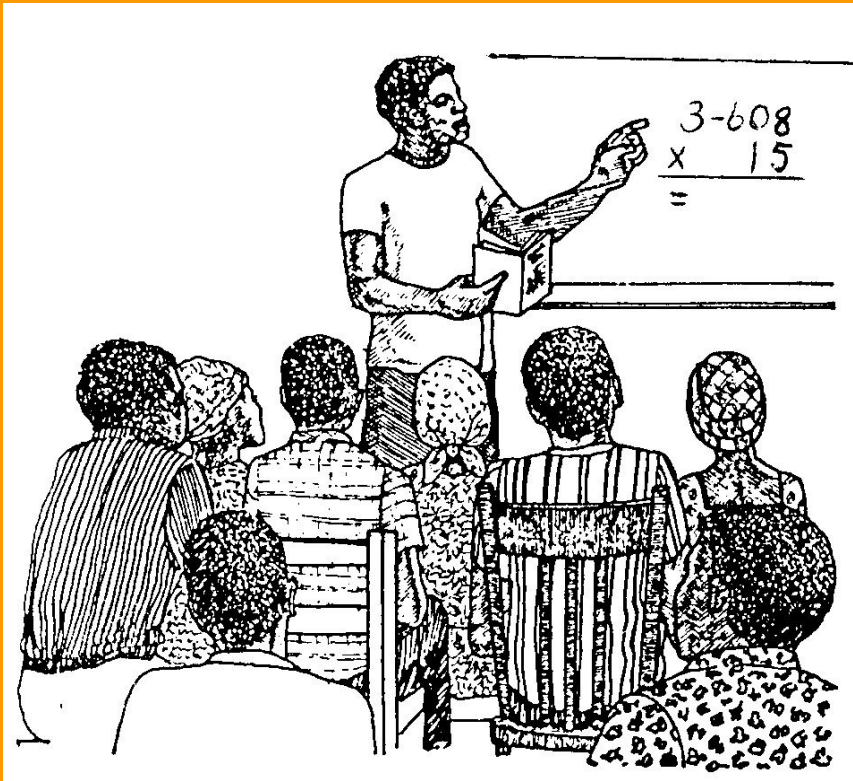


Kāmmaṅ-sebe

Hāaliṅ-belle



Livre de calcul deuxième année en cerma (gouin)

Kãmmaᅇ-sebe

Hãalĩᅇ-belle

Livre de calcul deuxième année en cerma (gouin)

Sous-Commission de la langue cerma

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Sous-Commission de la langue cerma

Pigãatieņ-maama

Pigãatieņ nuoņo-i, ņ saaya ņ waņ baa hãalãbiemba-i wuo ba duoņ kalaņo naņo-i fiefie-i-na. Iņa baņ hãalãayã kumaņ cor, ba baa yaņ ku karaanu-bei. Da ku tĩe ba yunni-na, ku yaa tagaayamma ka waa fẽu ba wulaa. Ba hieroņo-i, ba saaya ba ta ba suo dũnni-i ba boro-nie (bebieņ-dũngu-i baa cĩnciel ba dũngu-i baa komuoņa ndii dũngu-i baa nuosiba ndii kũngu-i ta ba yuure ba kã). Ba bi saaya ba ta ba suo nieņa nyegẽmma a ka hi neifieņ-nuosiba hãi baa neifieņ komuoņa ndii. Baa fuo-ma bei wuo da na hi nieņa faņa-i, tagaayamma cemma ka ta ma doľnu-bei aa ba ka da ma ãnfamma-i ba ãncemma-na.

Ăngboyamma

Pigătaaŋ namaa, baa hăalăbieŋ namaa, sebe daayo hielma dolaanu-yie bŋi. U hielaa duŋ hă bamaŋ cie yaacăraaŋ kalaŋo-i bendielănde-na cor tŋ.

Bedielănde-na, i daa gbonumma-i baa hielma-i niŋ ceŋ dumaa aa kalaŋ sŋmmaŋ-kămma-i baa caluŋ-i. Bende-i-na, i ka kă yamma. I ka da ânfelemma tagaayamma-na. Ânfelemma famma yaa caluŋ baa niifinni-i.

Tobiŋ namaa, mie saa cira i suŋ tagaayamma-i ka băl-ma de, ma'i sŋ. Ŋga i căra-nei hiere, umaŋ duŋ tuŋ suŋ kunaŋgu a cor daaku-i, u hi-ye baa u kŋŋgu-i i kăyă i-naa. Bŋncuŋmba ciera wuŋ: < Nammu hăi saaraaŋ mu-naa koŋ > .

Namaa namaŋ ka ce maacemma ba sebe daayo-i, I căra Diiloŋo-i u kăyă-nei na da kunaŋgu naara na sŋsuŋmuŋgu-i.

Tirma

Gbonumma

1) Gbonumma yaa bige-i?

Tagaayamma maŋ nuɔ-i baŋ gbonuŋ bĩnbĩnni-i, ba bĩ ma yaa gbonumma-i. Bĩmbĩnni maŋ niiduɔnni si, ni sie gb̃aa gbonu. Tũlmba sie gb̃aa gbonu baa maŋgoro, titieŋa sie bi gb̃aa gbonu baa nelbiliemba-i.

Äntigãama

- Tũlmba 6 dii baa Suɔnoŋo, bisãlmba 5 dii baa Safemba aa niincienni 8 dii baa Mambũɔ. I gb̃aa gbonu Suɔnoŋ tũlmba-i baa Safemba bisãlmba-i baa Mambũɔ niincienni-i wei?

Siema: Ni sie gb̃aa gbonu.

Hama-i nuɔ-i?

Siema: Bĩmbĩduɔnni sĩ.

- Niimba 75 dii baa Sapande, Kũnaaŋo-i niimba 25 aa Wurjĩe-i niimba 85. Ba niimba gb̃aa gbonu wei?

Siema: ba gb̃aa gbonu.

Hama-i nuɔ-i?

Siema: Baŋ yeŋ niimba hiere ba gb̃aa gbonu.

Da na'a na gbonu nieŋa maŋ, na saaya na nyegẽŋ-ya a haaya-yei a-naa dɔrɔ. Kumaŋ kpelle, na suɔ a diima a dũnni-na.

Ciiruo:

Ciiruo yaa ciefi i suɔ da kuɔ i saa guɔl i tagaayamma-na.

Āntigāama:

125	275	85
+ 275	+ 85	+ 275
<u>+ 85</u>	<u>+ 125</u>	<u>+ 125</u>
= 485	= 485	= 485

Tagaayamma

349 + 54 =	;	504 + 675 =
927 + 697 =	;	1521 + 307 =
805 + 84 =	;	127730 + 836 =
2104903 + 567522 =		

2) Bālāmmansi-gbonumma

265	476	643	16042	8400
<u>+ 220</u>	<u>+ 301</u>	<u>+ 40</u>	<u>+ 345</u>	<u>+ 1357</u>
=	=	=	=	=

3) Bālāmmanḡ-gbonumma

2400	9875	45846	77387
+ 337	+ 430	+ 14	+ 1960
+ 6000	<u>+ 170</u>	<u>+ 2400</u>	+ 32
<u>+ 45</u>	=	=	+ 360
=			<u>+ 5</u>
			=

Kāmmaḡ-ānyuuma

1. Safemba-i baa u cieḡo-i baa dii tīena Manigāaḡ-na ta ba ce nankuḡ. Bende-i-na, Safemba daa tamanti-i kilobaa 347, u cieḡo bi da kilobaa 230. Safemba-i baa u cieḡo-i ba tamantiḡ gbuḡnu u cie kilobaa-ba niḡ?
2. Belle maḡ curaa, Baasinuḡ daa jaḡḡa-i buḡrbaa 655 aa u bieḡo da buḡrbaa 85. Ba jaḡḡaḡ gbuḡnu a cie buḡrbaa-ba niḡ?
3. Sapande suuraa u balaḡḡo naḡo-i 72500. U cieḡo bi suor u naḡḡo naḡo-i 55000. Ba homperieḡo suor tūnnḡḡḡḡḡo diei 45000, tōncieḡo bi suor cieḡoḡo a da 2000. Gbeḡḡ daayaḡ gbuḡnu hiere a cie niḡ?

4. Perdiitaamba namba bilaa ba-naa a ce t̄ɔŋo. Bende-i-na, ba nyeḡɛŋ seɓɓaa j̄na kak̄ȳɛtaamba wulaa wuɔ ba taara c̄melle. Nuɔmba h̄ai b̄uŋ-ba. D̄iel̄ɛ-wuɔŋo h̄aa-ba 150750. H̄aal̄iŋ-wuɔŋo h̄ã-ba 352450.
C̄melle maŋ dii ba nuɔŋgu-na dii dii nie?

