### Corrections

| How many pegs to wrap? | 18 |
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## How many pegs to wrap?

The number of **pegs to wrap** equals the desired fabric width multiplied by the stitch density (the number of stitches per centimeter). The latter is estimated by

Figure 1: Number of pegs to wrap.

knitting a swatch and dividing the number of stitches in row by its width. Figure 1 summarizes this relationship and Figure 2 shows sample calculations. Although the formulas look complicated, they only use addition, subtraction, multiplication, and division and they can be automatically calculated at <a href="https://www.rakeknitting.com">www.rakeknitting.com</a> using either centimeters or inches.

Figure 2: Intermediary steps and examples for calculating the number of pegs to wrap (stitches to knit).

| Measure           | Formula   | Example   |  |
|-------------------|---|---|--|
| Stitch<br>density | $\frac{\text{No. of stitches}}{\text{Width}} \rightarrow \frac{\text{No. of stitches}}{1 \text{ cm}}$ | What is the stitch density of a 20-stitch swatch that is 16.0 cm wide? 20 stitches/16.0 cm → 1.25 stitches/1.0 cm   |  |
| Pegs to wrap      | $\binom{\text{Fabric}}{\text{width}} \left( \frac{\text{No. of stitches}}{1 \text{ cm}} \right)$      | How many pegs are needed to knit a 30.0 cm wide fabric if 1 cm equals 1.25 stitches?  Pegs = $\binom{\text{Fabric}}{\text{width}} \left( \frac{\text{No. of stitches}}{\text{1 cm}} \right) = (30\text{cm}) \left( \frac{1.25 \text{ stitches}}{\text{cm}} \right)$ = 37.5 stitches $\rightarrow$ round up to 38 pegs |  |

# How many rows to knit?

The number of **rows to knit** equals the fabric length multiplied by the row density (the number of rows per centimeter). The latter is estimated by knitting a swatch and dividing the number of rows by its length. Figure 3 summarizes this relationship and Figure 4 provides sample calculations.

Figure 3: Number of rows to knit.

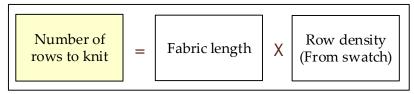


Figure 4: Intermediary steps and examples for calculating the number of rows to knit.

| Measure        | Formula   | Example  |  |
|----------------|---|--|--|
| Row<br>density | $\frac{\text{No. of rows}}{\text{length}} \rightarrow \frac{\text{No. of rows}}{1 \text{ cm}}$    | What is the row density of a 20-row swatch that is 14 cm long 20 rows/14 cm $\rightarrow$ 1.43 rows/1.0 cm   |  |
| Rows to knit   | $\binom{\text{Fabric}}{\text{length}} \left( \frac{\text{No. of rows}}{1 \text{ cm}} \right) + 2$ | If 1 cm equals 1.43 rows, how many rows are needed to knit an 80-cm fabric?  Rows = $(80 \text{ cm}) \cdot \left(\frac{1.43 \text{ rows}}{\text{cm}}\right) + 1 \text{ cast-on row} + 1 \text{ cast-off row}$ = 114.4 rows + 2 =116.4 $\rightarrow$ round up to 117 rows |  |

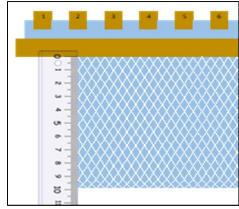
While these formulas are very helpful, they depend on knitting consistent rows. However, stitch length can vary slightly, depending on how strongly fabric is pulled between the rakes. Pulling fabric strongly creates slightly longer stitches. Therefore, it is important to measure your fabric (See Figure 5), especially when seaming two fabrics together.

#### Yarn estimator

The yarn needed for a project is estimated by the number of stitches in the project and by how much yarn is used in each stitch. The number of stitches is approximated by the number of stitches in a row

multiplied by the number of rows. This relationship is summarized in Figure 6. Note that two additional rows are added to the formula, one row for casting on and one row for bind off. To calculate how many balls of yarn are needed, divide the yarn estimate by the length of a ball of yarn.

