JATEKALAN

1

Bamako, 2000
Gafe konokow

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Jebila

Gafe in sèbëna laksikaramogojekulu kerenkerenn ka baara senfe Ñono. Segu mara la, k’a ta Utikato tile 3 la, ka t’a bila a tile 24 na, san 2000. Jekulu in mogow bora kalan Minisiriso bolofara caman na.

Baara in kera kalan taabolo kura hukumu de Ñono, n’o be wele tubabukan na « Pédagogie convergente ». O ye kalankfere ye, min sinsinere ye fasokan ni walikan taakoo numan ye n’ojon fe kalan ni degeli hukumu khhô.

Gafe in kunlëna ye ka denmisew dege jatekalan na. Jatekalan degeli senfe sigida n’a lamini kow kan, kolosiliw ni hakilijagabobaraaraw be ke sababu ye k’u hakili dayele, k’u lafaamuya.

An ka foli kerenkerenn be ka taa « USAID » ma, a ka deme koson nin baara siratje la.
Nyfoki

Gafe min b'aw bolo ni nje, karamogo ni kalenden ka gafe don, somogow fana ba se ka denw deme n'a ye so.
Gafe in sinsinnen ba Mali jatekalan baara jaateminenew kan. A be tali ke fana « Konfemni » jategafe kan.
A tilalen don yoro kunba naani ye :
1. Yoro folo : jatekalan pibilabaaraw
2. Yoro filanan : daw, kofoli, doboli
3. Yoro sabanan : Kenesumakalan ani sigiyorodanfara
4. Yoro naaninan : sumani
Yoro kelen o kelen tilalen don kalansen damado ye.
Baaraw be ke ni negew, tiiirw ani new ye kalansenw kon.
Karamogo ni kalandenw ba kan k'o baaraw laben walanba kan walima kayew kono.
Jatekalan baaraw sigilen ba taabolo saba kan :
1. Waleyali : kalandenw yere b'u bolo don minenw na ka baara kofolenw ke n'oulu ye.
2. Tiginadilan : baara kofolenw negew be ke.
Kalansen kelen o kelen temesira ficke :
1. Kuntienna
2. Baarakminenew : olu ka kan ka ke minew ye minnu be sor sigiida la ani minnu be tali ke denmisew ka tulonkefnw na.
3. Taasira : baara ketaw peroperalatigèlèn b'o kono walsa ka kuntiennaw tiime.
Karamogo ba kan k'u sigi-sigicogo n'u taasira bato.
Baara ninu fanba ka kan ka ke denmisewn fe.
Sinsin ka kan ka ke kalankefere min kan, o ye kulubaara ye.
4. Degeliw : Kalansen bec labannen don ni degeliw ye, minnu be se ka ke kalanso kono walima so.
Kolsili : 1. Jate kalansen bec ka kan ka damine ni kunnajate walima jate teliman ye.
2. Baara keta be se ka ke farikolon sente.

Baara kebagaw

Sebenbagaw:

1. Mariyamu Gindo Dumanzana “C”, Bamako
2. Adama Tarawele Banankorinin, Segu
3. Burehima Fofana Kalan pepininini nemego, Bko
4. Muntaga Jara Balikukalan nemego, Bko
5. Lamini Danbele Kalan pepininini nemego, Bko
6. Sidi Jabate Banzana, Kayi
7. Mariyamu Tarawele Balikukalan nemego, Bko
8. Koninba Danbele Kalan pepininini nemego, Bko
9. Mamadi Kamara Kalan pepininini nemego, Bko
10. Mamadu Konta Kati
11. Mamadu Jakate Kalan pepininini nemego, Bko
12. Amara Sise Bko Faaba kalanko nemego
13. Mahamadu Jakite Darisalamu, Bamako IV
14. Musa Sise Bolibana A, Bamako
15. Seku Sidibe Kalabankura
16. Mamadu L. Tarawele Mara kalanko nemego, Kkora
17. Sanusi Songomo Mara kalanko nemego, Segu
18. Oroberi Sise Neila, Kukoro
19. Baba Jakite Kalan pepininini nemego, Bko
20. Bakari Keyita Kalabankura
21. Umu Jara Balikukalan nemego, Bko
22. Yala Jara Balikukalan nemego, Bko

6
Jate teliman

Jefoli: baara in be ke karamogo ni kalandenw fe, daw besc kalansenw dāmine na.
Jate teliman ye daw besc kalansenw nēbilabaaraw de ye. O siratige la, misali dow filc karamogo ka kan ka tomoni ke minnu na.

1. danni: Karamogo Kalandenw
   kelen-kelendanni → 1, 2, 3 → 4, 5, 6, 7, ..., 
   fila-filañanni → 2; 4, 6 → 8, 10, 12, 14, ...
   duuru – duurreduñanni → 5; 10, 15 → 20, 25, 30, ...
   woɔŋ-woɔŋ danni ka yelen → 0; 6, 12 → 18, 24, 30, ...
   saba-saba danni ka jinj → 29, 26, 23 → 20, 17, 14, ...