Hielma

- 1) Hielma yaa bige-i?

Tagaayamma maŋ nuɔ-i baŋ hiel b̄imb̄inni nanni ninanni-na, ba b̄i ma yaa hielma-i. Ba gb̄aa hiel niimba niimba-na aa hiel gbeŋa-i gbeŋa-na, ŋga ba sie gb̄aa hiel gbeŋa-i niimba-na, ba sie bi gb̄aa hiel niimba-i gbeŋa-na.

Āntiḡãama:

- Niimba 86 waa baa suontieŋo naŋo, u ji suor niimba 24. I ka ce nie gb̄aa suɔ niimba maŋ t̄iȳãa ba nuŋgu-i?

Siema:

Die hiel niimba 24 niimba 86-i-na, i ka suɔ bamaŋ t̄iȳãa.

Niimba 24 da ba hel niimba 86-i-na ba t̄ie niimba 62.

2) Hielmaᅇ ceᅇ duma:

Die i ce hielma-i, i nyegēᅇ niele maᅇ bāmbāale diele yaa igēna aa iᅇ saaya i hiel niele maᅇ, difande suo nyegēᅇ. Mafaᅇ da ma ce, i dii nieᅇa-i dūᅇni-na aa doᅇ tagaayamma-i nadiyaᅇga a tie kā nanyuᅇyaᅇga.

Hielma dii sᅇmma hāi: hormansi-hielma dii baa hormaᅇ-hielma.

3) Hormansi-hielma

- Tūᅇlmba 578 dii baa Saabiᅇᅇo. Witirnerbaa-ba fᅇ tūᅇlmba 236. Tūᅇlmba nie tīyāa ba saa fᅇ?

$$\begin{array}{r} 578 \\ - 236 \\ \hline = \end{array}$$

Da ᅇ'a ᅇ ce tagaayamma famma-i, ᅇ cira: mi ka doᅇ baa bebieᅇa yaa-i. 6 duᅇ hel 8-i-na a tie a 2, ᅇ nyegēᅇ a 2 bebieᅇ-dūᅇgu-na aa ᅇ cira: mi ka kā cīnciel ba dūᅇgu-na. Cīnciebaa-ba 3 da ba hel cīncielbaa 7-i-na ba tie cīncielbaa-ba 4, ᅇ nyegēᅇ 4 cīnciel ba dūᅇgu-na aa ᅇ cor komuᅇᅇa ndii dūᅇgu-na ᅇ cira: Komuᅇᅇa da-a-ndii baa-ba 3 da ba hel ba 5-i-na ba tie ba 2, ᅇ nyegēᅇ 2 komuᅇᅇa ndii dūᅇgu-na.

Äntigãama

350	525	772	3755	4700
<u>- 210</u>	<u>- 305</u>	<u>- 410</u>	<u>- 2313</u>	<u>- 500</u>
=	=	=	=	=

4) Hormaᅇ-hielma

Äntigãama:

Kãmmaᅇ-ãnyuuma:

Naᅇkuwãciraamba namba saaya ba sũ salati-yunni 452.

Yidiãlãᅇgu-na, ba sũ 256. Ni niã tũyãa ni saa sũ?

Siema: $452 - 256 = 196$

Tagaayamma:

4962	7508	13515	113943	924172
<u>- 1517</u>	<u>- 145</u>	<u>- 1900</u>	<u>- 83867</u>	<u>- 487</u>
=	=	=	=	=

Kaalamma

Āntigāama:

Hielma

452

- 256

= 196

Kaalamma

296

+ 196

= 452

Āntigāama:

- Bende-i, Saabiε daa kaakoεŋo-i buɔrbaa 610. U suor buɔrbaa 125. buɔrbaa-ba nie tīyāa?

Siεma: Buɔrbaa 610 - 125 = 485

Kaalamma:

Buɔrbaa 485 + 125 = 610

Hielmaŋ-maacemma

Pigāatieŋo saaya u hā hāalābiemba-i hielmaŋ-tagayamma namma ba ce u ne da kuɔ ma kaalaaya ba wulaa.

285 - 124 = ; 2456 - 1908 =;

708 - 436 = ; 12720 - 8045 =;

136001 - 27920 = ; 508926 - 139042 =;

1209459 - 602412 = ; 9008906 - 8830529 =;

9542704 - 4362412 =

Kãmmaṅ-ãnyuuma

1. Kumaarmuo juo baa maṅgortibinni 575 duo ji suor, tibinni 200-i sãa. Ni nie tĩyãa ni saa sãa?
2. Safemba saaya u hã jerbaa-ba-i cãani 4575. U gbãṅ da cãani 1650 a hã-ba. Ni nie tĩyãa u duo hã-ba?
3. 35127 waa baa goṅguonaamba namba-i ba muntierammu-na. Ba gbeitieratieṅo ji hiel 7500 a sãa muoruṅ-niiwuoni, aa hiel 5090 sãa kondo-bieṅa, aa tiraa hiel 1290 sãa dĩmma. Fiefie-i, nie tĩyãa ba muntierammu-na?
4. Belle maṅ curaa, caamba naa kar 30095 cẽmelle ba tõṅo-na. Dĩelã-pãmma-i ba pãa 9150. Hãalĩṅ-pãmma-i ba pã 1515. Sielĩṅ-pãmma-i ba pã 6686. Ba cẽmelle tĩyãa nie aa da di suu?

Sõmmaṅ-kãmma

1) Sõmmaṅ-kãmma yaa bige-i?

Sõmmaṅ-kãmma dii ṅaa gbonumma, ṅga mafamma dii gere.

Ãntigãama:

Die cira: $15 + 15 + 15 + 15$. Sõmmaṅ-kãmma-na, i gbãa cira 15×4 .

Sommaŋ-kāmma-na, η gbāa nyegēŋ niele maŋ dɔlaanu-nie igēna ŋga da η nyegēŋ niebuɔ-i igēna kufaŋgu ce maacemma ce fiefie.

Biriŋ gbonuŋ-daama-i sommaŋ-kāmma-na.

$$125 + 125 + 125 + 125 + 125 + 125 + 125 + 125 + 125 =$$

$$2320 + 2320 + 2320 + 2320 =$$

$$2320 + 2320 + 2320 =$$

2) Sommaŋ-kāmmaŋ-maacemma:

A) Sommaŋ-kāmma baa kāmmaŋ-belle 1 sommaŋ-niele-na

- Mahībieŋ-buɔra 1 dii kilobaa 42. Buɔrbaa-ba 4 dii kilobaa-ba nie?

Da η tigāaŋ kumaŋ, η yuu hāalābiemba-i kumaŋ saaya ku ce, aa η ce ba nyegēŋ-ku ba yilanni-na. Mafaŋ da ma ce, η yuu-ba: Bamaŋ ka gbāa ce-ku ba hiel ba nieŋa-i. Aa η hiel u diei bei u ka ce-ku dūŋkɔruɔŋgu-na. Duɔ tuɔ ce-ku, u tuɔ piiye banamba ta ba nu. Duɔ bāl, η bir η ce-ku ku kaala dei ba hieroŋo wulaa.

Hāalāmma

Ce hāalābiemba ce kāmmaŋ-ānyuuŋ daama-i:

Da ba doŋ ta ba ce-ma, η ta η ne-ba, umaŋ kūŋgu-i da ku saa fa, η ce u yaa kā dūŋkɔruɔŋgu-na ka ce-ku. Duɔ tuɔ totolla u ce-ku, η ta η kāyā-yuɔ. Duɔ ji bāl, η ce u bir pu-ma u fere yilaŋgu-na.

Sebe 1 yuu warbieŋ 6. Sebebaa-ba 3-i saaya ba yu nie?

Yilaŋgu 1 dii w13, yilanni 5 dii nie?

- $256 \times 3 =$

- $9208 \times 5 =$

- $12750 \times 7 =$

- $2072 \times 6 =$
- $15003 \times 8 =$

B) Sommaŋ-kāmma baa kāmmaŋ-bieŋa 2 sommaŋ-niele-na.

Da ŋ'a ŋ ce sommaŋ-kāmma-i baa kāmmaŋ-bieŋa hāi, ŋ doŋ baa bebieŋa yaa igēna ŋ ta ŋ yuure ŋ kã.

Āntigāama

	ka	c	b
		2	5
	x	1	2
=		5	0
+	2	5	
=	3	0	0

		ka	c	b
		7	2	8
		x	1	5
=	3	6	4	0
+	7	2	8	
=	1	0	9	2

38765

x 10

=

Maacemma-i

Da ŋ'a ŋ hā hāalābiemba-i maacemma maŋ, ŋ saaya ŋ yaŋ ma waa kpelle celle aa ba totolla ce-ma ba fere, ku'i faa.