Figure 5: Measure fabric length.



$$\begin{array}{c}
Yarn & = \begin{bmatrix}
Number of \\
pegs to wrap
\end{bmatrix} \chi \begin{bmatrix}
Number of \\
rows to knit
\end{bmatrix} \chi \begin{bmatrix}
Yarn to knit \\
one stitch
\end{bmatrix}$$

$$Yarn = (Number of stitches) (Yarn in a stitch) \\
& = (Stitches in a row)(Rows + 2)(Yarn in a stitch)$$

$$Balls of yarn = (Yarn) \left(\frac{1 \text{ Ball}}{Yarn in one ball}\right)$$

The amount of yarn needed to knit one double knit stitch depends on the same factors that affect gauge, such as the distance between the rakes, the size of the pegs, the distance between the pegs, yarn elasticity, and knitting tension. While these variables are important, the distance between the rakes is crucial for double rake loom knitting, because it is the only adjustable variable on the loom that affects gauge. Figure 7 illustrates the relationship between three different rake distances and the yarn needed to knit one double knit stockinette stitch. The corresponding yarn estimates, which were knit on an 18" Knitting Board<sup>TM</sup> loom, range from 5.7 to 6.7 cm

per stitch. Figure 8 shows how to use these stitch estimates to calculate how much yarn is needed to knit a scarf that is 120 rows long and 30 stitches wide using a medium weight yarn with 182 meters of yarn per ball on a Knitting Board<sup>TM</sup> loom with rakes that are spaced 1 cm apart.

Figure 7: Yarn estimates for one double knit stockinette stitch on an 18″ Knitting Board™ loom.

| Distance between rakes (cm) | 0.5 | 1.0 | 1.5 |
|-----------------------------|-----|-----|-----|
| Yarn per stitch (cm)        | 5.7 | 6.0 | 6.7 |

Figure 8: Sample calculation for the number of balls of yarn needed to knit a scarf.

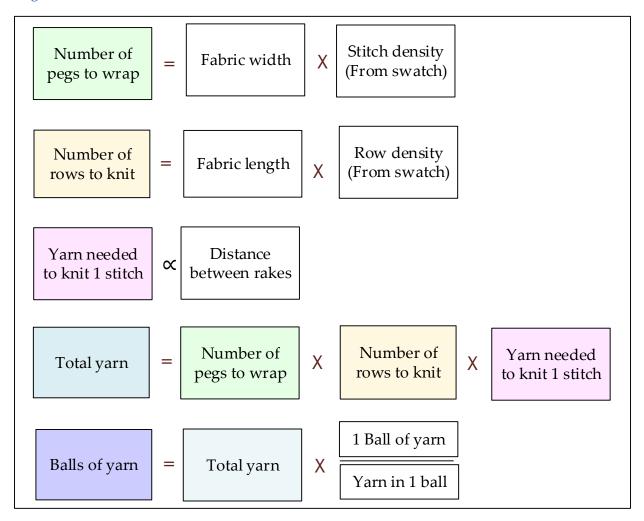
Balls of yarn = Yarn X Yarn in 1 ball

Balls of yarn = (Yarn needed for 1 stitch) 
$$\left(\frac{\text{Stitches}}{\text{Row}}\right)$$
 (Rows + 2)  $\left(\frac{1 \text{ Ball}}{\text{Yarn in meters}}\right) \left(\frac{1 \text{ meter}}{100 \text{ cm}}\right)$ 

=  $\left(\frac{6.0 \text{ cm}}{\text{Stitch}}\right) \left(\frac{30 \text{ stitches}}{\text{Row}}\right)$  (120 + 2 rows)  $\left(\frac{1 \text{ Balls}}{182 \text{ m}}\right) \left(\frac{1 \text{ m}}{100 \text{ cm}}\right)$  = 1.21 balls  $\Rightarrow$  Round up to 2 balls

The equations used to customize fit and to estimate yarn are shown in Figure 9. Note that the white boxes are measured values and the colored boxes contain calculated values.

Figure 9: Yarn calculator.



<sup>\*</sup>White boxes contain measured values and colored boxed contain calculated values.

Use the knitting calculator at www.rakeknitting.com for all formulas in the book!

## Figure 106

Figure 106: Instructions for brioche knitting using the stockinette stitch with a raised rib on the front side and a fish-scale pattern on the reverse side. 2 1. Cast on: • Add slip knot to the FR. Add a row of stockinette. Add an anchor stick. 2 2. Create a loop differential: • Add a row of stockinette and knit off loop pairs on the BR. 3. Weave a row of stockinette: • On the FR, each peg has three loops. • On the BR, each peg has two loops. 4. Knit off the bottom loop(s) over the top loop: On the FR, knit off the bottom two loops over the top loop. On the BR, knit off loop pairs. 5. Repeat steps 3 and 4