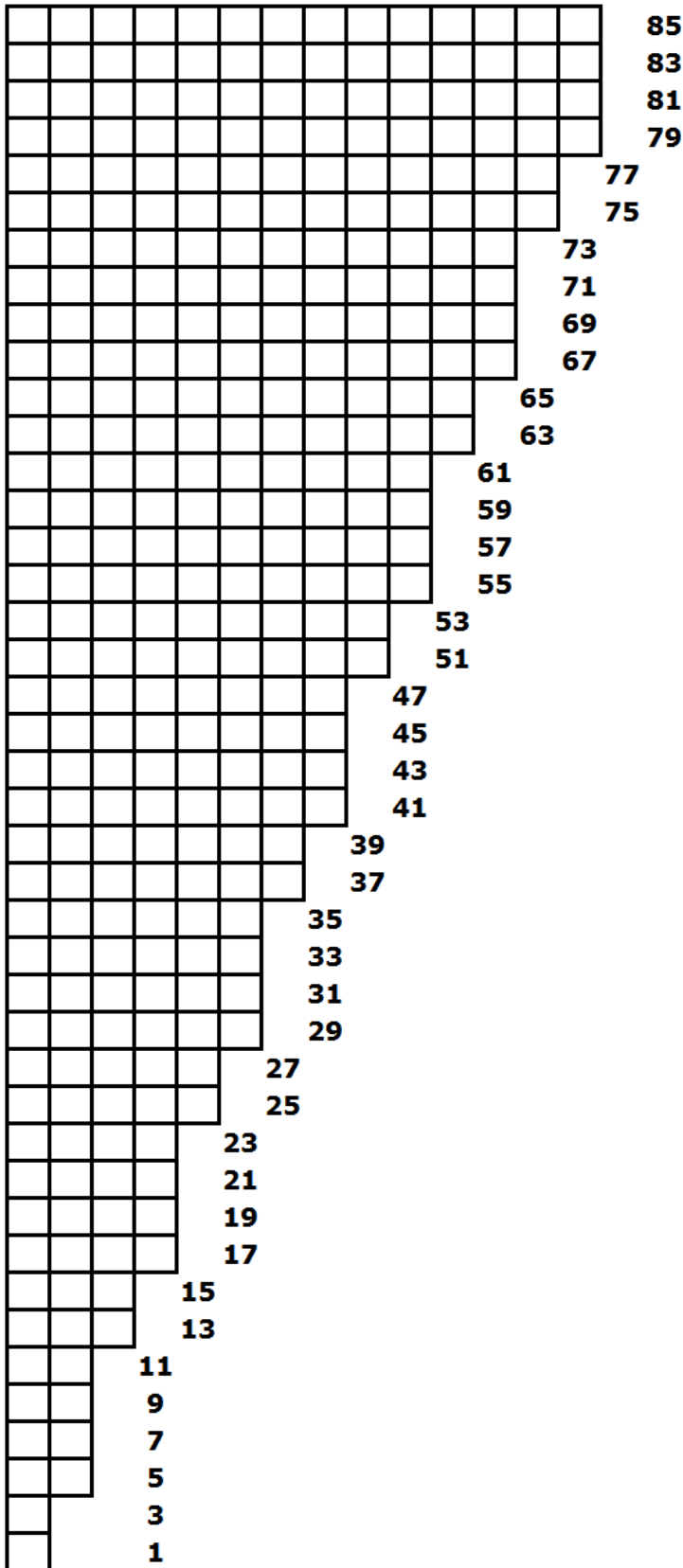


Chart is configured for a 12 panel balanced segment circle. Resting rows not shown. If you replace the row numbers so that they are consecutive (including all rows) then it becomes is a six panel balanced segment chart.



Full chart for 16 balanced segment circle.

NOTE: if the rows are numbered consecutively to include the resting rows this could be used for an 8 panel circle / octagon; useful if doing lace that has "movement every row"



An alternate increase scheme for 12 panel if mirrored or a 24 panel swirl

resting rows not shown.

If the rows are numbered consecutively (including the resting rows) it is an alternate scheme for a mirrored 6 panel or a 12 panel swirl.