Sommaŋ-kāmmaŋ-maacemma

1) Tagaayamma

431 x 14 =

;

431 x 16 =

1224 x 12 =

12 ;

1224 x 15 =

Maacemma maŋ cie cor, na taara ma balaan-terni-i baa na-naa.

2) Kammaŋ-ānyuuma

- Taajii litiribaa 18-i suurii gboŋbo 1-i-na. Litiribaa-ba nie suurii gboŋbobaa 12-i-na?
- Ba fii Tolo kondo-i a da kilobaa 958. A ne da ba sāa kilo 1-i dii w.11. Tolo ka da nie u kondo-i-na?

Sommaŋ-kāŋ daama ce ŋaa kammaŋ-belle diei sommaŋ-nieleŋ-tagayamma. Ma doŋ baa bebieŋa yaa-i aa suɔ suur cīncielbaa-ba-na. Nieŋa sa nyegēŋ cer a-naa.

Dānyamma

Da na da kufeliengu sommaŋ-kāmma-na huɔŋgu huɔŋgu, na yiɛra na hāalā-kuɔ, ku yaa hāalābiemba ka suɔ-ku dei; aa na suɔ na cor.

Caluɔ

1) Caluɔ yaa bige-i?

Caluɔ-i tagayamma namma-i: maa dii sīnni hāi. Dīelā-maama yaa mamaŋ niŋ cal bīmbīnni saa aa boluɔŋgu sa tīɛ. Hāalīŋ-maama yaa niŋ cal bīmbīnni saa aa boluɔŋgu sa tīɛ taagan.

Dānyamma

Hāalābieŋ da ba saa suɔ sommaŋ-kāmma-i dei, ŋ saa saaya ŋ doŋ caluɔ-i baa-ba.

I ce caluɔ-i a taara bīmbīnni siɛi:

Kuudaŋgu baa calmaŋ-nuŋgu baa kuutīengu.

Āntigāama

Pigāatieņ nuo ņ saaya ņ ce āntigāaņ daama-i dūņkōruoņgu-na igēna:

- Bamiku taara u cal maņgoro 15 a hā u bisālmba 3. Bisālāņo 1 saaya u da maņgoro u niē? $m.15 : 3 = m.5$; kuudaņgu yaa maņgoro u 5.
- Suono sāa iyiemba 3 w.18. Iyoņo 1-i yuu niē?
- Sasāama sāa fāņgbieņo metiribaa 20, u cal metiribaa-ba 4-ba-4 a hā niemba. Niemba niē daa?

2) Terni maņ yieņ caluo-i-na:

Terni 4-i yieņ caluo-i-na:

- kuucalņgu
 - calmaņ-nuņgu
 - kuudaņgu
 - kuutīeņgu
- | | | |
|-----------|---|--------------|
| kuucalņgu | 4 | calmaņ-nuņgu |
| 45 | = | 11 kuudaņgu |
| 1 | | |
| kuutīeņgu | | |

- Kuucalņgu yaa kumaņ saaya ku cal.
- Calmaņ-nuņgu yaa caluoņ saaya u ce nuņgu maņ nuo-i.
- Kuudaņgu yaa niele maņ daa sōmma diei-i-na.
- Kuutīeņgu yaa caluoņ cie aa kumaņ tīe. Ku saaya ku waa cekūo calmaņ-nuņgu-na da ma'i si caluo saa bāl.

3) Caluoņ ceņ duma:

- Hūoņ-buorbaa 48 saaya ba cal a hā kūrāamba 2, nelduoņo ka da buorbaa-ba niē?

Siema: I cal bebieņa yaa igēna. Buorbaa 8-i da ba hōnu sōmma 2-i nelduoņo da ba 4. Ņ nyegēņ 4 kuudaņgu-na aa ņ cor

c̄ncielbaa-ba-na. 48-i-na, c̄ncielbaa-ba dii ba 4, da ba h̄onu-bei s̄omma 2 nelduɔŋo da ba 2.

Ŋ nyeḡɛŋ 2 kuudaŋgu-na 4 caaŋgu-na dumande (24). Fiefie-i-na ŋ suɔ ŋ kalaŋ-ku:

Kūrãaŋ daaba-i nelduɔŋo ka da buɔrbaa 24.

$$\begin{array}{r|l} 48 & 2 \\ \hline 08 & = 24 \\ \hline 0 & \end{array}$$

- Niinciɛni 69 saaya ni cal a h̄ã jurɛiŋa 3. Jorre 1 saaya di da ni niɛ?

Siema:

Jorre 1 saaya di da niinciɛni 23 aa b̄iŋkūŋ siɛ t̄iɛ.

$$\begin{array}{r|l} 69 & 3 \\ \hline 09 & = 23 \\ \hline 0 & \end{array}$$

- Niinciɛni 182 saaya ni cal h̄ã gurpemambaa-ba 5. Gurpemaŋo 1 saaya u da ciɛni niɛ?

Da ŋ'a ŋ ce tagaayamma famma-i, ŋ cira:

A 5-a-5 s̄omma niɛ yiɛŋ 180-i-na?

$5 \times 30 = 150$, ŋ nyeḡɛŋ 150-i 182 cicaara-i-na aa ŋ ce hielma. Ŋ cira: 150 da a hel 182-i-na a t̄iɛ niɛ?

A t̄iɛ 32, ŋ nyeḡɛŋ 32 kuudaŋgu-na. Fiefie-i ŋ tiraa ŋ cira: a 5-a-5 s̄omma niɛ yiɛŋ 32-i-na?

$5 \times 6 = 30$, 30 duɔ hel 32-i-na a t̄iɛ 2. 2 siɛ gb̄ãa cal s̄omma 5. Terieŋgu faŋgu-na, tagaayamma hii ma mumbãlmu-i.

Gurpemambaa-ba daa niinciɛni 36 ba yunniŋ aa ciɛni 2 t̄iɛ.

$$\begin{array}{r|l} 182 & 5 \\ \hline 32 & = 36 \\ 2 & \end{array}$$

- Ba h̄aa naŋkuɔtaamba 6 gbaagɔbaa 270 ba da ba cal. Nelduɔŋo saaya u da ba niɛ?

$$\begin{array}{r|l} 270 & 6 \\ \hline 30 & = 45 \\ 0 & \end{array}$$

Nelduɔŋo da gbaagɔba 45.

- K̄aŋhai saaya u s̄u maŋgortibinni 378 sonni 7 nuɔ aa soŋ daani tibinni saaya ni waa nuduɔŋgu hiere. Suoŋgu 1 da maŋgortibinni niɛ?

$$\begin{array}{r|l} 378 & 7 \\ \hline 28 & = 54 \\ 0 & \end{array}$$

Suoŋgu 1 da maŋgortibinni 54.

Da ŋ'a ŋ ce calnumma-i huɔŋgu huɔŋgu, ŋ ta ŋ kaala h̄umienɔa maŋ yieŋ a k̄uŋgu-i baa h̄aal̄abiemba-i.

Tagaayamma

6570 : 2 =	25846 : 2 =	490850 : 2 =
267 : 3 =	96482 : 3 =	558000 : 3 =
2736 : 4 =	58764 : 4 =	897652 : 4 =

495 : 5 =	5870 : 5 =	762485 : 5 =
5280 : 6 =	4782 : 6 =	687452 : 6 =
875 : 7 =	9562 : 7 =	358974 : 7 =
984 : 8 =	6578 : 8 =	4507608 : 8 =
2457 : 9 =	45867 : 9 =	860254 : 9 =
3542 : 2 =	2942858 : 5 =	445347 : 8 =
72489 : 7 =	1125000 : 2 =	24369 : 9 =

Maacemma maŋ dii cemma

- Badei diyaa kaakoŋo kilobaa 750 buɔrbaa-ba 5 nuɔ. Kilobaa-ba nie diyaa buɔra 1-i-na?

Siema: $750 : 5 = 150$

$$\begin{array}{r|l}
 750 & 5 \\
 \hline
 25 & = 150 \\
 \hline
 00 &
 \end{array}$$

- Kafenhai s̄aa maŋgoro a dii segebaa-ba 2-i nuɔ. Maŋgoro 132 suurii segediɛl̄aŋo-na aa h̄aal̄iŋ-wuon̄o-i maŋgoro 76. U k̄a ka haa maŋgoro daayo-i p̄unni p̄unni, aa maŋgoro 8-i yiɛŋ p̄uŋgu 1-i-na. P̄unni nie saaya ni waa?

