

現代語訳 Modern translation

合計	戌	酉	申	未	午	巳	辰	
752,5	120	120	75	112,5	125	100	100	上段
4908,8	1020	1020		956,25	1062,25	850		中段
1000	1000							下段

辰年 三千七百四十両
巳年 二千八百九十両
午年 三千六百十二両二分
未年 三千二百五十一両一分
申年 二千八百五両
酉年 三千四百六十八両
戌年 四千四百六十八両

左に計算の方法を立てたものがある。
上段合せて七百五十二両五、中段合せて四千九百八〇両七五、下段千両になる。そのとき、惣は納金高に中段を加え、下段を引き、残りは二万八千四百三十三両五である。これを上段で割り、辰の納金を知る。
係 下澤

辰年から戌年までの七年間の畑の農作物の年貢を合せて、二万四千二百三十四両三分納めた。
ただし、辰年から巳年までは八百五十両減り、巳年から午年は二割半増え、午年から未年は一割減り、申年から辰年は八分の二減り、酉年から巳年は五分の一増え、戌年から酉年は千両増え、右を通してそれぞれを問う。

原文 The Original



キーワード
年貢(納金)
五分の一

Land tax
One-fifth
係 下澤

英語訳 English translation

Total land tax the people of Edo period put in from the year of the dragon to the year of the dog was 24234.75.

But land tax was decreased from the year of the dragon to the year of the snake 850 Ryo, it was increased from the year of the snake to the year of the horse one quarter, it was decreased from the year of the cow to the year of the sheep one-tenth, it was put in, it was decreased From the year of the monkey to the year of the dragon two-eighth, it was increased From the year of the bird to the year of the snake one-fifth, it was increased From the year of the dog to the year of the cock one thousand.

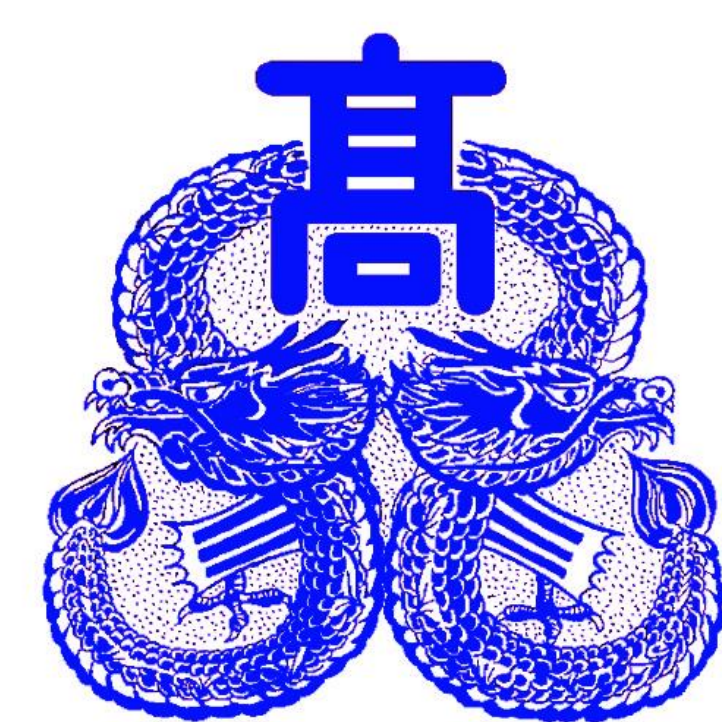
Use a value of over and answer each price.

The year of the dragon	3740Ryo
The year of the snake	2890Ryo
The year of the horse	3612Ryo2Bu
The year of the sheep	3251Ryo1Bu
The year of the monkey	2805Ryo
The year of the cock	3468Ryo
The year of the dog	4468Ryo

Total	dog	cock	monke y	sheep	horse	snake	dragon	
752.5	120	120	75	112.5	125	100	100	Upper step
4908.75	1020	1020		956.25	1062.5	850		Middle step
1000	1000							Lower step

The upper step is made 752.5 in all. The middle step is made 4908.75 in all. The lower step is 1000. Then total land tax plus the total middle step is 29143.5. And the lower step from which it is subtracted is 28143.5. It divided by the total upper step makes land tax of dragon.

