Alcuin

Alcuin (c800) *Propositiones alcuini doctoris caroli magni imperatoris ad acuendos juvenes.* Beati Flacci Albini seu Alcuini Abbatis Caroli Magni Regis ac Imperatoris Magistri Opera post primam editionem, viro clarissimo D. Andrea Quercetano curatam, de novo collecta, multis locis emendata, et opusculis primum repertis plurimum aucta, variisque modis illustrata cura ac studio Frobenii, S.R.I. Principis et Abbatis ad S. Emmeramum Ratisbonae M.DCC.LXXVII

Patrologia Latina Database Vol. 101 Main volume text [Opera Omnia Alcuini]

Prob	Transcription
ALC01	*propositio de limace* A snail was invited by a swallow to lunch a league away. However, it could not walk further than one inch per day. How many [years and] days did it take for the snail to walk to that lunch?
ALC02	*propositio de viro ambulante in via* A certain man walking in the street saw other men coming towards him, and he said to them: "O that there were so many [more] of you as you are [now]; and then half of half of this [were added]; and then half of this number [were added], and again, a half of [this] half. Then, along with me, you would number 100 [men]." How many men were first seen by the man?
ALC03	*propositio de duobus proficiscentibus* Two men were walking in the street when they noticed some storks. They asked each other, "How many are there?" Discussing the matter, they said: "If [the storks] were doubled, then taken three times, and then half of the third [were taken] and with two more added, there would be 100." How many [storks] were first seen by the men?
ALC04	*propositio de homine et equis* A certain man saw some horses grazing in a field and said longingly: "O that you were mine, and that you were double in number, and then a half of half of this [were added]. Surely, I might boast about 100 horses." How many horses did the man originally see grazing?
ALC05	*propositio de emptore denariorum* A certain buyer said: "I want to buy 100 pigs with 100 denarii in such a way that a mature boar is bought for 10 denarii; a sow for five denarii; and two small female pigs for one denarius." How many boars, sows, and small female pigs should there be so that there are neither too many nor too few of either [pigs or denarii]?
ALC06	*propositio de duobus negotiatoribus c solidos habentis* There were two businessmen who had 100 solidi between them, with which they bought some pigs. For two solidi, they bought five pigs, wishing to fatten them and to sell them again at a profit. But when they saw that the time was not right to fatten the pigs, and being unable to pasture them over the winter, they tried to make a profit by selling them. However, they were unsuccessful because they could only sell the pigs for what they had paid (i.e., five pigs for two solidi). When they realized this, they said to each other, "We shall divide the pigs." But by dividing

	and selling the pigs for as much as they had paid, they made a profit. How many pigs were there at first, and how did the men divide and sell for a profit that which they could not do together?
ALC07	*opositio de disco pensante libras xxx* There is a plate weighing 30 pounds or 600 solidi. In it, there is gold, silver, brass and tin. It has three times are much silver as gold, three times as much brass as silver, and three times as much tin as brass. How much does each type of metal weigh?
ALC08	*propositio de cupa* There is a cask which has three cracks in it. It is filled with 100 metretae, each holding three modia. Of the modia, a third and sixth part run out through one crack. Through another [crack], only a third part runs out. Only a sixth part runs out of the third crack. How many sextarii ran out through each crack.
ALC09	*propositio de sago* I have a material for cloaks which is 100 cubits long, 80 cubits wide. From it, I wish to make smaller cloaks from portions in such a way that each portion is five cubits in length and four cubits wide. How many smaller cloaks can be made from [the material]?
ALC10	*propositio de linteo* I have a single linen cloth which is 60 cubits long, 40 cubits wide. I wish to make it into smaller portions, each being six cubits in length, four cubits in width, so that each piece is ample for making a tunic. How many tunics can be made [from the larger piece]?
ALC11	*propositio de duobus hominibus sorores accipientibus* proposition concerning the two men marrying [one another's] sister. If two men should marry one another's sister. What will be the sons' relations to each other?
ALC12	*propositio de quodam patrefamilias et tribus filiis ejus* A certain father died and left as an inheritance to his three sons 30 glass flasks, of which 10 were full of oil; another 10 were half full, while another 10 were empty. Divide the oil and flasks so that an equal share of the commodities should equally come down to the three sons, both of oil and glass.
ALC13	*propositio de rege* A certain king ordered his servant to gather an army from 30 villages as follows: He should bring back as many men [from each successive village] as he had taken there. Thus, [the servant] came to the first village alone; he came with one other person to the next; three people came to the third. How many men were collected from the 30 villages.
ALC14	*propositio de bove* How many footprints in the last furrow does an ox make which has been plowing all day?
ALC15	*propositio de homine* How many furrows might a man have in his field if he shall have made three turns at each head of the field?
ALC16	*propositio de duobus hominibus boves ducentibus* Two men were leading oxen along the road when one said to the other, "Give me two oxen, and I shall have as many oxen as you." Then the