2. Jatedensow danni:
   23 → bi 2 ni ke 3 ye
   67 → bi 6 ni ke 7 ye

3. Daw soroli:
   bi 5 ni ke 4 ye 54 ye
   bi 10 ni ke o ye 100 ye

4. Daw sebenni:
   bi 7 ni ke 3 ye 73 ye
   bi 3 ni ke 5 ye bi saba ni duuru ye

5. Kafoli katimu:

   | 0 | 1 | 2 | 3 |
---|---|---|---|
| 0 | 1 | 2 | 3 |
| 4 | 2 | 3 | 1 |
| 2 | 3 | 4 | 5 |
| 3 | 4 | 5 | 6 |

   | 5 | 2 | 8 |
---|---|---|
| 1 | 0 | 7 |
| 5 | 10 | 7 |
| 13 | 10 | 7 |
| 13 | 7 | 4 |
| 10 | 7 | 4 |
| 8 | 13 | 10 |
| 16 | 10 | 7 |
* Kəlosiliw:
1. Katimu kənọ misali dow file minnu bə fu nafantanya jira yan:
   \[ 0 + 1 = 1 + 0 = 1 \]
   \[ 0 + 2 = 2 + 0 = 2 \]

2. Katimu kənọ misali dow file minnu b'ə jira ko daw sgiyaro
   be se ka fəlen kəfoli la nka sorošen teolecma:
   \[ 2 + 3 = 3 + 2 = 5 \]
   \[ 1 + 2 = 2 + 1 = 3 \]

6. Kafoli ni doboli waleyali (olu be se ka ke jatepiniw kənọ.)
   Misaliw:
   \[ 23 + 11 + 7 = 23 + 7 + 11 = 30 + 11 = 41 \]
   \[ 5 + 2 + 8 + 15 = (5 + 1) + (2 + 8) = 20 + 10 = 30 \]
   \[ 11 – 9 = 2 + 9 -9 = 2 + 0 = 2 \]
   \[ 49 – 12 = (49 + 1) – (12 + 1) = 50 – 13 = 37 \]
   \[ 32 – 24 = (32 + 6) – (24 + 6) = 38 – 30 = 8 \]
   
   Kəlosili: Kuntəlenna fəlen ninnu ka kan ka tiimə teliyə la
   kalansən be damine na, sanga 10 kuntaala kənọ. U be
   geleya ka taa dɔonin-dɔonin.
   U geleyali sirißen be daw cayali la.
   Baara keta in ka kan ka sinsin kalandənuw ka se hake sorošen
   kan.

An balima kəroqəw, an b'ə nini aw fe, gafe in kalannen ko
ka baara ke n'ə ye, aw k'ən lədonniya a' ka kəlosiliw la.
Ala k'ə ke an nafalan ye !
Nidungowolomani ni nidungosaradali

I. Kuntilemma: kalansen laban na kalanden ka kan ka se:
- Ka wolomani ke a dungo la
- Ka saradali ke a dungo la.

II. Baarakeminenwe: beleksiwe, jirfuraw, kalainiwe, sikolow, ...

III. Taasira
Baara keta 1:
- Karamogo be kalandenw labo u ka taa beleksiwe, jirfuraw, kalaniwe, sikolow n'u pogonnaw nini ka na.

Baara keta 2:
Kalandenw b'u ka minen mininew dwa u ka tabaliw sanfc. Minnu sigilen be tabali kelen kan, olu b'u ka minenw laje koonuman ka tila k'u woloma u sago la.

Baara keta 3:
Karamogo b'a nini kalandenw fe u ka minen minnu ke saraw ye, u sago la.
A b'a nini kulu damadofe u k'u ka wale kelenw pefo.

Baara keta 4:
Karamogo be kalandenw bila u k'u ka fen wolomanenw ke u dan ma minenw kono, k'u sigi kalanso seleke do la.

Marata
Wolomani ye fen suguya kelenw latomani ye ka ba tow la
Saradali koro ye ka fenkulu fenw sigi kulu ni kulu.
Degeliw

1. Jiriden minnu kisè ka ca, olu koori

2. Fên minnu ka jan, olu koori


5. Sawura minnu ye sow ye, olu lakoori.
Wolomani ka da suguya kan

I. Kuntileña: kalansen laban na kalanden ka kan ka se:
- ka baarakeminenw suguya don, k'u t'ogw fo.
- Ka wolomani ke ka da fenw suguyaw kan.

II. Baarakeminenw:
- Karamogo taw ni kalandenw taw, sigida jiridenw, buwatiw,
- kalaniw, sikolo, beltiszew, manamafen, o n'o ngonaw.

III. Taasira:
Baara kcta 1:
- Kalandenw be baarakeminenw ta k'u lajc, k'u sidon.

Baara kcta 2:
- Kalandenw be minen dow ta k'u jira, k'u t'ogw fo.

Baara kcta 3:
- Karamogo be minen dow ta minnu ma jira folo. Kalandenw
  b'u t'ogw fo.

Baara kcta 4:
- Kalandenw be fenw jira u ni ngon ce, k'u t'ogw fo ka da
  suguya kan.

Baara kcta 5:
Karamogo ni kalandenw be je ka sawuraw tiqc ka da u
suguya kan, k'u t'ogw fo : kere saba, tangili, kare, koori

Degeliw
1) Fen suguya kelen woloma ka bo taw la.
Wolomani ka da cogoya, kundama ani ñe kan.

I. Kuntilemma: Kalansen laban na, kalanden ka kan ka se:
- Ka fenw ñe don, k’u togo fo;
- Ka fenw cogoyà don;
- Ka fenw kundama don;
- Ka wolomani ke u ñe, cogoya ani kundama fe.

II. Baarakæminenw:
- Kari ton, kemesu, lamu, ñebenfura jëman, kirîyon gansan ni kirîyon ñemaw, josilan.
- Karamogo be na ni kare, tangili, këresaba ani koori belebele dilannenw je karîton na, kalandenw b’u fitininw dilan ñebenfura la.

