Magic Formula for Circles by Alles Hutchinson

This is offered to you so that you can learn the way to figure out short rowing. Once you learn this formula you will be able to do hats shawls or Afghans.

CIRCULAR SHAW OR AFGHAN
According to Alles Hutchinson:
There is probably more advanced math in than in anything else you have done.
The entire piece is done by short rows (partial knitting). You will need only one measurement--- how wide do you want the finish piece to be.
For example we will use 2.25 stitches and 4 rows = 1 inch. The diameter will be 40 inches. With 10 panels. You will substitute your own stitches and rows, and how many panels you want, but follow the same principle.

1. Find the circumference of the circle.
   FORMULA: to find the circumference of a circle, multiply the circumference of a circle,
   40 inch circle.
   40 x 3.14 (pie) = 125.6 (six is larger then 5 so the answer is 126)
2. Change inches to rows.
   126 x 4 rows per inch = 504 rows around the edge.
3. Decide how many panels you want:
   10 panels .....504 rows divided by 10 panels = 50.4 (4 is less then 5 so the answer is 50).
4. Find the radius of circle and change inches to stitches. Radius = 1⁄2 the diameter of the circle.
   40 inches divided by 2 = 20
   20 x 2 stitches per inch = 40 (this is what you will cast on).
5. Shape this by short rows so that it will become a pie shaped piece.
   Each section will be short rowed down to the next to the last group. The last group ` will not be worked. Then 2 rows are knitted over all needles.
   Since short rows are done only on alternate rows, divide the number of rows by 2. 50 rows divided by 2 = 25 rows.
6. Distribute the stitches evenly over these rows.
   You have 40 stitches to shape in 25 rows.
   Since the answer you want is stitches, divide rows into stitches.
   25 rows divided into 50 = 2 stitches to short row.

```
          __2_______
25 rows  / 50 stitches
         50
```

Therefore you will short row 2 stitches every other row

So you will cast on 40 stitches and knit back but don't do peg 1 and 2. Lift stitch 2 off peg and wrap yarn on it. Replace stitch and knit back to peg 40 then knit to peg 5 and then back to peg 40. You will short row 2 stitches every other row when you get to the last 2 stitches you will knit over all the stitches.
Then change to 2nd color or keep it in one color. Remember there are no knitting police out there so let you imagination run wild and do as many colors as you prefer and as many panels as you want.
ANOTHER EXAMPLE:
Lets say your stitches were 7 stitches and 10 rows per inch and you wanted it 46 inch circle.
Using 10 panels.
Here is how you would do it.
46 inches x 3.14 (pi) = 144.44 = 144 using the 4 is lower then 5.
144 inches x 10 rows =1440 rows around the entire edge.
Radius = 1⁄2 the diameter.
46 inch divided by 2 = 23 inches x 7 stitches per inch =161 stitches to cast on. Now shape the short rows.
144 divided by 2 =72 rows
so now we have 161 stitches to shape in 72 rows.

```
      sts    _2__+ 1 +_= 3 stitches
72 rows/  161 stitches
-17         -144
 55 times   17 times
```

Therefore you will short row 3 stitches 17 times then 2 sts ever other row 55 times.
Now to prove it
17+55= 72rows
23 inches x 7 stitches = 161 stitches.

I hope you can understand this.