	other said, "You give me two oxen, and I shall have twice as many as you." How many oxen there were, and how many each man had.
ALC17	*propositio de tribus fratribus singulas habentibus sorores* There were three men, each having an unmarried sister, who needed to cross a river. Each man was desirous of his friend's sister. Coming to the river, they found only a small boat in which only two persons could cross at a time. How did they cross the river, so that none of the sisters were defiled by the men?
ALC18	*propositio de homine et capra et lupo* A certain man needed to take a wolf, a she-goat and a load of cabbage across a river. However, he could only find a boat which would carry two of these [at a time]. Thus, what rule did he employ so as to get all of them across unharmed?
ALC19	*propositio de viro et muliere ponderantibus [plaustri pondus onusti]* A man and his wife, each the weight of a loaded cart, who had two children each the weight of a small cart, needed to cross a river. However, the boat they came across could only carry the weight of one cart. Devise [a way] of crossing in order that the boat should not sink.
ALC20	*propositio de hirtitiis* A masculine and feminine [....] who had two children weighing a pound wished to cross a river.
ALC21	*propositio de campo et ovibus in eo locandis* There is a field which is 200 feet long, 100 feet wide. I want to put sheep in it as follows: Each sheep should have [an area] five feet long and four feet wide. How many sheep can be put in such a place?
ALC22	*propositio de campo fastigioso* There is a slanting field which is 100 perticae on each side, 50 perticae on one front, 60 perticae in the middle, and 50 perticae on the other front. How many aripennae does [this field] enclose?
ALC23	*propositio de campo quadrangulo* There is a field which is 30 perticae on one side, 32 perticae on another, 34 perticae in the front, and 32 perticae on the remaining side. How many aripenni are contained in such a field?
ALC24	*propositio de campo triangulo* There is a field which is 30 perticae on one side, 30 perticae on another, and 18 perticae in the front. How many aripenni must be contained [in such a field]?
ALC25	*propositio de campo rotundo* There is a round field which contains 400 perticae in its circle. Tell me, How many aripenni ought it to hold?
ALC26	*propositio de cursu cbnks. bc. fvgb. lfp:rks* There is a field which is 150 feet long. At one end stood a dog, at the other, a hare. The dog advanced behind [the hare], namely, to chase the hare. But whereas the dog went nine feet per stride, the hare went [only] seven. How many feet and how many leaps did the dog take in pursuing the fleeing hare until it was caught?
ALC27	*propositio de civitate quadrangula* There is a quadrangular city which has one side of 1100 feet, another side of 1000 feet, a front of 600 feet, and a final side of 600 feet. I want