III. Taasira:
- Baara kcta 1:
- Karamogo be a ka sawura dilannenw jira kalandenw na, k’u togo fo;

- A b’u ñininka u cogoyaw la.
- A b’a ñini kalandenw ñe u ka sawura ninnu ñogon dilan ñebenfura la, ka ñew k’u la.
- A b'a ka sawura dilannenw ni kalandenw taw ṣagami k'u ton tabali kan.

Baara k'ta 2:
- Karamogő b'ε kalandenw tila kulu naani ye. Kulu kelen-kelen bε bε na sawura ninnu kelen woloma ka bε sawura tow la ka da a ḋε kan.

Baara k'ta 3:
- Karamogő b'ε kalandenw bila kelen-kelen ka na sawura dilannen fila ta, k'u cogoya fo.

Baara k'ta 4: Kalandenw bε sawura werew ta minnu ye suguya kelen ye k'u kundama fo.

Baara k'ta 5:
- Karamogő b'a ḋini kuluw kelen-kelenna bε ḋε u ka na u ka sawura dilannen ḋo ta k'o ḋε cogoya fo.
3. Nin taamsiyan (x) ke kare kelen-kelen bee kono.

4. Koori ninnu bolo di pogon ma ni tiiriw ye

5. Karew bee koori,

6. Nin taamsiyan in (+) ke sawura fitininw kan.

7. Nin taamsiyan in (x) ke sawura kunbabaw kono.
8. Sawura fitinjw bolo di pogen ma ni tiiriw ye.

9. Kalanden kelen- kelen bec be sawura naani dilan ka pe folen ninnu k’u la: bilenman, nereemuguma, bulama, nugujima.

Janto : Nin kalansen in be damine kabini farikolon waati, nin cogo in na :
- Karamogo be karew, kooriw, tangiliw ani keresabaw ci duguma ka denmisew ja o sawuraw kono, bec n’a ka dunukan : (kare ta ye mankanba kelen ye, koori ta ye mankan hakalama kelen ye, tangili ta ye mankanba fila ye, keresaba in ye mankan sumanen kelen ye.
- Denmisew be bo sawuraw kono, k’u lamini. Ni minnu ka dunukan bora olu be don u ka sawura kono.
- Ni minnu filila, karamogo b’olu bilasira.

Wolomani ka da mankutu fila kan.

I.Kuntlienna : kalansen laban na, kalanden ka kan ka se :
- Ka wolomani ke ka da mankutu fila kan : cogoya ni pe, valima cogoya ni kundama valima kundama ni pe.

II.Baarakeiminew :
1. Karamoga taw : kare, tangili, keresaba, koori (olu be ke kunbabaw ye)
2. Kalanden taw : kare, tangili ; keresaba, koori, (olu be ke misenmanw ye), bonbon, lenburu, farasuw, tigakolo, sikolo…

Taasira :
Baara keta 1
- Kulu bec be baarakemin be d’u ma.
- Karamogo be kalandenw bila ka feuw togow n’u new an’u kundamaw fe.
N’u deser a, b’u bilasira.

Baara keta 2
- Karamogo b’a pini kalandenw fe u ki feu ne bilenmanw fara pogen kan
- O kofe, pe jemanw, pe binekenemaw ani pe werew be se ka woloma o cogo la.

Baara keta 3.
- Feuw be pagami tuma bec be soro ka wolomani ke
- Kalandenw be feuw woloma ka da u cogoyaw n’u new kan.
- Kalandenw be feuw woloma ka da u cogoyaw ni kundamaw kan.
- Kalandenw be feuw woloma ka da u kundamaw ni new kan.

Baara keta 4.
- Halibi feu werew be pagami ka tila k’u woloma ka da mankutu fila werew kan.
Degeliw :
(a bc se ka ke kulubaara ye walima kalanden kelen-kelen bc se k’a ke a ycre ye)
- Karamogo bc ngen canan ke sebenfura do kan walima walanba kan,ka ne k’u la.
Kolojii : karew la fila bc ke nuguji ye.
- Kalandenw bc ngen ninnu ta u ka kayew kono o cogoya kelen na.

1. Nin taamasiyen (+) ke tangili kunbabaw kan.
2. .Kare nugujiaw lakoori
3. Tiiri ci keresaba misenamanw kan
5. Ngen kunbabaw bolo di ngen ma.

Saradali

I.Kuntillenna : Kalansen laban na kalanden ka kan ka se ka minenw sarada ka da kunnafooni dilen kan.

II.Baarakewminenw :
Nin minenw ka kan ka bonya ni kalandenw taw ye.
2.Kalandenw taw :
- Kolonkiaw, belskiaw, farasu, jiridenkolow, jiribuluw, kalaniw,............
- Karew, tangiliw, keresabaw, kooriwig tigelen sebenfura la, ka dow kumbaya ni dow ye, ka dow ne ke bilenman, finman, nehemuguma walima bulama ye.

III.Taasira :
Baara keta 1.
-U ka sawura dilannenw na kalandenw bc bila ka sawura suguya kelenw sarada u ni dungo la.

Baara keta 2
Sawura minnu cogoya ye kelen ye, kalandenw bc olu sugandi ka bo tow la. K’u bila u dan ma (o ka kan ka ben kulu naani ma).