Siema:

Kafenhei uŋ s̄aa maŋgoro maŋ hiere:

$$m.132 + m.76 = m.208$$

P̄unni maŋ daa: $208 : 8 = \text{p̄unni } 26$

- Sadoɓbei hielaa 9400 ba ma ciil̄a u ciingu-i. U s̄aa kp̄aŋkparabaa-ba-i 3600 aa p̄a matieŋo-i 3000 a naara macembiemba 2; nelduon̄o-i 900, aa boluon̄gu-i u s̄aa h̄umma baa-ya. H̄umma s̄aa nie?

Siema:

Macembiemba 2 gbeiṅa-i: $900 \times 2 = 1800$

Gbeiṅa maṅ suyaa: $3600 + 3000 + 1800 = 8400$

Hūmma sullu-i: $9400 - 8400 = 1000$

- Baba mōmiilo gbāa tūu bīmbīnni-i ka hi kilobaa 1000. Ba diyaa kondo kilobaa 350 aa yuliye-yuo baa mahībuṅbaa. Buṅra 1 yoyondomma dii kilobaa-ba 5. Buṅbaa-ba nie suurii a naara kondo-i?

Siema:

Kilobaa-ba maṅ ka gbāa haa kondo-i-na:

$k.1000 - k.350 = k.650$

Buṅra-ba maṅ ka gbāa haa kondo-i-na: $650 : 5 = 130$

Buṅbaa 130 ka gbāa haa kondo-i-na.

- Masajammi bisālm̄ba dii ba 4, aa u kā duṅ ka sāa seḅebaa duṅ ji hā-ba. Nelduṅṅo saaya u da ba 2-i. U hāa seḅesuortieṅo-i 600 aa u bir 120 hā-yo. Seḅebaa-ba sāa nie hiere? Seḅe 1 yuu nie?

Siema:

Seḅebaa-ba sāa: $600 - 120 = 480$

Seḅe 1-i yuu: $480 : 8 = 60$

- Siegbarba sāa nagaso 1900. Uṅ sāa-yo yiingu maṅ nuṅ-i u pāa 460. Gbeiṅa boluṅṅu huṅnu saa u duṅ pā-ya caamba 9 hōlma-na. Ceṅṅo ceṅṅo u saaya u pā nie?

Siema:

Gbeiṅa maṅ tīyāa u duṅ pā-ya: $1900 - 460 = 1440$

Uṅ saaya u tuṅ pā gbeiṅa maṅ ceṅṅo-na: $1440 : 9 = 160$

4) Kaalamma maŋ yieŋ calnumma-na:

Die i ce kaalamma-i calnumma-na, i ce sɔmmaŋ-kāmma baa nieŋa 2 daaya-i (calmaŋ-niele-i baa kuudaŋgu-i). Iŋ ka da kumaŋ, die gbonuŋ-kuɔ baa boluonŋu-i, i saaya i da kuucalŋgu-i.

Āntigāama

$$17 : 3 = 5 \text{ aa } 2 \text{ yaana.}$$

$$5 \times 3 = 15 \quad ; 15 + 2 = 17$$

Iŋ saaya i bel i daluɔ-i dumaa:

A) Daluɔ

1. Da ŋ ce biŋkūŋgu, niŋ daa kumaŋ ku cemma-na, ku yaa daluɔ-i.
2. Nuɔne cie maacemma a hã naacolŋo naŋo. U cie yinni 23. Ba pã-yo 70 yinduonŋu-na. Nuɔne gbeiŋa yuu nie?
3. Baba da 3000 ceŋo-na, Kafefhei tuɔ da 1500, Kūnaa tuɔ da 2000. Ba daluɔŋ gbuɔnu u yuu nie ceŋo-na?

B) Kuutieraŋgu

Niŋ hiel kumaŋ ŋ daluɔ-i-na jīna, ku yaa kuutieraŋgu-i.

1. 2000 dii baa Paŋgaamba-i, ba hiel 500 a sãa fuoraŋgu aa hiel 340 a sãa kondobieŋa, aa hiel 150 a sãa dīmma aa tiraa hiel 19 sãa niindāmma. Ba gbeiŋa tīyāa nie ba kporuo-i-na?
2. Yafēllensi gbar mɔmiilo. Ba pã-yo 4700 ceŋo-na. Duɔ ce maacemma-i yitīenŋu-na, ba hã-yo 100. Ceŋ daayo-na, u cie maacemma-i yitīenanni 4 nuɔ. Iŋga u sãa dīmma-i 2200, niidiini-i 1500. Nie saaya u tīe u wulaa fiefie-i na?
3. Satīena suora u balmba 2 baa naanyunaamba 2 a naara tūlmba. Balaŋo diei yuu 13000 aa naanyuŋo diei 10000. Tūlmba hieroŋo sãa 7000. U sãa wotoro 8000 baa niincieni 9000. Nie ka tīyāa Satīena wulaa u duɔ tiera?
4. Tōnniamba namba tigiŋ gbeiŋa a ji yu 57152. Ba sãa kompaŋga 32150. Nie tīyāa fiefie-i ba wulaa?

C) Sāamuŋ-gbeija baa gbeinyuonyuɔ-yaana.

Sāamuŋ-gbeija yaa niŋ hielaa aman̄ sãa bĩŋkũngu, aa nyuonyuɔ-yaana yaa aman̄ niŋ hiel-aŋ hũmelle-na da ŋ gbãa hi baa congoruŋgu-i (tũuma, dɔgɔnyiebaa...).

1. Siegbarba puɔraa ba ka sãa kumiterru dii Nyame. Kumiterru sãa 1200 aa du tũumaŋ-sullu-i 120, dɔgɔnyiebaa-ba hũu 200 hũmelle-na. Siegbarba hielaa niɛ duɔ gbãa duɔ da u kumiterru-i?
2. Sĩndo-Gurpemaŋ-niemba puɔraa ba ka sãa kondobieŋa 3000 dii Bobo. Tũumaŋ-sullu-i baa gbeinyuonyuɔbaa-ba jo ji yu 950. Niɛ hielaa kondobieŋ daaya kũngu-na hiere?

D) Suoruŋ-gbeija, siremma baa ciima.

- Da ŋ sãa bĩŋkũngu suor, niŋ daa gbeija maŋ, a yaa suoruŋ-gbeija-i.
- Suoruŋ-gbeij da a maar sãamuŋ-gbeija-i baa gbeinyuonyuɔbaa-ba-i, ku yaa ba'a ŋ daa tɔnɔ.
- Gbeija maŋ hilaa (sãamuŋ-gbeija-i baa gbeinyuonyuɔbaa-ba-i) da a maar suoruŋ-gbeija-i, ku yaa ba'a ŋ ciima.

Kãmmaŋ-ãnyuuma

1. Tãalmuɔ sãa niŋo 5000 aa bir suor-o 7000. Tãalmuɔ daa niɛ niŋ daayo-na?
2. Yafẽllensi sãa tũlmba ji jĩna tuɔ cie selebaa duɔ suor-ba. U sãa tũlmba-i 7460, aa sãa ba niwuoni-i 3570. U juɔ suor-ba 21050. U daa niɛ tɔnɔ-i?
3. Jebugu-Gurpemaŋo sãa jaana 30050 a jĩna. Ifellen̄ juɔ hi, ba ce mɔmiilo tũu-ya 4000 ba ka suor-a Bobo. Ba suuraa-ya 40490. Ba daa niɛ tɔnɔ-i?
4. Sandombei sãa niimba duɔ suor. U sãa-ba 50050 aa pã saŋga-sullu-i 5430. U juɔ suor-ba 55030. Sandombei cii niɛ nuɔ-i?

5. Ba diyaa 60850 cēmelle Mamiertaamba-na. Ba puor ba ka sãa jaanja Bobo . Gbeija maŋ hilaa jaanja tũuma-na 9624. Ba juo suor-a ba saŋa-na a da 68440. Mamiertaamba cii niē?

