

A4 B146(141) C52058(1.1) D11

卷卷絲絲
為為數數

三二六四五
百百尺十十
步四為尺尺
為十一為為
一步步。一
里為一畝。
端，十丈
為為為為
一引，尺分毫
忽，知其所起
其為為為為
忽，起於忽
吐絲忽
卷上

度：入聲；tek9; du6; 統 du6
measuring of length

起：beginneth from; lit. ariseth from

~~忽~~

絲：lit. thread of silk

毫：lit. fine hair 步：lit. step; pace

Master 孫's Computational Classic: Volume I lit. Upper Volume

If that which measuring length beginneth from: beginneth it from 忽.
If one wisheth to know the size of 忽: the silkworm spitteth silk, which is
of ^{thickness} 忽.

Ten 忽 make one 絲; ten 絲 make one 毫; ten 毫 make one 釐;
ten 釐 make one 分; ten 分 make one 寸; ten 寸 make one 尺;
ten 尺 make one 丈; ten 丈 make one 引. ^{pc}

Fifty 尺 make one 端; forty 尺 make one 畝; six 尺 make one 步.

Two hundred and forty square 步 make one 畝.

Three hundred 步 make one 里.

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B err. has 「五十引為一端」

In summary,

fat7 忽 = $10^{-6} R$ sil1 絲 = $10^{-5} R$ hou4 毫 = $10^{-4} R$ lei4 釐 = $10^{-3} R$ fan1 分 = $10^{-2} R$ ch'ün3 寸 = $10^{-1} R$

chek8 尺 = 1 R

chang6 丈 = 10 R

yan5 引 = 100 R

tiün1 端 = 50 R

p'at7 咫 = 40 R

pou6 步 = 6 R

mau5 畝 = $240 \text{ 步}^2 = 8640 R^2$ lei5 里 = $300 \text{ 步} = 1800 R$

R is of the order one foot.

By the later part of the Ts'ing Dynasty, it was 14 5/8 in.

oelawhk.lib.hku.hk/exhibits/show/oelawhk/homeSearch for (weight measure) Chap./ord. title
(Ed. 1890) No. 22 of 1844Contains Ch.-Ch. and Eng.-Eng. conversions
(see Measures of Length) but no Ch.-Eng.

Conversion

(Ed. 1890) No. 8 of 1885

~~Length~~

see Length.

1 chek (foot) equal to 14 5/8 English inches, divided into 10 Tsün or inches, and each inch 10 Fan or tenths.

Today: <https://www.elegislation.gov.hk/hk/cap68>

1 chek = 0.371475 metre

Note 畝 is area. They did not have dimensional analysis; 步 there means "square 步".

R at the time of writing was not this, but using $R \sim 0.3 \text{ m}$ as an estimate, one has~~忽~~ 毫 $\sim 10^{-4} (0.3 \text{ m}) = 30 \mu\text{m}$ 絲 $\sim 10^{-5} (0.3 \text{ m}) = 3 \mu\text{m}$ 忽 $\sim 10^{-6} (0.3 \text{ m}) = 0.3 \mu\text{m}$

(or for any practical purpose of pre-modern technology)

忽 seems too thin for silk, 絲 still a little thin. But my job is just to translate the text as it is.

<https://www.uaf.edu/lars/qivut/fine-fibers/>"Bombyx Silk 10-13 μm "<https://www.researchgate.net/publication/263089345> Investigation of the Silk Fiber Extraction Process from the Vietnam Natural Bombyx-Mori-Silkworm-Cocoon "Mean (μm) 12.084 Std Dev 1.093"

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