Baara keta 3
Sawura minnu ne ye kelen ye, kalandenw bc bila ka olu sugandi ka bo tow la, k’u bila u dan ma (o bc ben kulu naani ma).
Baara be ke ni karamogo ka minenw ye folo, k’a laban ni kalandenw taw ye kuluabara kono.
Baara keta : 4
Kalandoiw be bila ka saradali ke ka da manikutu werew kan.

Degeliw

1. Fen minnu kundama ka jan, olu koori; tow fana koori.

2. Koori ci: bugusow da la, negesow da la, mobiiw da la,
sagaw da la.

3. Fen minnu lajc i k'u la dogomanninw koori u dan ma ka
kunbabaw fana koori u dan ma.

4. Bagan minnu be bin dun, olu koori, minnu te bin dun olu
koori, fen tow fana koori.
Seginkanni.

1. Fcnw ke kulu saba ye, ka kulu kelen o kelen ke a danmakoori kono.

2. Ci ke waraba kelen-kelen kan.


4. Tangili bulamaw lakoori

5. Nin taamasiyen (+) ke kungosogow kan.
6. Ci minnu ny e kelen ny, olo lakoori (nyew be ke folo)

7. Kalandeminew lakoori- Senneminew lakoori- jiridew lakoori fen tow fana lakoori

Kalasili: Degeli 6th na, karamogo be pogon dilenw ke sebenfuraw kan, ka ne caman k'u la (bilenman, bulama, neresmuguma, pugujima) ka ben kalandenkulu. Hake ma. A bu pogonna belabale dilan walanba kan.

Kunkəŋəŋənsi
g

I. Kuntilehna: Kalansen laban na kalanden ka kan ka se:
- ka fenkulu fila sanga pogon ma
- ka kulu fila sigi minnu konofenw ye kelen ye,
- ka kulu fila sigi kelen ta ka caya walima a ka dogoya ni to kelen do ta ye.

II. Baarakeminew: Jirifuraw, beleksiwer, kalaminw, jiridenw, farasu, biki, kayew, kiriyon ani fen werew.

III. Taasira:
Baara keta 1:
- karamogo be biki naani minc a kininbolo la k'u datugulanw minc a numanbolo la ka nininkali ke ni biki ni datugulan hakε dama ka kan. Walasa k'o don, datugulanw be ke bikiw la.
- karamogo ba ninu kalandenw fe u ka walanninw jira. A buu bila ka kalanden hake ni walannin hake sanga pogon ma (karamogo be se ka misali dow ta kuluw kono).

Baara keta 2:
- karamogo be kalanden tan sugandi ka farasu seegi ta k'o tila olu ni pogon ce, ka nininkali ke ni bec ye farasu kelen soro. Farasu deseli be kalanden caya jira : kalanden hake ka ca ni farasu hake ye
- kalandenw be segin misali in kan ka farasu caya ni kalanden ye : kalanden hake ka dogo ni farasu hake ye.

Baara keta 3:
- karamogo be koori wolouwula ani kare kononton tiginaw ke walanka kan nin cogo la.
Kalandenw be nininga ni kooriw ni karew haka ye kelen ye;
min ka ca ani min ka dogo.
Walasa k'o don, karew ni kooriw bolo be di nignon ma.
Bolodignonma kelen b'a jira ko:
- kare hake ka ca ni koori hake ye walima
- koori hake ka dogo ni kare hake ye.

Marata:
Kunenogonsigu la, fenw hake be se ka ke kelen ye walima da
be caya ni do ye, walima do be dogoya ni da ye.

----- ni ----- dama ka kan (keps)
----- ka ca ni ------ ye (caya)
----- ka dogo ni ------ ye (dogoya)

Janto : Karamogo ni kalandenw be se ka baara ke ni fen
werew ye.

Baara k'ta 4 :

Kalandenw be karennin, koorinin, tangalinin ni kere sabarin
damadow dilan k'u hakew sanga nignon ma.

Degeliw :


2. Jiriden ni jirisunw na jumen ka ca ?
3. Taamasiyen (+) in ke kooriw jukoro minnu konofenw ka dogo.


5. Ye neremuguma ke sefanw na, minnu hake be dogoya ni sew hake ye.

6. Karamogo be se ka farikolon do laben nin kalansen in kan.

Misali : - Tegere foko kelen, ce kelen ni muso kelen b'u bolo di yonon ma k'u jo.
- Tegere foko fila, kalanden minnu ka fini ye ye kelen ye (bilenman walima jeman walima finman...) olu b'u bolo di yonon ma k'u jo.
- Tegere foko saba, kalanden minnu be bo dugu kelen walima kin kelen na, olu b'u bolo di yonon ma k'u jo.
\textbf{Nogonnadilan}

\textbf{I. Kuntileenna :} Kalansen laban na, kalanenka ka kan ka se:
- Ka nogonnadilan ke.
- Ka nogonnadilan to dafa.

\textbf{II. Baarakcminnw :}
Kalandenw, kalaninw, farasuw, bikiw ani fen were minnu be soro sigida la.

\textbf{III. Taasira}
\textbf{Baara ksta 1 :}
- Kalandenw kodonnen don karamogo ma.
- Karamogo be tegere fo siñe saba, ki jo ka waatinin ke. A be tila ka segin o kan siñe damado.
- Karamogo b’a jini kalanden damado fe, u ka segin karamogo ka waleya kelen in kan.
- Karamogo b’a jini kalanden bec fe u ka segin a ka waleya kelen in kan.
- A jininen don karamogo fe a ka nin waleya in suguya caman werew jini kalandenw ke segin u kan.