Pɔpɔrmaŋ-niifinni

- Iŋ waŋ baa hãalãbiemba-i wuo da ba'a ba tagaaya pɔpɔrma-i, ma sinni saaya ni waa niiduoni. Ku yungu yaa wuo metiribaa-ba'i tagaayaŋ ba-naa nuɔ, sãntimetiribaa-ba-i ba-naa nuɔ, desimetiribaa-ba-i ba-naa nuɔ, milimetiribaa-ba-i ba-naa nuɔ...
- Hãalãmma maŋ yieŋ hiere terieŋ daaku-na, na saaya na ce-ma baa na-naa. Ku yungu yaa wuo Pigãatieŋo saaya u ce niifinni nanni hãalãbiemba ta ba hãalã ba fi.
- Pigãatieŋo-i baa hãalãbiemba-i ba saaya ba ne huɔŋgu nangu a hel ka hãalã fi terni nanni baa na-naa. Ku saaya ku waa gbagbaamaŋ-huɔŋgu. Da na'a na hãalã niifinni nanni-i, na bi saaya na ce-ku bãaŋ-yaŋ-na.
- Da na ta na taara na suɔ dũŋkɔruɔŋ-pɔpɔrma-i da ma'i si tibinni 2 hɔlma-i, na saaya na ce bige-i? Na gbãa fi-ku baa na gbeini hɔlma-i. Naŋ ka kãŋ a da kumaŋ, ŋaa da kuɔ yu hɔlma 3 temma, na cira na fii gboŋ-hɔlma 3, da ku bi yu hɔlma 5, na cira na fii gboŋ-hɔlma 5. Iŋga niemba sã baaduɔmba, a ce dumaano-na ba gboŋ-hɔlma sie gbãa waa maaduɔma, ku'i cie i hieroŋo-i i saaya i tie fi baa biŋkũduɔŋgu; ku yaa ŋaa metiri-i. I gbãa nyegẽŋ-yo karra-yuo dumande (m).
- Dekametiri-i dii, ufaŋo gbãa nyegẽŋ karra dumande (dam). Fuɔ dii metiribaa 10. Etometiri (ɛm) dii. Fuɔ dii metiribaa 100.
- Kilometiri (km) dii ufaŋo dii metiribaa 1000.
- Niifinni nanni bi dii ni saa hi metiri-i. Ni yaa ŋaa:
 1. Desimetiri (dm). Da ŋ calnu metiri-i sɔmma 10, sɔmma 1 yaa desimetiri-i.

2. Sāntimetiri (sm). Da η calnu metiri i sōmma 100, sōmma 1 yaa sāntimetiri-i.
3. Milimetiri (mm). Da η calnu metiri-i sōmma 1000, sōmma 1 yaa milimetiri-i. Niifinni fanniη cuu ni-naa dumaa ku yaa daaku:

km	em	dam	m	dm	sm	mm

Fiēfiē-i-na i ka fi i kalaη-dūηgu pōpōma-i baa ku kpokpuoramma-i.

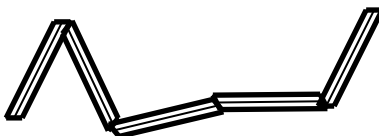
η hēl hāalābiemba 3 ba baa waa benduōleη-baamba; η yaη ba maar ba-naa ba fi-ku. Ba ka da metiri duōmba yaa hiere. η waη-ma baa-ba wuō nelpōpōrηo-i baa hōlmaη-wuōηo-i baa beterie-wuōηo-i, da ba fi baa kuufiduōηgu (metiri), ba da nuduōηgu hiere Metiri fimma sī ηaa gboluōη-fimma.

Fimma saaya ma ta ma ce baa bīηkūduōηgu, kumaη ka ce niemba hieroηo ta ba nunu ba-naa. ηga da na'a na fi nilēiηa 2 hōlma-i, na saaya na fi baa kilometiri .

illust.



Metiri-daanggu



Metirikano

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Metiri-finaanggu

m 20 = dam.....

dam 5 = m.....

m 500 = εm.....

εm 6 = m.....

m 3000 = km.....

km 6 = m.....

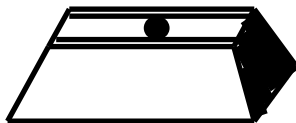
Ŋ gbãã hã hãalãbiemba-i maceŋ daama temma ku yaa ku ka kaala ba wulaa.

Maacemma maŋ dii cemma.

1. Kalaŋ-dũngu hɔlma-i baa saŋga-i kuu dii kilobaa-ba 2 baa dekametiribaa-ba 3 a naara metiribaa 7. Die i bĩ-ku metiribaa-ba-na, ku cie metiribaa-ba nie hiere?
2. Siɛfuure sãa iyiemba 6, iyoŋo 1 dii m.27. Iyieŋ daaba hieroŋo cie metiribaa-ba nie?
3. A hel Dasalami-i da ŋ kã Bobo-i kilobaa 17. Tolo wuɔyaa kilobaa 6, etometiribaa 9 baa metiribaa 6 tĩ. Uŋ wuɔyaa kumaŋ die i bĩ-ku metiribaa-ba-na, u wuɔyaa metiribaa-ba nie tĩ? Aa ba nie tĩyãa?
4. Nelletaamba taara ba huo nakɔldũnni 7 baa tɔlbaa. Denni 15-i saaya ni haa dũngu 1-i-na aa daangu 1 dii m.8. Denni maŋ ka gbẽ dũŋ daani huoma-na, ni ka yu metiribaa-ba nie?
5. A hel Gbaafuɔ-i-na da ŋ kã Bobo-i kilobaa 85. A hel Bobo-i da ŋ kã Ûnde-i, kilobaa 100. A hel Ûnde-i da ŋ kã Wagadugu-i, kilobaa 243. Kilobaa-ba nie yieŋ Gbaafuɔ hɔlma-na baa Wagadugu-i?

Yoyondommaᅇ-niifinni

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kg 20



kg 1



kg 10



kg 1

I fi pɔpɔrma-i baa metiri ku yaa ka ce i tie nunu i-naa hiere aa nelie baa du nelieᅇo, ānduɔma-i nuɔ-i i bi tie fi dīmma-i baa kũɔma-i baa teteraamba-i a naara bĩmbĩnni nanni-i.

Die tie taara i suɔ kumaᅇ yoyondomma-i, i fi-ku.

1. Ba fi yoyondomma-i baa kilogiramu. I gbāa nyegēᅇ kilogiramu-i karra-yuɔ dumandē (kg) aa bĩ-yo kilo.
2. Cĩnciel ba kilo-i dii (ckg), u yuu kilobaa 10.
3. Kēntal bi dii, u yuu kilobaa 100. I gbāa nyegēᅇ ufaᅇo-i karra-yuɔ dumandē (kt).
4. Tōni dii (t), u yuu kilobaa 1000.

Niifinni nanni dii ni saa hi kilo-i, ni yaa daani:

1. Ekitogiramu (eg), da ᅇ calnu kilo-i sɔmma 10-i, sɔmma 1 yaa ekitogiramu-i.
2. Dekagiramu (dag), da ᅇ calnu kilo-i sɔmma 100-i, sɔmma 1 yaa dekgiramu-i.

3. Giramu (g), da η calnu kilo-i sɔmma 1000-i, sɔmma 1 yaa giramu-i.

Niifinni nanni bi dii ni saa hi giramu-i. Ni yaa ηaa:

1. Desigiramu (dg), da η calnu giramu-i sɔmma 10-i, sɔmma 1 yaa desigiramu-i.
2. Sāntigiramu (sg), da η calnu giramu-i sɔmma 100, sɔmma 1 yaa sāntigiramu-i.
3. Miligiramu (mg), da η calnu giramu-i sɔmma 1000-i, sɔmma 1 yaa miligiramu-i.

Yoyondommaη-niifinniη cuu ni-naa dumaa ku yaa daaku:

t	kt	ckg	kg	εg	dag	g	dg	sg	mg

- Kēntal 1 dii kilobaa 100
- Tōni 1 dii Kēntalbaa 10 da ma'i si kilobaa 1000.

Kondo-tōni 1 yoyondomma saa baa mahīη-tōni 1 maama-i aa bi tiraa saa baa titiraη-tōni 1 maama-i. ηga i suyaa hiere wuɔ kondo-buɔra yoyondomma sa saa baa jaη-buɔra u maama-i. Ku'i cie i saaya i tie suor bīmbīnni-i baa kilo.

kg 200 = kt.....

kg 3000 = t.....

t 3 = kg.....

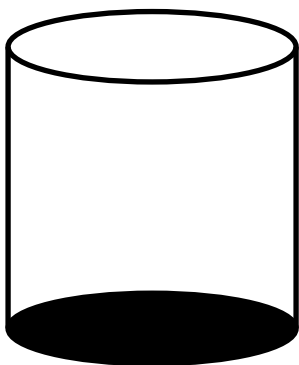
kt 6 = kg.....

Maacemma maη dii cemma

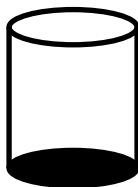
Da η'a η hā hāalābiemba-i maacemma-i huɔηgu huɔηgu, η waη baa-ba wuɔ tagaayamma hieroηo ce baa bīmbīnni maη niiduɔnni.