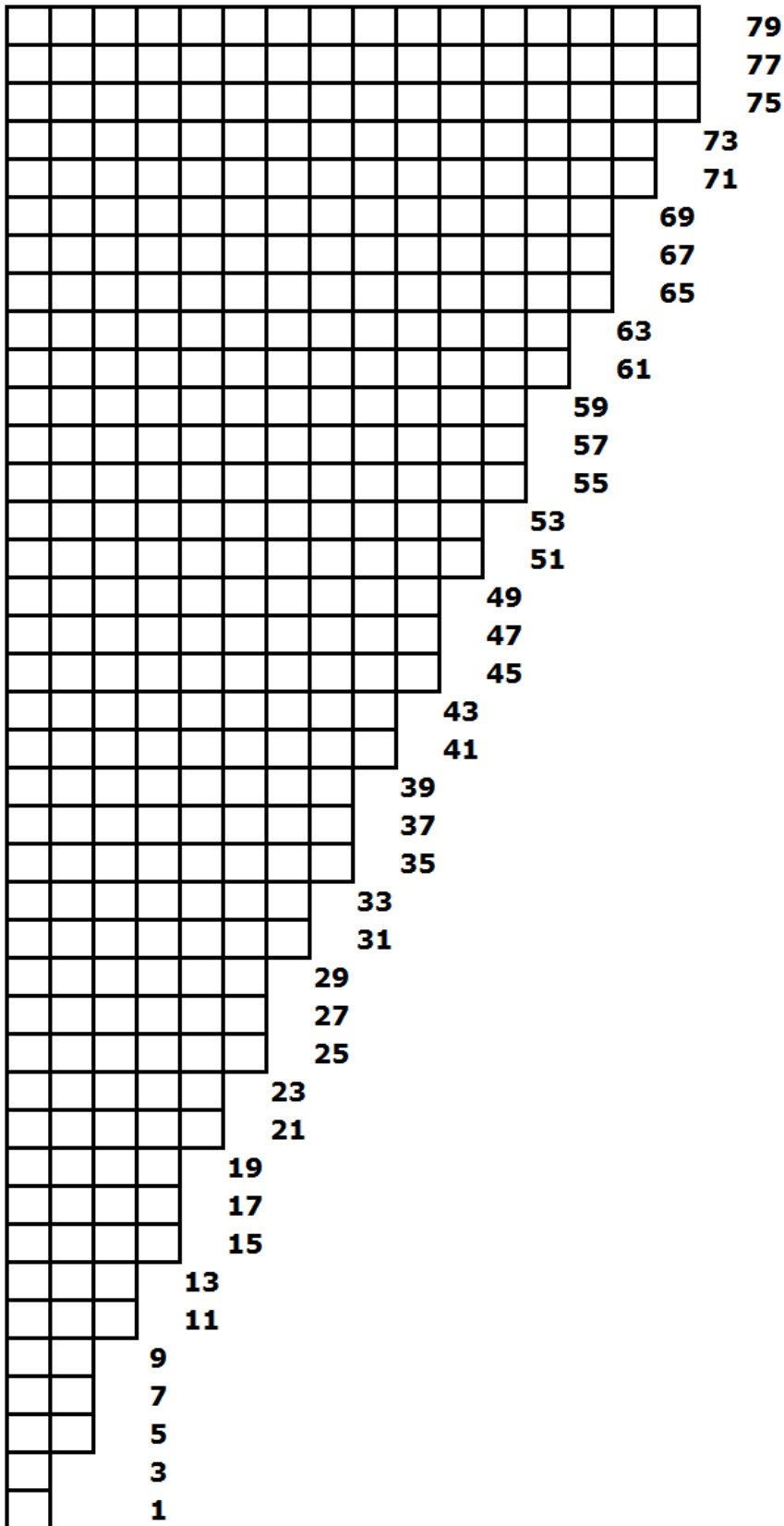


Chart for a 10 panel if mirrored

20 panel swirled

If you renumber the rows consecutively to include resting rows it would be a five panel mirrored chart / 10 panel swirl.

