



Crunching the numbers: Dimensional Loss

THE
Handweaving
Academy

Dimensional Loss Records

Take and record these measurements...

Project	Width	Length
In reed		
On loom		
Off loom		
Finished		
Finishing method		

How much tension was on the warp when the measurements were taken? None, light, heavy, etc.

...and then plug them into this ratio to calculate starting project dimensions:

$$\frac{\text{Starting measurement of sample}}{\text{Ending measurement of sample}} = \frac{\text{Starting measurement of project}}{\text{Ending measurement of project}}$$



Measurements used in examples

	Width	Length
In reed	14.2"	
On loom	12.25"	20"
Off loom	12.63"	19"
Finished	11.13"	16.38"

Example 1

"How wide should I make my warp in the reed in order for my finished cloth to be 20" wide?"

- Starting measurement: width in reed
- Ending measurement: finished width

Step 1: Begin with the ratio from Page 1

$$\frac{\text{Starting measurement of sample}}{\text{Ending measurement of sample}} = \frac{\text{Starting measurement of project}}{\text{Ending measurement of project}}$$

Step 2: Replace "Starting measurement" with "Width in reed" and "Ending measurement" with "Finished width"

$$\frac{\text{Width in reed of sample}}{\text{Finished width of sample}} = \frac{\text{Width in reed of project}}{\text{Finished width of project}}$$

Step 3: Replace the labels with the corresponding values from the recorded measurements

$$\frac{14.2}{11.13} = \frac{\text{Width in reed of project}}{20}$$



Step 4: Solve for “width in reed of project.”

To isolate the numerator (top) of the fraction on the right side of the equation, multiply both sides by the denominator (bottom) of that side:

$$\frac{14.2 \times 20}{11.13} = \frac{\text{Width in reed of project} \times 20}{20}$$

Now the same value in the numerator and denominator cancel each other out...

$$\frac{14.2 \times 20}{11.13} = \frac{\text{Width in reed of project} \times \cancel{20}}{\cancel{20}}$$

... and we're left with

$$14.2 \times 20 \div 11.13 = \text{Width in reed of project} = 25.51''$$

In other words, in order to make the project 20" wide once it's finished, we should make the warp 25.5" wide in the reed.

Example 2

“How long should my fabric measure on the loom in order for the finished item to be 12" long?”

- Starting measurement: length on loom
- Ending measurement: finished length

Step 1: Begin with the ratio from Page 1

$$\frac{\text{Starting measurement of sample}}{\text{Ending measurement of sample}} = \frac{\text{Starting measurement of project}}{\text{Ending measurement of project}}$$

Step 2: Replace “Starting measurement” with “Length on loom” and “Ending measurement” with “Finished length”

$$\frac{\text{Length on loom of sample}}{\text{Finished length of sample}} = \frac{\text{Length on loom of project}}{\text{Finished length of project}}$$



Step 3: Replace the labels with the corresponding values from the recorded measurements

$$\frac{20}{16.38} = \frac{\text{Length on loom of project}}{12}$$

Step 4: Solve for “length on loom of project.”

To isolate the numerator (top) of the fraction on the right side of the equation, multiply both sides by the denominator (bottom) of that side:

$$\frac{20 \times 12}{16.38} = \frac{\text{Length on loom of project} \times 12}{12}$$

Now the same value in the numerator and denominator cancel each other out...

$$\frac{20 \times 12}{16.38} = \frac{\text{Length on loom of project} \times \cancel{12}}{\cancel{12}}$$

... and we're left with

$$20 \times 12 \div 16.83 = \text{Length on loom of project} = 14.65''$$

In other words, in order to make the project 12" long once it's finished, we should weave until it measures 14.65" long on the loom.

Example 3

“My fabric is currently 30” on the loom. How long will it be if I stop weaving right now?”

- Starting measurement: length on loom
- Ending measurement: finished length

Step 1: Begin with the ratio from Page 1

$$\frac{\text{Starting measurement of sample}}{\text{Ending measurement of sample}} = \frac{\text{Starting measurement of project}}{\text{Ending measurement of project}}$$



Step 2: Replace “Starting measurement” with “Length on loom” and “Ending measurement” with “Finished length”

$$\frac{\text{Length on loom of sample}}{\text{Finished length of sample}} = \frac{\text{Length on loom of project}}{\text{Finished length of project}}$$

Step 3: Replace the labels with the corresponding values from the recorded measurements

$$\frac{20}{16.38} = \frac{30}{\text{Finished length of project}}$$

Step 4: Solve for “finished length of project.”

The number we want to solve for is in the denominator, so first we need to flip the entire equation - both sides - upside down:

$$\frac{16.38}{20} = \frac{\text{Finished length of project}}{30}$$

Now we can isolate the numerator (top) of the fraction on the right side of the equation by multiplying both sides by the denominator (bottom) of that side.

$$\frac{16.38 \times 30}{20} = \frac{\text{Finished length of project} \times 30}{30}$$

The same value in the numerator and denominator cancel each other out...

$$\frac{16.38 \times 30}{20} = \frac{\text{Finished length of project} \times \cancel{30}}{\cancel{30}}$$

... and we're left with

$$16.38 \times 30 \div 20 = \text{Finished length of project} = 24.57''$$

In other words, if we stop weaving at 30", we can expect the finished cloth to be around 24.57" long.