1. Masajammi diyaa buɔɔbaa-ba 3 u mɔmiilo-i-na. Buɔɔa 1 dii kilobaa 100. Aa tiraa dii kilobaa 75 buɔɔa, baa kilobaa 25 wuonɔ. Kilobaa-ba nie suurii u mɔmiilo-i-na?
2. Baɗ kaara d̄imma-i Kānhei t̄uu u maama-i hiere baa wotoro a k̄uɗ baa-ma. Wotoro u t̄uu buɔɔbaa 6 i diei-na. Buɔɔa 1 dii kilobaa 90. U b̄ieɗ t̄uu wotoryufieɗa 5. U d̄imma yuu kilobaa-ba nie?
3. Niemba 15 suurii mɔmiilo naɗo-na. Nelduɔɗo dii kilobaa 65. Mɔmiiltieɗo bie d̄amma buɔɔbaa 55 a naara. Buɔɔa 1 dii kilobaa 25. Mɔmiilo faɗo t̄uȳaa kilobaa-ba nie?
4. Sapanne diyaa mah̄ibuɔɔbaa 58 u inaɗɗ̄o-i-na. Buɔɔa 1 dii kilobaa 50. Sapanne mah̄iɗo yuu K̄entalbaa-ba nie?

Pupurmaɗ-niifinni



Etolitiri



Dekalitiri



Litiri



desilitiri

Die i fi b̄imb̄inni maɗ ɗaa h̄umma-i, i fi-ni baa pupurmaɗ-kuufiɗu. Pupurmaɗ-niifinni sa saa hiere, ku'i cie i tie fi baa litiri (l). Niifinni nanni dii ni maara litiri-i; ni yaa daani:

1. Dekalitiri (dal), uu dii litiribaa 10.
2. Etolitiri (el), uu dii litiribaa 100.

Ninanni bi dii ni saa hi litiri-i, nifanni yaa daani:

1. Desilitiri (dl). Da η calnu litiri-i sɔmma 10-i, sɔmma 1 yaa desilitiri-i.
2. Sāntilitiri (sl). Da η calnu litiri-i sɔmma 100-i, sɔmma 1 yaa sāntilitiri-i.
3. Mililitiri (ml). Da η calnu litiri-i sɔmma 1000-i, sɔmma 1 yaa mililitiri-i.

Pupurmaŋ-niifinniŋ cuu ni-naa dumaa ku yaa daaku:

ɛl	dal	l	dl	sl	ml

$$\text{dal } 1 = 1 \text{ } 10$$

$$\text{ɛl } 1 = \text{dal } 10$$

$$1 \text{ } 50 = \text{dl} \dots\dots$$

$$\text{ɛl } 7 = 1 \dots$$

Maacemma maŋ dii cemma

Pigāatieŋ nuɔ η saaya η waŋ baa hāalābiemba-i wuɔ tagaayamma hieroŋo ce baa bĩmbĩnni maŋ niiduɔnni. Ku yuŋgu yaa wuɔ litiribaa-ba'i tagaayaŋ ba-naa nuɔ, dekalitiribaa-ba tagaaya ba-naa nuɔ, ɛtolitiribaa-ba bi tagaaya ba-naa nuɔ, ku ce dumei.

1. Taanawaŋ diyaa hūmma-i dal 2 baa ɛl 1 a naara 1 60 u barkoŋo-na. Litiribaa-ba niɛ suurii barkoŋo-na?
2. Yamakā suor namma. U namma yuu barkonaamba 2 baa bidōmbaa-ba 3, aa litiribaa 25 dii u tuɔ suor. Barkoŋo 1 dii ɛl 2 aa bidōŋo 1 dal 2. Naŋ daama₂₇ yuu litiribaa-ba niɛ hierɛ?

3. Tolo ce naŋkuɔ. Uŋ k̄unnaŋ h̄umma-i baa kumaŋ, litiribaa 15-i suuriŋ-kuɔ. Pilāmbaa-ba 5 yieŋ u naŋkuɔ-i-na. U k̄unna yufieŋa 4-i pilāŋo 1-i-na. U ka k̄unna litiribaa-ba nie pilāmbaa-ba 5-i-na?
4. Bidōmbaa 25 dii baa Siekema. Bidōŋo 1-i dii litiribaa-ba 4 aa u dii h̄umma yu-ba hiere. H̄umma maŋ dii baa Siekema-i ma yuu litiribaa-ba nie? Ma yuu dekalitiribaa-ba nie? Ma yuu Etolitiribaa-ba nie?

Nyegēmbaa-ba namba

- A. Kɔtsaani naa baa pɔgɔviini naa nyegēŋo



I Nyegēŋo: kpakpaatamma

Pigāatieŋ nuɔ ŋ saaya ŋ taara tergbāŋgbālāŋgu nangu kalaŋ-dūŋgu caaŋgu-na aa ce h̄aalābiemba kāyā ba-naa bu kɔtsaani naa baa pɔgɔviini naa nyegēŋo h̄iema-na.

U kɔtɔnni saaya ni ta ni saa hiere.

Mafaŋ da ma ce, ŋ gbāŋ baa-ba ba suɔ wuɔ kɔtɔnni saa hiere aa pɔgɔnni bi ta ni saa aa viinu.

Maacemma maŋ dii cemma

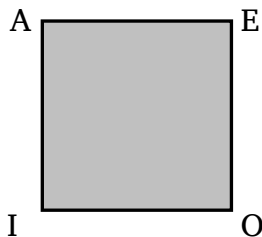
Ŋ ce h̄aalābiemba bu kɔtsaani naa baa pɔgɔviini naa nyegēmbaa-ba 3 h̄iema-na.

1. D̄ielā-wuoŋo kɔtɔnni waa m.2,
2. h̄aalīŋ-wuoŋo niini-i m.4 aa

3. sielij-wuonjo niini-i m.6.

Mafan da ma ce, η wan baa-ba wuɔ ban buu nyegẽmbaa-ba man daaba-i, ba bɔɔɔima sa saa, hama-i nuɔ-i; ba kɔtɔnni sa saa ku'i ciɛ.

Kɔtɔsaani naa baa pɔgɔviini naa nyegẽjo

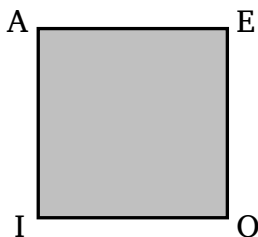


$$I \longleftrightarrow O = \text{kɔtuɔŋgu (k)}$$

II Kɔtɔsaani naa baa pɔgɔviini naa nyegẽjo cĩlãmma-i

Kɔtɔsaani naa baa pɔgɔviini naa nyegẽjo cĩlãmma yaa u kɔtɔnni 4 pɔpɔrma gbonu da ma'i si u kɔtuɔŋgu 1 pɔpɔrma sɔmmaŋ-jĩnamma $4.k \times 4$

Cĩlãmma fi baa metiri, dekametiri, etometiri da ma'i si kilometiri.

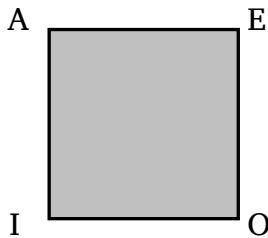


$$\text{cĩlãmma} = k + k + k + k (= k \times 4)$$

Maacemma maŋ dii cemma

1. Sadoɓbei suɔŋgu kɔtɔnni saa hiere. Kɔtuɔŋgu 1 dii m.85. U suɔŋgu cīlāmma yuu metiribaa-ba niɛ?
2. Naŋkuɔ naŋo kɔtuɔŋgu 1 dii m.156. Ku cīlāmma yuu metiribaa-ba niɛ?
3. Carkpuɔtaamba sūɔ tibinni kɔtɔsaani naa baa pɔgɔviini naa terieŋgu naŋ-nu, ku kɔtuɔŋgu 1 dii m.250. Terieŋ daaku cīlāmma dii metiribaa-ba niɛ?

III Kɔtɔsaani naa baa pɔgɔviini naa nyegɛŋo kpakpaatamma-i



$$kpakpaatamma = k \times k$$

Die tie taara i suɔ kɔtɔsaani naa baa pɔgɔviini naa nyegɛŋo kpakpaatamma-i, i ce sɔmmaŋ-kāmma baa kɔtɔnni 2.

Kpakpaatamma fi baa kpakpaatammaŋ-metiri, ba bī u yaa metiri-dūŋgu-i (m^2).

Dekametiri-dūŋgu dii (dam^2) baa etometiri-dūŋgu-i (ϵm^2) a naara kilometiri-dūŋgu-i (km^2).