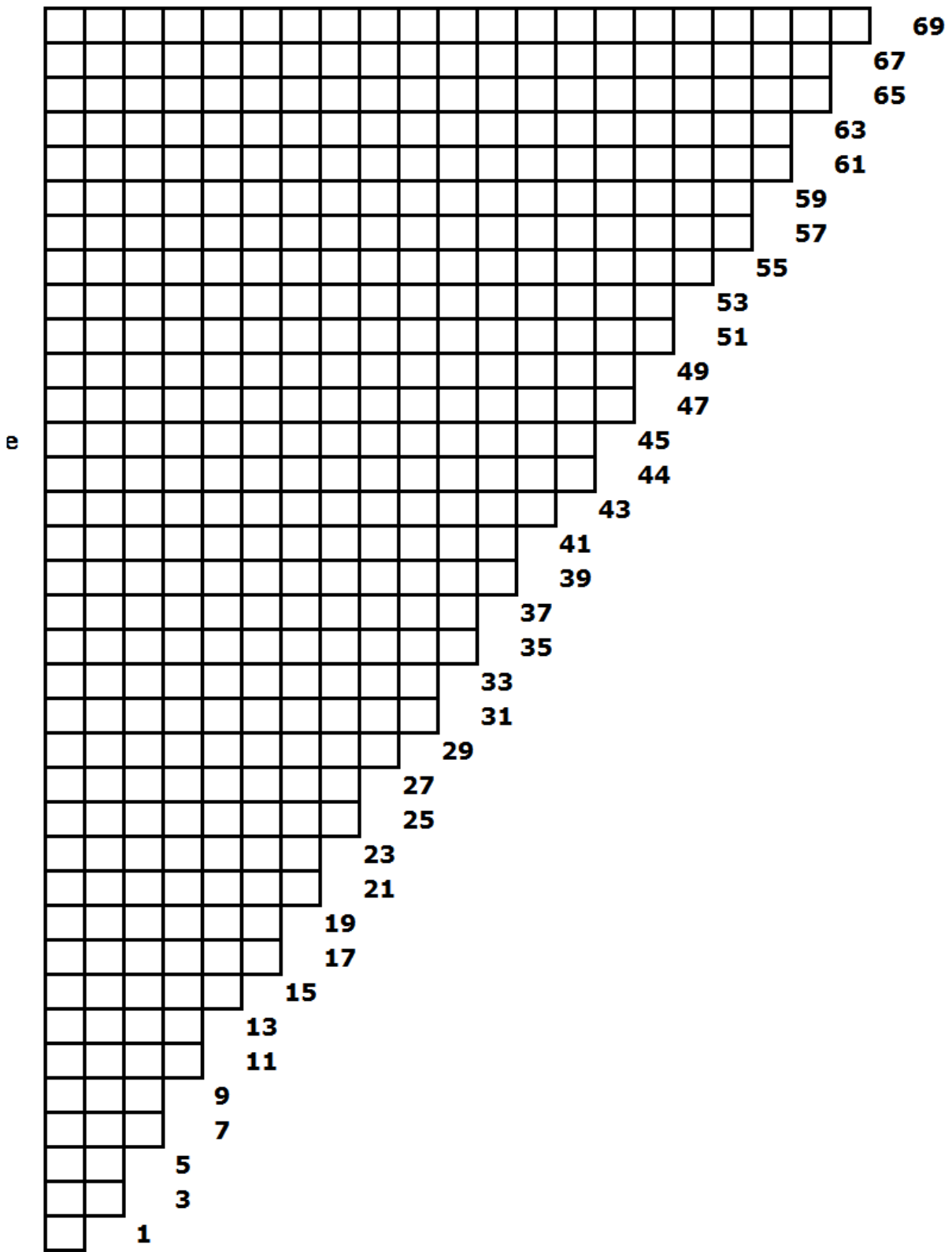
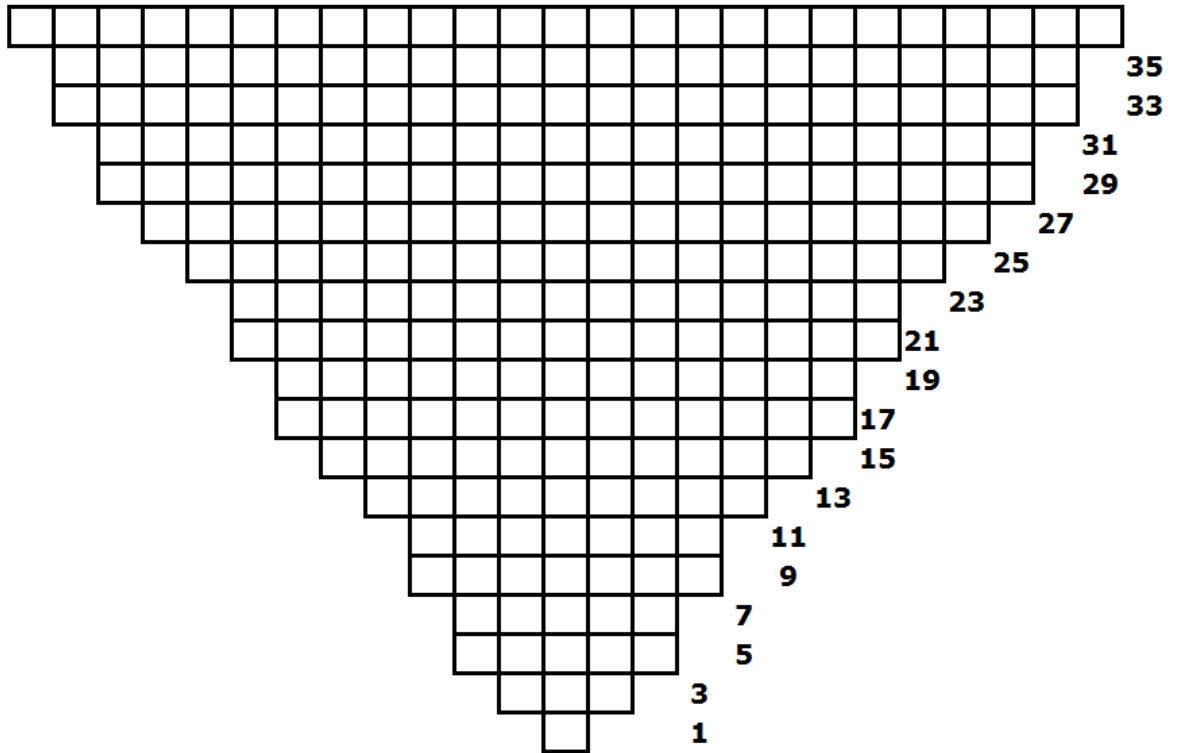