	to put some houses there so that each house is 40 feet long and 30 feet wide. How many houses ought the city to contain?
ALC28	*propositio de civitate triangula*
	There is a triangular city which has one side of 100 feet, another side of 100 feet, and a third of 90 feet. Inside of this, I want to build a structure of houses, however, in such a way that each house is 20 feet in length, 10 feet in width. How many houses should be contained [within this structure]?
ALC29	*propositio de civitate rotunda*
	There is a city which is 8000 feet in circumference. , How many houses should the city contain, such that each [house] is 30 feet long, and 20 feet wide?
ALC30	*propositio de basilica*
	There is a basilica which is 240 feet long, 120 feet wide. One tile of the tiled basilica is 23 inches long, that is, one foot, 11 inches, while being 12 inches wide, i.e. one foot. How many tiles are needed to cover the basilica?
ALC31	propositio de canava
	There is a wine cellar which is 100 feet long and 64 feet wide. How many casks can it hold, given that each cask is seven feet long and four feet wide, and given that there is an aisle four feet wide in the middle [of the cellar]?
ALC32	propositio de quodam patrefamilias
	A certain head of household had 20 servants. He ordered them to be given 20 modia of corn as follows: The men should receive three modia; the women, two; and the children, half a modium. How many men, women and children must there have been?
ALC33	*propositio de alio patrefamilias erogante suae familiae annonam*
	A certain head of household had 30 servants whom he ordered to be given 30 modia of corn as follows: The men should receive three modia; the women, two; and the children, a half modium. How many men, women and children were there?
ALC34	*propositio altera de patrefamilias partiente familiae suae annonam*
	A certain head of household had 100 servants. He ordered that they be given 100 modia of corn as follows: The men should receive three modia; the women, two; and the children, half a modium. Thus how many men, women, and children were there?
ALC35	*propositio de obitu cujusdam patrisfamilias*
	A certain father died and left behind children, a pregnant wife, and 960 solidi from his estate. [However, on his deathbed], he stipulated that if a son should be born to her, then the son should receive three fourths of the inheritance -- that is, nine twelfths. The mother should get a quarter [of the estate], that is, three twelfths. However, if a daughter were born, she should receive seven twelfths, and the mother, five twelfths. But as it happened, she gave birth to twins -- both a boy and a girl. How much did the mother, son and daughter each receive?
ALC36	*propositio de salutatione cujusdam senis ad puerum*
	A certain old man greeted a boy, saying to him: "May you live, boy, may you live for as long as you have [already] lived, and then another equal

	amount of time, and then three times as much. And may God grant you one of my years, and you shall live to be 100." How many years old was the boy at that time?
ALC37	*propositio de quodam homine volente aedificare domum* A certain man, wanting to build a house, found six workmen, of whom five were masters and one an apprentice. It was agreed between the man who wanted to build and the workmen that 25 denarii should be given to them per day as pay, and that the apprentice should receive half what the masters receive. How much did each of them receive per day?
ALC38	*propositio de quodam emptore in animalibus centum* A certain man wanted to buy 100 various animals for 100 solidi. He wished to pay three solidi per horse, one solidus per cow, and one solidus per 24 sheep. How many horses, cows and sheep were there?
ALC39	*propositio de quodam emptore in oriente* A certain man wished to buy 100 assorted animals for 100 solidi in the East. He ordered his servant to pay five solidi per camel, one solidus per ass, and one solidus per 20 sheep. How many camels, asses and sheep were obtained for 100 solidi?
ALC40	*propositio de homine et ovibus in monte pascentibus* A certain man saw from a mountain some sheep grazing and said, "O that I could have so many, and then just as many more, and then half of half of this [added], and then another half of this half. Then I, as the 100th [member], might head back to my home together with them." How many sheep did the man see grazing?
ALC41	*propositio de sode et scrofa* A certain head of household set up a new [quadrangular] enclosure in which he placed a sow. The sow gave birth to seven piglets in the middle of the sty. The offspring, along with the mother, the eighth pig, each gave birth to another seven piglets in each corner [of the sty]. Then, in the middle of the sty, the mother and all her offspring [each] gave birth to seven more. How many pigs were there [in the end], including the mother?
ALC42	*propositio de scala habente gradus centum* There is a ladder which has 100 steps. One dove sat on the first step, two doves on the second, three on the third, four on the fourth, five on the fifth, and so on up to the hundredth step. How many doves were there in all?
ALC43	*propositio de porcis* A certain man had 300 pigs. He ordered all of them slaughtered in three days, but with an uneven number being killed each day. He wished the same thing to be done with 30 pigs. What odd number of pigs out of 300 or 30 were to be killed in three days? (This ratio is indissoluble and was composed for rebuking.)
ALC44	*propositio de salutatione pueri ad patrem* A certain boy addressed his father, saying, "Greetings, father!" The father responded, "May you fare well, my son, and may you live three times twice your years. Then, adding one of my own years, you will live to be 100." How many years was the boy at the time?
ALC45	*Propositio*

