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Now we have one of three shares, two of three shares and three of four shares. We ask: how much shall we diminish the greater to benefit the lesser, that they be level?

Answer saith: that diminished of the three of four shares, two; that of the two of three shares, one; combined to benefit the one of three shares, that each be level at seven of twelve shares.

平以二, 答多之今於益三曰: 益二有一三分減少, 四三十分之四幾分分二之二分何之之分一, 者之而三一之而一三平; 問三七各并者減分

而平: that they be level; or that it be fair

$$\frac{3}{4}-\frac{2}{12}=\frac{2}{3}-\frac{1}{12}=\frac{1}{3}+\frac{2+1}{12}=\frac{7}{12}$$

In modern notation, consider $\frac{a}{A}, \frac{b}{B}, \frac{c}{C}$, more generally.
Their average is $m=\frac{aBC+bCA+cAB}{3ABC}$, so

$$\frac{a}{A}-m=\frac{3aBC-[aBC+bCA+cAB]}{3ABC}.$$

In the following:

母 denominators: A, B, C
子 numerators: a, b, c
母互乘子: aBC, bCA, cAB
未并者: ditto
副并得: aBC+bCA+cAB = 63
平實 level dividend: ditto
母相乘: ABC

列數 number of rows: 3
(Mainlandia: columns; also non-classical HK)
等數: gcd(3aBC, 3ABC, 平實) = 9

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Method saith: put the three shares, the three shares and the four shares on the right, the one of, the two of and the three of on the left. The denominators, mutually multiplied with the numerators, combined subsidiarily, result in sixty-three, put to the right as the level dividend.
The denominators multiplied with each other, result in thirty-six as the divisor.
Multiply those not yet combined, and the divisor, by the ~~three~~ number of rows; we obtain nine for their equal quantity. Finish reducing them.
That ~~diminished~~ diminished of the three of four shares, is two; that diminished of the two of three shares, one; combined to benefit the one of three shares, each level at seven of twelve shares.

術曰：置三分、三分、四分在右方，之一、之二、之三在左方。母互乘子，副并得六十三，置右為平實。母相乘得三十六為法。以列數三乘未并者及法，等數得九，約訖。減四分之三者二，減三分之二者一，并以益三分之一，各平於十二分之七。

母互乘子

$a=1 \quad A=3 \quad aBC=12$
$b=2 \quad B=3 \quad bCA=24$ } 未并者
$c=3 \quad C=4 \quad cBA=27$

平實 $=63$

母相乘 $=ABC=36=$ 法

列數 $=3$

$3\begin{pmatrix}aBC\\bCA\\cBA\end{pmatrix}=\begin{pmatrix}36\\72\\81\end{pmatrix}$. 平實 $=63$

3法 $=108$.

等數 $=\gcd(\ldots,$ 平實, 3法$)=9$.

約訖： $3\begin{pmatrix}aBC\\bCA\\cBA\end{pmatrix}\div 9=\begin{pmatrix}4\\8\\9\end{pmatrix}$. 平實 $\div 9=7$. C.er. ~~母互乘子~~ for 母互乘子.

3法 $\div 9=12$. Thus level value is 7/12, and increment $\frac{7-(4,8,9)}{12}=\frac{(+3,-1,-2)}{12}$.

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