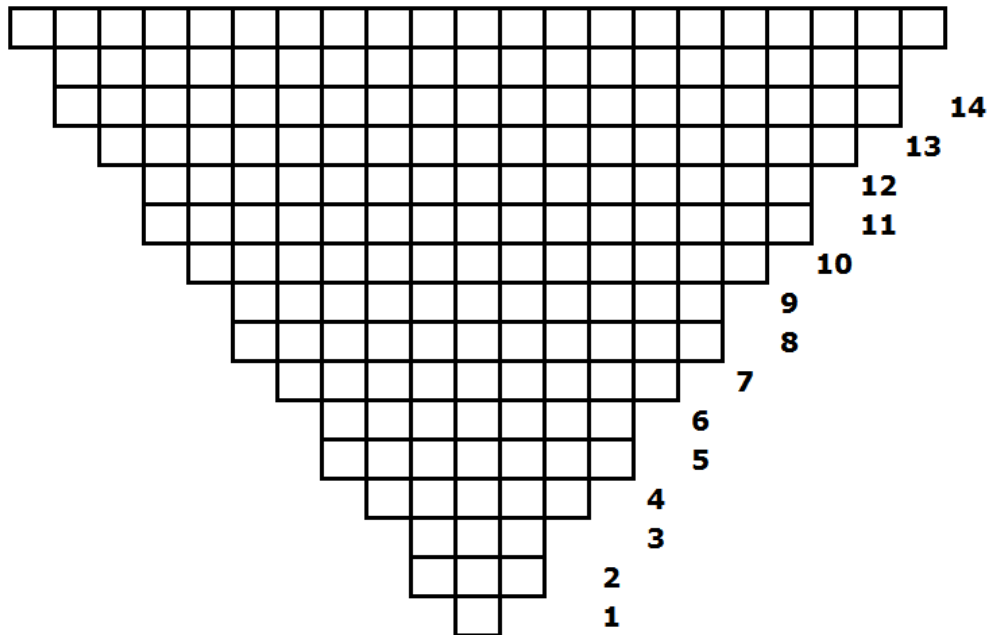
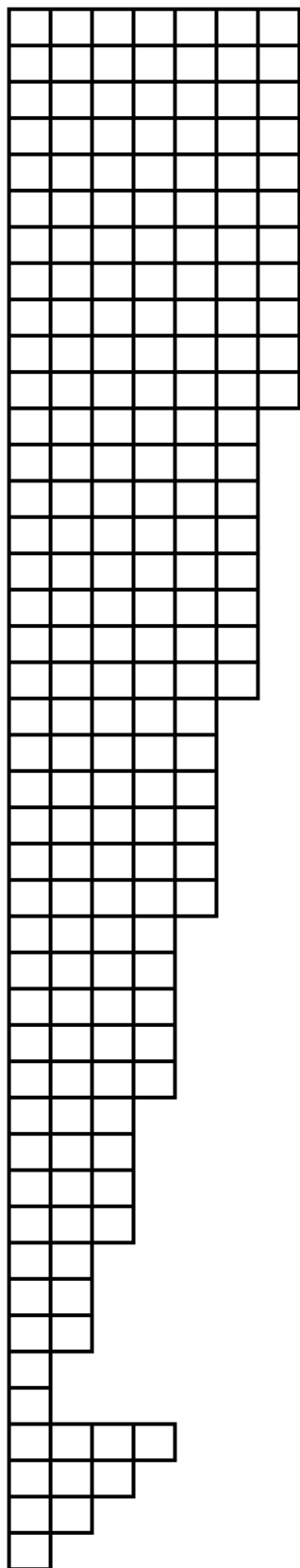