\textbf{Misali :}
Karamogo be tegere foko kelen ke ka tabali gosi siñe kelen
Karamogo be tegere foko fila ke ka tabali gosi siñe fila
Karamogo be tegere foko saba ke ka tabali gosi siñe saba.
Karamogo be tabali gosi ni cilan ye ka tegere foko kelen ke

\textbf{Baara ksta 2 :} Karamogo be kalanden bec labo kalanwo kono.
- Karamogo be kalanden damado sugandi (musomanninw ni ceemanninw) k’u jo musomannin kelen ani ceemannin fila, musomannin kelen ceemannin fila.
- Karamogo b’a jini kalanden dow fe, u ka waleya kelen in nogonnadilan ke ni kalanden tow ye.

\textbf{Degeliw}

1. Niñ katimu in dafa.

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2. Niñ katimu in dafa:

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3. Niñ katimu in dafa:

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4. Segin nin nogonnadilan kan

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5. Segin nin nogonnadilan kan

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Joyrosigi

I. Kuntilenna:
- Kalansen laban na, kalanden ka kan ka se:
  - ka fenw joyrosigi ka da mankutu do kan.

II. Baaraksmensw:
- kalandenw, bere minnu kundama te kelen ye, kalandenw ka
  minenw tabaliw kan, buwatiw, tasaw walima filen minnu be
  se ka sigi pogon kono, sawura tigelsenw kariton na i n’a
  fo kerresabaw, karew, tangliiw ...

III. Taasira:
Baara keta 1: Kalanden tan (10) minnu kundama te kelen ye.
  olu be na walanba la. Kalanden tow b’olu be la janmanjan
  sugandi, k’o bo kulu la.
- Minnu tora, olu fana be la janmanjan be sugandi ka bo kulu
  la. Sugandili be ke nin cogo la, k’u jo-jo pogon ko fo k’a
  foori.
- O ko, kulu w’or be na. O kulu in kalandenw ye te de b’u jo
  pogon ko k’a damine surunman na ka yelen.

Baara keta 2: bere minnu janyaw te kelen ye, olu duuru be bila
  tabali kelenkeleena kan.
- kalandenw b’u da pogon ko, k’a ta surunman na fo
  janmanjan.
- kalandenw be berew dacogo nataliye ke walaninw kan.

Misali

Kalasili: Kalandenw be se ka baara in ke u kelen na walima
  kulu ni kulu.
- kalanden damado be na u ka nataliye waley walaba kan.

Baara keta 3: Kalandenw be segin baara keta filanan kan ni
  minen werew ye i n’a fo gafew, karew, buwatiw, tasaw ani
  filenw.
Baara keta 4: Segin ka nin tiriw ci, k’a damine surunman na
  k’a laban janmanjan na.

Marata: Joyrosigi ye ka fen suguya kelenw sigi-sigi pogon ko
  k’a da sariya do kan.
Degeliw

1. Belekise suguya tan (10) ninnu sigi-sigi ṣogon ko, k’a damine misenmannin na ka t’a bila kunbaba la.

2. Jiriden ninnu (mangoro walima lenburuba) sigi-sigi ṣogon ko k’a damine belebele la ka taa fitinin na.


4. Bere ninnu sigi ṣogon ko ka bo surunman na ka t’a bila jamanjan na.

5. Da ninnu sigi katimu kon: 56, 45, 32, 59, 43, 37, 39

39 donna kabab

Seginkanni:

1. Dunden 5 fil minnu kọọjẹ hakew te kelen ye. U sigi ṣogon ko ka bo min kọọjẹ ka dogo la ka laban ni min ta ka ca ye. (Karamọgo be na ni dundenw ni jẹ ye kalanso kọọjẹ)

2. Jaw sigicogo laje ka pe; sigicogo in ṣogonna 2 ke ka tugu u la.

4. Dundenw ni datugulanw hake ye kele ye wa?

5. Segin tiiri ninu kan ka bo surunma na ka taa jamanjan na.

Yora filanan Sigiyrerdanfara Kenesumakalan
6. The wa nkalon
Kononkise finman ni jeman hake ye keien ye

7. Kumaseen min ye tize ye, nin taamasiyen (+) k'o laban na, tangilinin kono.

- Kamiw ka ca ni samaw ye
- Kamiw ka dogo ni samaw ye
Jèfe - kofè

I.Kuntienna : Kalansen laban na kalanden ka kan ka sé :
- ka fen miñ bilalen be a jèfe walima a kofè dón, k'è jìra
- ka fen do bila a jèfe walima a kofè.
- Ka fen do bila mogo, bagan ani fen wàñe jèfe walima a kofè.

II.Baarakmìnènw :
Kalandenw, karamogo, kalanso kònominènw

III.Tàasira :
Baara këta 1 :
Karamogo b'a pini kalandenw fè, fen minnu b'u jèfe, u k'òlu jìra walima k'u kofo, i n'å fò wàlanba, karamogo ka tabal…
-A b'a pini kalandenw fè, fen minnu b'u kofè, u k'òlu jìra k'u kofo i n'å fò kogo, gafemarayàrò…

Baara këta 2 :
-Karamogo b'a pini kalanden do fè a ka n'i jò a tòñogon dòw jòlèn jèfe.
- A b'a pini kalanden kelen in fè a ka fen do ta k'o bila a tòñogonw jèfe.
- O ko, a be fen do kofo kalarden k'o bila a kofè.