Maacemma maŋ dii cemma

1. Sibiri kondo-saangu dii kɔtsaani naa baa pɔgoviini naa, ku kɔtuɔngu 1 dii m.75. Ku kpakpaatamma yuu metiri-dũnni nie?
2. Nakɔlcĩingu nanɔgu ponsaan-terienɔgu kɔtuɔngu 1 dii m.150. Ku kpakpaatamma yuu metiri-dũnni nie?
3. Yaacārāaŋ-kalaŋ-dũnguŋ maa terienɔgu maŋ nuɔ-i, kuu dii kɔtsaani naa baa pɔgoviini naa aa ku kɔtuɔngu 1-i dii m.250. Ku kpakpaatamma yuu metiri-dũnni nie?

Ciiŋ-maacemma

1. Masiefa nanɔkuɔ dii kɔtsaani naa baa pɔgoviini naa, u kɔtuɔngu 1-i dii m.65. U taara duɔ dii giryaasi cĩlāa-yuɔ. Ba s̄aa giryaasi-i metiri 1-i 40. Giryaasi maŋ ka kalla nanɔkuɔ daayo-i u ka yu nie wuɔŋo-i?
2. Nelletaamba taara ba suuraa terienɔgu nanɔgu-i, kuu dii kɔtsaani naa baa pɔgoviini naa. Ku kɔtuɔngu 1-i dii m.30. Ba suuraa metiri-dũngu-i 180. Terienɔgu fanɔgu yuu nie?
3. Mafaati s̄aa terienɔgu nanɔgu-i, kuu dii kɔtsaani naa baa pɔgoviini naa aa dii giryaasi cĩlāa-kuɔ. Ku kɔtuɔngu 1-i dii m.75. Ba suuraa metiri-dũngu-i baa-yo 80 aa giryaasi metiri 1-i 100. Terienɔgu daaku sullu-i baa ku giryaasi yuu nie?

4. Nenuma suonygu dii kɔtɔsaani naa baa pɔgɔviini naa. Ku kɔtuɔnygu 1 dii m.500. Taaraayan ku kpakpaatamma-i. Suony daaku Etaar 1-i-na, Nenuma daa jaanya-i kilobaa 25. U suonygu hieronyo ka da kilobaa-ba nie?

B Kɔtɔsaani hã-ni-hãi baa pɔgɔviini naa nyegẽnyo

I Nyegẽnyo



Ŋ saaya ŋ ne tergbãnygbãlãnygu nanngu kalan-dũnygu caanyu-na a ce hãalãbiemba kãyã ba-naa bu kɔtɔsaani hã-ni-hãi baa pɔgɔviini naa nyegẽnyo hiema-na, u pɔpɔrma waa m.5 aa u kpokpuoramma-i m.3.

Mafany da ma ce, ŋ suɔ pigãany-ba ba suɔ wuɔ kɔtɔnni naa baa pɔgɔviini naa nyegẽny daayo kɔtɔnni hieronyo sa saa, ni saa ni hã-ni-hãi.

Maacemma maŋ dii cemma

Ŋ ce h̄al̄abiemba bu kot̄saani h̄a-ni-h̄ai baa p̄oḡviini naa nyeḡmbaa-ba 3 ba yilanni-na.

1. D̄il̄a-wuon̄o p̄op̄rma waa sm.8 aa u kpokpuoramma-i sm.4,
2. h̄al̄iŋ-wuon̄o p̄op̄rma waa sm.10 aa u kpokpuoramma-i sm.5,
3. sieliŋ-wuon̄o p̄op̄rma waa sm.15 aa u kpokpuoramma-i sm.10.

Fiɛfiɛ-i, ŋ waŋ baa-ba wuɔ kumaŋ cie nyeḡmbaa-ba 3 baaŋ daaba kpakpaatamma sa saa, ba p̄op̄rma si maaduɔma.



p = p̄op̄rma

kp = kpokpuoramma

II Kɔtɔsaani hã-ni-hãi baa pɔgɔviini naa nyegẽŋo cĩilãmma-i



$$cĩilãmma = p + kp \times 2$$

Kɔtɔsaani hã-ni-hãi baa pɔgɔviini naa nyegẽŋo cĩilãmma yaa u kɔtɔnni hieroŋo pɔpɔrma-i:

$$pɔpɔrma + kpokpuoramma + pɔpɔrma + kpokpuoramma$$

U cĩilãmmaŋ-boluoŋgu yaa $pɔpɔrma \ 1 + kpokpuoramma \ 1$

Cĩilãmma gbãa bi nyegẽŋ dumande:

$$(pɔpɔrma + kpokpuoramma) \times 2$$

Kɔtɔsaani hã-ni-hãi baa pɔgɔviini naa cĩilãmma fi baa metiri, dekametiri, ekitometiri da ma'i si kilometiri.

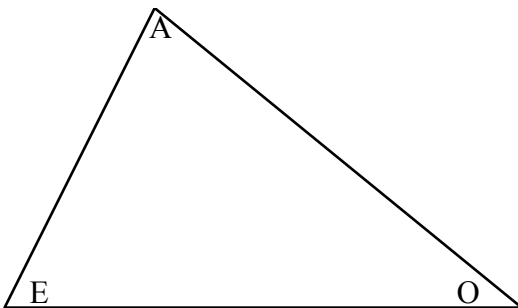
Maacemma maŋ dii cemma

1. Tõŋ-niemba namba kũɔ kondo-saanggu nanggu-i, kuu dii kɔtɔsaani hã-ni-hãi baa pɔgɔviini naa. Ku pɔpɔrma dii m.150 aa ku kpokpuoramma-i m.85. Suoŋ daaku cĩilãmma dii metiribaa-ba nie?

Maacemma maŋ dii cemma

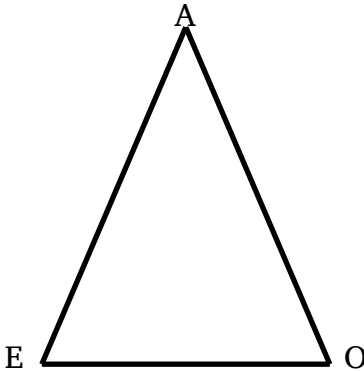
1. Siɛjiku suɔŋgu pɔpɔrma dii m.1-105 aa ku kpokpuoramma-i m.6-10. Ku kpakpaatamma yuu niɛ?
2. Carkpuɔtaamba bilaa terbuɔ naŋo-i da ba kũ. Ku pɔpɔrma dii m.540 aa ku kpokpuoramma-i m.350. Taaraayaŋ ku kpakpaatamma-i.
3. Sabirba ba nelleŋ-baamba naana suɔŋgu naŋgu bende-i-na, ku pɔpɔrma dii m.850 aa ku kpokpuoramma-i m.670. Ku bɔbɔima dii metiri-dũnni niɛ?
4. Bendiyaɛ-i-na, Gbaafuɔtaamba namba huɔ cabãmbãale nande, di pɔpɔrma dii m.987, aa di kpokpuoramma-i, m.769. Taaraayaŋ di bɔbɔima -i.

C) Pɔgɔnni siɛi baa kɔtɔnni siɛi nyegẽŋo



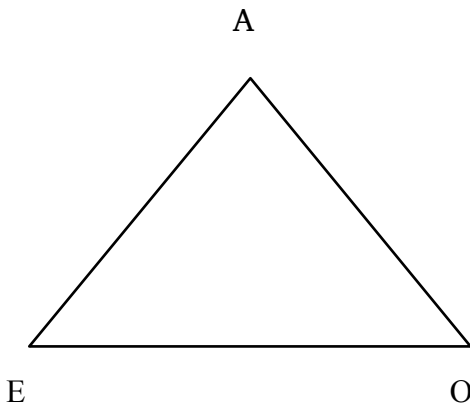
I nyegẽño

Ŋ ne terienḡu naḡu kalaḡ-dũḡu caaḡu-na ḡ ce hāalābiemba kāyā ba-naa bu pɔḡɔnni sisi baa kɔtɔnni sisi nyegẽño naḡo. Da ba bu-yo tĩ, ḡ pigāaḡ-ba u tuole-i baa u jajaatamma-i. Da ḡ pigāaḡ-ba kufaḡu-i tĩ, ḡ suɔ waḡ-ma baa-ba wuɔ kɔtɔnni hieroḡo sa saa aa ḡ ce ba bu kɔtɔnni sisi baa pɔḡɔnni sisi nyegẽño naḡo umaḡ u kɔtɔnni 2 saa.

