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Now there be two people, A and B,
 carrying coins, and we know not the
 number of each. A in receiving half
 of B's ^{coins} doth reach forty-eight; B in
 receiving two thirds of A's, also reacheth
 forty-eight. We ask: how many coins
 carried each of the two people, A and B,
 originally?

可: doth; lit. can

中半: half; lit. ^{middle} half

太半: two thirds;

lit. greater half

Answer saith: A carried coins thirty-six;
 B carried coins twenty-four.

Method saith: seek them as per the
 rectangular system, put down two A, one B,
 and ~~one~~ ~~one~~ ~~one~~ ninety-six ^{coins} on the right, and put
 down two A, three B, and one hundred and
 forty-four coins on the left.

As posed,

$$A + \frac{1}{2}B = 48$$

$$B + \frac{2}{3}A = 48$$

thus

$$2A + B = 96$$

$$2A + 3B = 144$$

$$2A \quad 2A$$

$$3B \quad B$$

$$144 \quad 96$$

各問甲半, 各今
 幾甲, 太可不有
 何乙半, 滿知甲
 二亦四數乙
 人滿十甲二
 元四八, 得人
 持十乙乙持
 錢八, 得中錢,

於二一術錢答
 左甲乙曰二曰
 方三錢如十甲
 乙九方四持
 錢十程錢
 一六求
 百於之
 四右置
 十四方; 二
 置甲
 乙持

方程: rectangular system.

Today this means 'equation'.

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Multiplying the left by the right's two, resulteth in four above, in six in the middle, and in two hundred and eighty-eight coins below. Multiplying the right by the left's two, resulteth in four above, in two in the middle, and in one hundred and ninety-two below.

二得二百得以下
二乘八四右
下右十中方
得方,八得二
一上錢六乘
百得以下左
九四,左得方,
十中方二上

Here each equation is multiplied by the coeff. of A from the other equation. Note this step is redundant since both have coefficient 2.

$$\begin{array}{rcl} 4A + 2B & = & 192 \\ 4A + 6B & = & 288 \end{array}$$

$$\begin{array}{r} 4A \quad 4A \\ 6B \quad 2B \\ \hline 288 \quad 192 \end{array}$$

for the system at hand.

A, C are missing 以左方 B err. has ~~九十六~~ for -一百九十二.

Also diminishing the left column by the right column, the top left becometh empty, for B remaineth in the middle as the divisor, and ninety-six coins remain below as the dividend. The divisor above and the dividend below result in twenty-four coins A's coins.

$$\begin{array}{rcl} 4A + 2B & = & 192 \\ 4B & = & 96 \\ B & = & 96 \div 4 \end{array}$$

$$\begin{array}{r} 4A \\ 4B \quad 2B \\ \hline 96 \quad 192 \end{array}$$

$$\begin{array}{r} 4A \\ B \quad 2B \\ \hline 24 \quad 192 \end{array}$$

十六中以
四錢餘右
錢為四行
為實乙再
乙上為減
錢法,法,左
下,下,行,
實,餘左
得九上
二十空,

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Diminishing the ninety six of the lower right by this, there remaineth seventy-two as the dividend, and use the two A of the upper right as the divisor. The divisor above and the dividend below result in thirty-six as A's coins.

Here, $B = 24$ is subtracted from the original equation $2A + B = 96$, leaving

$$2A = 72,$$

2A

$$\begin{array}{r} B \\ 24 \quad 72 \end{array}$$

Thus

$$A = 36,$$

A

$$\begin{array}{r} B \\ 24 \quad 36 \end{array}$$

得二七以
三甲十減
十為二右
六法為下
為上實九
甲法以十
錢下右六
也實上餘

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