	A dove sitting in a tree saw some other doves flying and said to them, "O that you were doubled, and then tripled. Then, along with me, you would number 100." How many doves were initially flying?
ALC46	*propositio de sacculo ab homine invento* A certain man walking in the street found a small bag containing two talents. Some other people saw this and said to him: "Brother, give us a portion of your discovery." But the man shook his head and did not want to give them any. The others then rushed at him and tore apart the sack, each obtaining for himself 50 solidi. And when the man saw that he could no longer resist [their attack], he grabbed 50 solidi for himself. , How many men were there?
ALC47	*ropositio de episcopo qui jussit xii panes dividi* A certain bishop ordered 12 loaves of bread divided amongst the clergy. He stipulated that each priest should receive two loaves; a deacon, half a loaf; and a lector, a quarter part. Hence, it should turn out that the number of clerics and loaves is the same. How many priests, deacons and lectors must there have been?
ALC48	*propositio de homine qui obviavit scholaribus* A certain man met some students and asked them, "How many of you are there in school?" One of [the students] responded to him: "I do not want to tell you [except as follows]: double the number of us, then triple that number; then, divide that number into four parts. If you add me to one of the fourths, there will be 100." How many [students] first met the man?
ALC49	*propositio de carpentariis* Seven carpenters [each] made seven wheels. How many carts did they build?
ALC50	*propositio de vino in vasculis* I ask so that one who wishes might respond: How many sextarii do 100 metra of wine contain, and how many meri do 100 metra have?
ALC51	*propositio de vini in vasculis a quodam patre divisione* A certain dying father left four small vessels of wine to his four sons. In the first vessel, there were 40 modia [of wine]; in the second, 30; in the third, 20; and in the fourth, 10. Calling his house treasurer, he said: "Divide these four vessels containing wine amongst my four sons in such a way that each son receives an equal portion of wine and vessels." How must the vessels have been divided so that all [the sons] received an equal amount from this?
ALC52	*propositio de homine patrefamilias* A certain head of household ordered that 90 modia of grain be taken from one of his houses to another 30 leagues away. Given that this load of grain can be carried by a camel in three trips, and that [the camel] eats one modium per league, how many modia were left over [at the end of the transport]?
ALC53	*propositio de homine patrefamilias monasterii xii monachorum* A certain Father of a monastery had 12 monks. Calling the treasurer of his chapter, he gave them [the priests] 204 eggs, and he ordered that [the treasurer] should give an equal portion to each individual. He further stipulated that [the treasurer] give 85 eggs to the five priests,[68 to the four deacons, and 51 to the three lectors]. How many eggs did each

	[monk] receive as his portion, so that no one received too many, nor too little, but so that as we stated above, he will take an equal portion to all?

Compiled from Burkholder (1993). Burkholder gives a literal translation which I simplified without losing the original meaning.

Index in the Singmaster classification

Class	Description	Prob	Proposition
5.B	Crossing problems	ALC17	propositio de tribus fratribus singulas habentibus sorores
		ALC18	propositio de homine et capra et lupo
		ALC19	propositio de viro et muliere ponderantibus [plaustri pondus onusti].
		ALC20	propositio de hirtitiis
5.N	Jeep problem	ALC52	propositio de homine patrefamilias
7.G	Posthumous twins	ALC35	propositio de obitu cujusdam patrisfamilias
7.L.1	Geometric	ALC41	propositio de sode et scrofa
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		ALC33	propositio de alio patrefamilias erogante suae familiae annonam
		ALC34	propositio altera de patrefamilias partiente familiae suae annonam
		ALC38	propositio de quodam emptore in animalibus centum
		ALC39	propositio de quodam emptore in oriente
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7.R	If I had one from you	ALC16	propositio de duobus hominibus boves ducentibus
7.Y	Selling apples	ALC06	propositio de duobus negotiatoribus c solidos habentis
7.AF.1	Collecting stones	ALC42	propositio de scala habente gradus centum
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7.AU	Number of cuts to make n pieces	ALC15	propositio de homine
10.A	Overtaking	ALC26	propositio de cursu cbnks. bc. fvgb. lfp:rks

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