Baara këta 3 :
Karamogo b'a pini kalandenw fè, u ka fen do bila u jèfe (walannin, farasu).
- A b'a pini kalandenw fè u ka fen do bila u kofè (walanninw, farasu)
- A b'a pini kalanden dàmèdà fè, u tòñogon minnu be u jèfe walima u kofè, u k'òlu togo fò.

Degeliw :

1. Sigilan min be dënmcënnin in kofè, o lakoòri.

2. Jiri min be so jèfe, o jìra ni nìn taamàsiyèn (x) ye.

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3. Denmisennin min be ka taama muso nefe, o lakoori.

4. bagan min be musomannin nefe, o lakoori.

5. cemannin min be sigilan kofe, o kogri.

**Numan - Kinin**

I. Kuntifenna: Kalansen laban na, kalanden ka kan ka se:
- ka farikolo kininfeyork n’a numanfeyork don ka bo nogan na.
- ka mogo were kinin n’a numan don ka bo nogan na.

II. Baarakcminenw: Kalandenw, karamogo, kalanso konominenw.

III. Taasira:
Baara ksta 1:
- karamogo b’i jo wulanba kerfe k’a kodon kalandenw ma k’a numanbolo jira u la.
- A b’a nini kalandenw fe u k’u numanbolo korota, ka segin k’a nini u fe u k’u kininbolo korota.

Baara ksta 2:
Karamogo b’a nini kalanden do fe a ka ntola bo a no na n’a sen ye.
- A b’a nininka a y’a sen jumen ke ka ntola bo a no na.

Baara ksta 3:
Karamogo b’a nini kalanden do fe a k’a farikolo numanfeyork do jira walima k’a kofo (ne, tulo, bolo, sen)
- A b’a nini kalanden do fe a k’a farikolo kininfeyork do jira (ne, tulo, bolo, sen)
- A be kalanden damadon nininka u be sebenni ke n’u bolo min ye.

Baara ksta 4:
Karamogo b’a nini kalandenw fe u k’u tajagon do kodonnen kininbolo, kininsen, numanfe tulo jira
Baara keta 5:
(A be ke farikolon waatiw la).
Kalandenw taamato b'u kininsen ta nogen fe, k'u numansen fana ta nogen fe.

Degeliw :

1. Nin taamasiyen (x) ke denmisenniw kelenkelenna numanbolo kan.

2. Nin taamasiyen (x) ke denmisenw kininsen kan

3. Numanbolo lakoori

4. Je ke musomannin kininbolo la ani cemannin numansen na.

5. Ci ke kininsamara kan i ka numansamara lakoori.
Kono- Kokan
Konoa – Kokanna

I. Kuntlenka: kalansen laban na, kalanden ka kan ka se:
- K’a don ni fen do be kene dantigelen do kono walima a kokan.
- K’i jo walima ka fen do bila kene dantigelen do kono walima a kokan.
- Ka yoro koorlen do konoa n’a kokanna don, k’u jira.
- K’a lamini fenw n’a delinafenw konoa n’u kokanna don, halu u jala..

II. Baarakeminenw
- kalandenw, jurukise, buwati, palan, segi, beleksiw, sikolo, kabakuru, warimisenw...
    Kolasili: buwati, palan, segi ka kan ka ke datugulanmaw ye.

III. Taasira
Baara keta 1:
- karamogo be minen do sigi tabali kan kalandenw nekorok.
- Karamogo be fen do bila (beleksiw, sikolo, warimisenw) minen in kono, k’a datugu.
- Karamogo be kalandenw nininka fen in bilayoro la.

Baara keta 2:
- karamogo be fen do bila minen kelen in kokan.
- A be kalandenw nininka fen in bilayoro laa

Baara keta 3:
- kalandenw b’u jo ka kene do koori.
- Karamogo b’a pini kalanden do fe a k’i jo koori in kono ka soro k’a fo: « N be koori kono, n b’a konona na. »
- Karamogo b’a pini kalanden kelen in fe a ka bo koori kono ka soro k’a fo: « N be koori kokan, n b’a kokanna na. »

Baara keta 4:
- karamogo be koori do ci duguma.
- A b’a pini kalandenw fe, dow k’u jo koori kono, dow k’u jo a kokan.
-kalanden be b’i joyoro pereperelatige.
-kalanden be kabakuru bila koori kono an’a kokan.

Baara keta 5:
-kalanden be koori ci walanba kan.
-kalanden were be ni taamasien (-) ke sine kelen koori kono, sine fila koori kokan.

Kolasili: karamogo be se ka baara keta folo fo naaninan ke farikolon waati la.

Baara keta 6:
Kalandenw be koori do ci u ka walaninw kan ka ni taamasien (+) ke o kono.

Baara keta 7:
- fe do ke sew la, minnu be sinsan kono
1. Ci datugulun do ke walannin kan.
   A konona ke ne bulama ye.

2. Ci datugulun do file, nin taamasiyen (-) in ke a kokan.


4. Tomi ke, min be soo koori bilenman ni koori bulama kono.

5. Denmise in deme ka don so kono.
Kan – koro
Kunna – jukoro

I. Kuntilenâ : kalansen in laban na, kalanden ka kan ka se :
- k’i jo, k’i sigi walima k’i da fen do kan ani a koro
- ka fen do jira fen were kan walima a koro
- ka fen do bila fen were kunna walima a jukoro.
- Ka kan – koro ani kunna – jukoro danfaraw don.