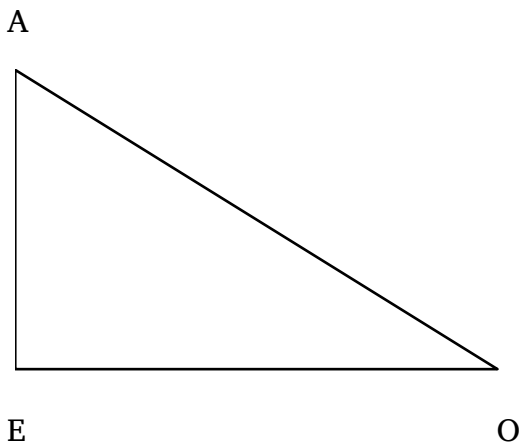


Ŋ saaya ḡ gbāḡ kaala-mei baa-ba ba suɔ wuɔ ninseḡo kɔtɔnni 2 saa. I gbāa bĩ nyegẽño faḡo-i kɔtɔsaani 2 baa pɔḡɔnni 3 nyegẽño.

Fiefie-i, Pigāatienḡo suɔ ce ba bu kɔtɔnni 3 baa pɔḡɔnni 3 nyegẽño naḡo u kɔtɔnni ta ni saa hiere. Nyegẽño faḡo-i, i gbāa bĩ-yo kɔtɔsaani 3 baa pɔḡɔnni 3 nyegẽño.



Da ba ce kufanƙu-i tĩ, ba bu kɔtɔnni 3 baa pɔgɔnni 3 nyegẽno maɗ u pɔguɔngu 1 vii. I gbãa bĩ ufaɗo-i kɔtɔnni 3 baa pɔgɔviingu 1 nyegẽno.

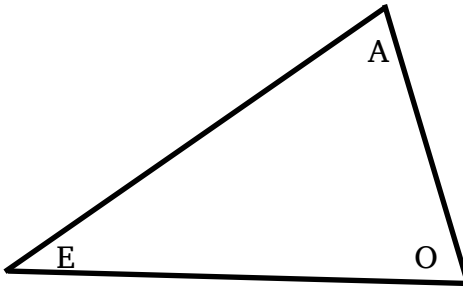


Maacemma maɗ dii cemma

Ɔ ce hãalãbiemba bu kɔtɔnni 3 baa pɔgɔnni 3 nyegẽmbaa-ba-i ba hieroŋo-na ɗ ne.

II Kɔtɔnni 3 baa pɔɔɔnni 3 nyegɛ̃ɔ cɛ̃ilɛ̃mma-i

Da na ta na taara na suɔ kɔtɔnni 3 baa pɔɔɔnni 3 nyegɛ̃ɔ cɛ̃ilɛ̃mma-i, na gbonu u kɔtɔnni 3 pɔpɔrma-i.



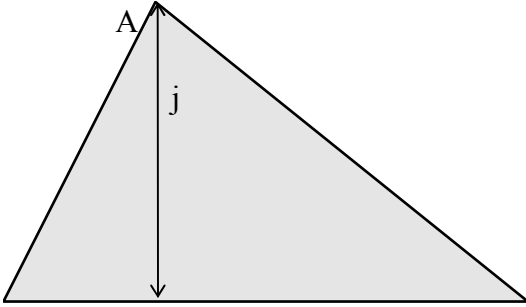
$$c\bar{i}l\bar{a}m\bar{m}a = k + k + k$$

Maacemba maɲ dii cemba.

1. Siefuure suɔɲgu dii kɔtɔnni 3 baa pɔɔɔnni 3. Ku kɔtuɔɲgu 1 dii m.95, kunaɲgu-i m.635 aa sieliɲ-kũɲgu-i m.65. Ku cɛ̃ilɛ̃mma dii metiribaa-ba niɛ?

III Kɔtɔnni 3 baa pɔɔɔnni 3 nyegɛ̃ɔ kpakpaatamma-i

Da na ta na taara na suɔ kɔtɔnni 3 baa pɔɔɔnni 3 nyegɛ̃ɔ kpakpaatamma-i, na ce sɔmmaɲ-kɛ̃mma baa tuole-i baa jajaatamma-i. Kumaɲ da kuɔ da, na cal-kuɲ sɔmma 2. Da na calnu-kuɔ da kumaɲ ku yaa kpakpaatamma-i.



E ← tuole (t) → O

$$Kpakpaatamma (kp) = \underline{tuole (t) \times jajaatamma (j)}$$

Maacemma maŋ dii cemma

1. Sandombei caaŋgu naŋgu dii Tāŋgbo, ku kɔtuɔŋgu pɔpɔrma dii m.94 aa ku jajaatamma-i m.75. Ku kpakpaatamma yuu metiri-dūnni niɛ?

Kpakpaatammaŋ-niifinni

Die tie taara i suɔ da kuɔ i munturemmu-na i da tɔŋɔ, i saaya i suɔ mu bɔbɔima-i (kpakpaatamma-i). Suoŋgu bɔbɔima si kuuduɔŋgu baa ku ciilāmma-i.

I daa baŋ tagaayaŋ suoŋgu kpakpaatamma-i dumaa, fiefie-i, i ka ne baŋ tagaayaŋ bɔbɔima-i baa nimaŋ.

1. Dekametiri-dūŋgu yaa kɔtɔsaani naa baa pɔgɔviini naa nyegɛŋo maŋ u kɔtuɔŋgu 1 dii m.10 sisɔ dekametiri 1.
2. Etaar yaa kɔtɔsaani naa baa pɔgɔviini naa nyegɛŋo maŋ u kɔtuɔŋgu 1 dii m.100. I gbāa bi bī-yo ekitometiri-dūŋgu.

3. Metiri-dūngu bi dii, fuo yaa kōtsaani naa baa pōgoviini naa nyegēno maŋ u kōtuŋgu dii m.1.

Die i fi sonni bōbōima-i, i saaya i fi baa ekitometiri-dūngu; u yaa taari-i.

Kāmmaŋ-ānyuuma

1. Saduuba daa jaan̄a-i kilobaa 150 taar 1-i-na u suŋgu-na. Suŋ daaku bōbōima dii taarbaa 20. Saduuba duŋ kar u suŋgu jaan̄a-i hiere, u ka da kilobaa-ba niē?
2. Saasaamiē niiniŋ-saangu dii kōtsaani hā-ni-hāi baa pōgoviini naa. Ku pōpōrma dii m.5 aa ku kpokpuoramma-i m.25. Taari 1-i-na, Saasaamiē daa niini-i kilobaa 15. U daluŋ yuu niē hiere?
3. Faambiē caangu dii kōtsaani naa baa pōgoviini naa, ku kōtuŋgu 1-i dii m.100. Taari 1-i-na, u daa mahiŋo-i • Kēntalbaa-ba 5. U ka da kilobaa-ba niē caaŋ daaku hieroŋo-na?
4. Sonni 2 dii baa Sagbarkuŋ. Dīelā-kūngu dii taarbaa-ba 3 hāalīŋ-kūngu-i taarbaa-ba 4. Sodīelāngu-na, u duu jijaan̄a. A da kilobaa 300 taar 1-i-na. Hāalīŋ-kūngu-na, u duu parkūŋ. A da • Kēntalbaa-ba 2 taar 1-i-na. Sagbarkuŋ duŋ dii u dīmma-i kilobaa 40 buŋrbaa-ba-na, u ka da buŋrbaa-ba niē?

5. Niifinni bibiremma-i ni-naa nuɔ:

$$\text{taar } 8 = \text{dam}_2 \dots\dots\dots;$$

$$\text{taar } 18 = \text{m}_2 \dots\dots\dots$$

$$\text{dam}^2 35 = \text{m}_2 \dots\dots\dots;$$

$$\text{dam}^2 440 = \text{m}_2 \dots\dots\dots$$

$$\text{taar } 62 = \text{dam}_2 \dots\dots\dots;$$

$$\text{taar } 75 = \text{m}_2 \dots\dots\dots$$

$$\text{taar } 25 = \text{dam}_2 \dots\dots\dots;$$

$$\text{dam}^2 4215 = \text{m}_2 \dots\dots\dots$$

$$\text{taar } 125 = \text{dam}_2 \dots\dots\dots$$

Dānyamma: Da na'a na bibirre niifinni-i huɔŋgu huɔŋgu, na saaya na bu dūnni igēna. Pigāatieŋ nuɔ ŋ saaya ŋ waŋ baa hāalābiemba-i wuɔ kāmman-bieŋa 2-a-2 diyaan dūnni-na.

km ²		εm ²			dam ²			m ²			dm ²			sm ²			mm ²				
kd	c	b	kd	c	b	kd	c	b	kd	c	b	kd	c	b	kd	c	b	kd	c	b	

dam2 1 = m² 100,

εm² 1 = m² 10.000

km² 1 = m² 1.000.000,

Da na ta na hãalã nyegẽmbaa-ba-na, na ta na nanna sebe u yammu da-mu-diei na ji bu-ba.