Chart is for 7 panel if mirrored; 14 panel swirled



Two possible charts for a 5 sided (pentagon)





A tentative chart for a 32 segmented circle

One does not normally wish to start a circular piece with too many stitches as closing the gap in the center will either leave a hole or bunch up the initial rounds in an unsightly manner.

So for larger segmented pieces There is an increase phase; followed by the actual pattern.

In this hypothetical chart the first 8 rows (4 charted rows) allow for the expansion of an 8 stitch cast on into 32 stitches. That portion of the chart would be worked 8 times per round. After that, the chart would repeat 32 times per round.

Theoretically a 32 segmented circle would increase every 16 rounds. This could cause some distortion in earlier rounds so for this chart I chose to increase at a greater rate while expanding each segment

Another method would be to increase as if the piece had a lesser number of segments until the stitch count of a round is divisible by both the current segment count AND the desired segment count.

For Example - a round with 128 stitches would be a 16 stitch repeat @ 8 segments per round, but only 4 stitches per repeat @ 32 segments per round.

# of increases	(theoretical) per # of row/rnds	evenly spaced # of sides	paired increase # of sides
4	1	4	-
5	1.25*	5	-
6	1.5 *	6	3
7	1.75*	7	-
8	2	8 **	4/square
9	2.25*	9	-
10	2.5*	10	5/pentagon
12	3	12	6/hexagon
14	3.5	14	7
16	4	16	8
20	5	20	10
24	6	24	12
28	7	28	14
32	8	32	16
36	9	36	18
40	10	40	20
44	11	44	22
48	12	48	24
52	13	52	26
56	14	54	28
60	15	56	30
64	16	58	32

*** = fractional and odd numbers can be adjusted
for example 6 increases alternating 1 row/2 rows
averages 6 every 1.5 rows**

**** Above 8 sides it is hard to block other than as a circle**