II. Baarakeminew : 
Kalandenw, dununnin, sigida fen werew.

III. Taasira :
Baara keta 1
Kalanden do b’i sigi a ka tabali kan, do were b’i sigi a ka tabali koro. Jînininkali be ke olu sigiyow la.

Baara keta 2
Karamogo b’a ka minen dow bila tabali kan ka do werew bila a jukoro. Jînininkali be ke minen ninnu bilayoro la.

Baara keta 3
Karamogo be banfula don a kun na ka jînininkali ke banfula be yoro min. A be sora ka banfula bo k’o yanga a kunkolo sanfe ka jînininkali ke banfula be yoro min (a kunna).

Baara keta 4
O be ke farikolon waati.
Karamogo be dununnin fo, kalandenw be tugu nogon ko ka koori dilan
- karamogo be don koori la ka dununnin sigi a kun ka kalandenw jîninika dununnin be yoro min (dununnin be karamogo kun)
- karamogo b’a jîni kalandenw fe, u k’u bolo korota u kunna

- karamogo be dununnin da duguma ka kalanden do sigi o, kan ka taw jîninika dununnin be yoro min (dununnin be kalanden jukoro)
- karamogo be dununnin bila a bolo koro ka jînininkali ke a be yoro min (dununnin be karamogo bolo koro)
- karamogo b’a fo kalanden be k’u numanbolo sene, a’be tila k’a jini u fe, u k’u jininbolo bila u numanbolo jukoro.
- Karamogo b’a jini u fe tugun, u k’u jininbolo bila u numanbolo koro.
- Karamogo be dununnin ta k’a jini kalandenw fe, u k’u numanbolo sene : dununkan folo, u b’u jininbolo da u numanbolo kan, filanu, u b’a d’a jukoro, sabanan, u b’a yanga a kunna, naaninu, u b’a jizin a koro.

Kalasili :
A jîninink be karamogo fe, a ka misali werew di ni kan – koro,
kunna-jukoro ye kalandenw ka lamini na.

Baara keta 5 :
Je do ke :
- Koori la, minnu be tiiri nersmuguma sanfe.
- Kere sabaw la, minnu be tiiri finman jukoro
- Koori la, minnu be tiiri finman sanfe
Degeliw

1. Nin taamasiyen in ke jabib la min be tabali kan

2. Nin taamasiyen in (x) ke kono kan min be jiri koro

3. Nin taamisiyen in (x) ke lanpan kan, min be tabali kunna

4. Ne bilenman ke denmisen na, min be npon koro
Sanfe, duguma, sanfela, dugumana

I. Kuntlienna : Kalansen laban na, kalanden ka kan ka se :
- Ka fenw sanfela n’u dugumana don k’u jira.
- K’olu fen kelenw dugumafenw n’u sanfelenw don k’u jira.

II. Baarakominénw : kalanso konominénw

Baara keta 1 : A be ke kuluw la kalaneo kono.
- Karamo be kalanso konofoñ dow sanfela n’u dugumana jira kalandenw na (walanba, folo, kalanso da...)
- Karamo be kalanso konofoñ wern kofo, k’a nini kuluw fe
- K’olu sanfela n’u, dugumana jira (alamor, kogow, batokibara, jabaranin...)
- Karamo b’a nini kalandenw fe u k’u ka minen dow ta k’u sanfela n’u dugumana jira.

Baara keta 2 :
- Karamo be koori ni tangili do dilan walanba kan sanfela la,
  ka kare ni kersaba dilan walanba kan dugumana na.
- Karamo b’a nini kalanden dow fe, u ka na koori ni kare jira
  k’u dilanyoro kofo walanba kan.
- Karamo b’a nini kalandenw fe, bee ka tile ja ke a ka
  walanin sanfela la, ka kalo ja ke a ka walanin dugumana
  na.

Baara keta 3 :
Karamo be kalandenw pininka fen minnu be sanfe (tik, kalo sankolo) ani fen minnu be duguma (mogow baganw jiriw, kow...)

Degeliw

1. Nin taamasiyen in (x) ke denmisen kan min be yelanyeleen na dugumana na.

2. Nbe bilenman ke gafew la minnu be gafemarayoro sanfela la
  ka neremuguma ke minnu be a duguma.
3. Taamasiyen in (x) ke da sanfe, i ka nin (-) ke a duguma.

4. Jiriden minnu be namasa numanyanfan fe, olu koori.

Seginkanni

1. Cε do jolen filε. Mun b'a ṭɛfe?

2. Segi do sigilen filε. A konjiridεn ke ɲe bilenman ye, i ka finman k'a kɔkan.

3. Ninu Ȯ C nọgọnna dilan k'u dayele ka taa:
   sanfe
   duguma
4. Mun be tabali kan ? Mun b’a korò ?

5. Tièn wà nkalon
   - Kono bë so kono. T □ □ NK □ □

6. Solonin bë sulu giriyasilama kokanna na
   T □ □ NK □ □

7. Sonson ja bë filen kokanna na.
   T □ □ NK □ □
Numan fe, Kinin fe

I. Kuntilenna : Kalansen in laban na, kalanden ka kan ka se :
- ka fen do bila a numan fe walima a kinin fe.
- K’a kininfesewn don ka bo a numanfesewn na.
- Ka fen do sigi fen were numan walima a kinin fe.
- Ka fen were numanfesewn don ka bo a kininfesewn na.

II. Baarakeminew :
Kalandenw ani kalanso konominew

III. Taasira :
Baara keta 1
Karamogo b’a pini kalanden kelenkelenna fe u ka fen do bila u numan fe, ka do bila u kinin fe.