係 小林輝



江戸文化

干支...十干と十二支を組み合わせた60を周期とする数詞
十干

子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
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十二支

甲	乙	丙	丁	戊	乙	庚	辛	壬	癸
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漢字文化圏では年号紀伝に基づく紀年法とともに60周期の干支紀年法が併用されて年が表された。

干支紀年法...60年周期の干支を 1 年ごとに機械的に進める。

民間では十二支だけを用いた。

還暦...60歳で生まれた年の干支に還る。

赤い頭巾やちゃんちゃんこを贈る→もう 1 度生まれ直す。

係 酒井

Edo culture

The oriental zodiac...The 60 cycle that combination of the Celestial Stem and Twelve zodiac signs.
Celestial Stem

kou	otu	hei	tei	bo	ki	kou	sin	zin	ki
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The twelve zodiac signs

mouse	ox	tiger	rabbit	dragon	snake
horse	sheep	monkey	cock	dog	boar

The oriental zodiac way of counting years by 60 cycles of oriental zodiac as well as way of counting years were used, and a year was expressed in a Chinese character cultural sphere.

The oriental zodiac way of counting years...60 cycles of oriental zodiac is advanced every 1 year. A zodiac way of counting years is also used in folklore now.

The sixtieth birthday...It return to a born annual oriental zodiac. Red hood and padded sleeveless coat are presented. →It return to a baby again and born again.

係 酒井

Solving

Taking the Dragon as x.

the Dragon : x

the Snake : x -850

the Horse : 1.25 x -850×1.25

the Sheep : 1.25 x×0.9 -850×1.25×0.9

the Monkey : 0.75 x

the Cock : 1.2 x -850×1.2

the Dog : 1.2 x -850×1.2 +1000

upper stage - middle stage + lower stage = total

I mean,

$$ax - b + c = d$$
$$x = \frac{d+b-c}{a}$$

In this way, we can know a year of the Dragon 's land tax.

係 小林零

まとめ・今後の課題・感想 summary・future tasks・impressions

まとめ

表をうまく文字でまとめることで、すべての式をXについての一次方程式にすることができ、簡単に納金を出すことが出来た。

Table could summarize to character well. All expression could make a linear equation about x and we could take out the payment easily.

今後の課題

今後の課題としては、自分たちが今回調べた和算以外の問題も解くことで、古文を現代語訳する力、伝えたいことを英文で表す力をもっと伸ばしていけたらいいと思います。

また、和算以外の自分たちの知らない古い日本の文化を知ること、自分たちの学習の幅を広げていけたらいいと思います。

As a future issue, we want to improve the skill witch translate something into Japanese and the skill witch the thing I want to tell you stands for English by solving the other problem of WASAN we examine in this time. Also, we want to expend the range of learning by knowing the old Japanese culture which we do not know other than WASAN.

感想

和算を学んだことで、数学をどのような理由で、どのような考えのもとで作られたのか知ることができました。それにより、更に深く数学について知識を付けることが出来そうです。しっかり理解するのはとても大変でしたが、班の友達との協力のおかげで理解することが出来ました。

英訳については、英語のテストとは違って、自分が伝えたいことを英文で表すのがとても大変でした。

We were able to know mathematics was made with by what kind of idea and what kind of reason to learn Japanese mathematics. So we will seem to learn knowledge of math deeper than before.

To understand was very difficult, but we were able to understand because of cooperation with friends.

About translation into English, it was different from English tests and very hard to make English sentence I want to tell.

班長：黒田

出典

村瀬義益

Murase Yoshimasu

『算法勿憚改』

Sanpouhutudannkai

延宝元年 A.D.1673