Baara keta 2 :
Fen sigilen be nogon kerefe kalandenw nefe, u b’a jira (k’a fo) min be kinin fe ani min be numan fe.

Baara keta 3 :
Fen sigelen be walanba kan, kalandenw b’a fo (jira)
min be numan fe ani min be kinin fe.

Baara keta 4 :
Karamogo be kalandenw bila ka fen do bila fen were numan fe tabali kan.

Baara keta 5 :
Karamogo be ci jolen ke walanba kan, k’a pini kalanden do fe
a ka jelen do ke ci in numanyanfan walima a kininyanfan fe.

Janto : Karamogo be se ka baara keta were dina, minnu be tali
ke kalandenwe lamini kan.
- Karamogo be se ka farikolon do labennin kalansen in kan.

Degeliw :

1. Jege minnu be ci jolen numanyanfan fe olu ke ne bulama
   ye.

2. Nin taamasiyen in (+) ke datugulan kan, min be dunden
   kininyanfan fe.
3. Ntala kelen ke jiri numanyanfan fe ka daga kelen ke a kininyanfan fe.

4. Ntala kelen ke jiri numanyanfan fe ka daga kelen ke a kininyanfan fe.

Ka jan a la – ka surun a la (keréfe)

I. Kuntileena : Kalansën in laban na kalanden ka kan ka se :
- Ka fen do jíra, min yoro ka jan a la walima min yoro ka surun a la.
- Ki yoro surunya fen do la, kí yorojanya fen do la.
- Ka fen do sigí a kerèfe, ka do sigí k’o yoro janya a la
- Ka fen do jíra, min be fen were kerèfe walima min yoro ka jan a la.
- Ka fen do sigí fen were kerèfe walima k’a yoro janya o la.

II. Baarakimenew :
Kalandenw ni kalanso konominew

III. Taasíra :
Bañá keta 1
Kamomo be kalanden fila sugandi, ka kelen jo a kerèfe, ka to keteni mabo a la. Kalandenw b’a fo : « Madu ka surun kamomo la, Fanta ka jan a la. »

Bañá keta 2 :
Kamomo b’a níni kalanden do fe a ka sebbikelen do bi’la bánaa ka walannin yoro janya a la.
Kalanden b’e sofo k’a fo : « Sebikelen be n kerèfe, wanda min yoro ka jan n na.

Bañá keta 3 :
Kamomo b’o sogere walanba la, kalanden do b’a fo kamomo be walanba kerèfe. A be tila k’i sobo a la, kalanden were b’a fo kamomo yoro ka jan walanba la.

Bañá keta 4 :
Kamomo b’a jíri kalandenw fe u ka duguu ni kon dow fo min wel yoro ka surun walima u yoro ka jan u ka duguu ni kinu riil.
Baara ksta 5:
Kalandenw yere be wale suguya were caman ke, karamogo b'u bilasira.

Degeliw

1. Seden minnu bs seba kerfe, olu lakoori

2. Nin taamasiyen in (x) ke baganw kan, minnu yoro ka jan ko la.

3. Ntola minnu yoro ka surun jo la, olu ke ne bilenman ye, minnu yoro ka jan, olu ke ne finman ye.

4. Uine wa nkalon (T, NK)
   Ceinannin yoro ka surun kalanso la T □ Nk □
Ne - ko

I.Kunntilenna : Kalansen laban na, kalanden ka kan ka se :
- ka fen do walima hadamaden do sigiyoro don ka da fen were walima hadamaden were ta kan, a nogon sigi-sigilenw ce la.
- ka fen do sigi a nogonna do nefe walima a kofe fenkulu sigi - sigilenw ce la.

II.Baarakeminesnw : Kalango konominenw, kalandenw

III.Taasira :
Baara keta 1 : Karamogo be kalanden tan (10) lajo nogon ko, ka nininkali ke :
- kalanden min be min pe ,
- kalanden min be min ko,
- kalanden te min pe,
- kalanden te min ko.

Baara keta 2 :
- Kalanden tan (10) ninnu b'u pesinyoro yelema k'u jolen to nogon ko. Karamogo be nininkali ke :
  - Sisan, min be min pe, min be min ko.

Baara keta 3 :
Karamogo be minen dow sigi - sigi nogon ko tabali kan, ka taafan-jira; ka minen kelen sugandi ka nininkali ke :
  - minen min b'o ko
  - minen min b'o pe
Karamogo be misali caman di baara in kan.

Baara keta 4 :
Karamogo be keresaba, koori, tangiliw ni karew ke ka tugu nogon ko, ka dow pe ke bilenman, ngujima walima bulamaw ye. A be taafan jira ka soro ka nininkali ke :
  - Sawura min be min pe

- Sawura min be min ko.
Kalasili:
Ne ni ko be sigipogonko jira yan kene kan, u be se fana ka fonogonko jira waati kono.

Degeliiw :
1. Fenw ja laje, ka soru ka nininkaliw jaabi
- Mun be buguso pe ? Mun b'a ko ?

2. Fen min be tangili pe, nin taamasiyen (+) ko kono.

3. Fen min be keresaba ko, nin taamasivin (+) ko kono.
4. Nin fenw sìgí nògon ko:
   - tangili bé keresaba nè
   - tangili bé koori ko
   - ci jengennän bé keresaba ko

5. Bagän min bé waraba ko o tògo fo.

6. Fen minnu bé wulu nè, nin taamasïyen (+) ké olu kan.

7. Nin taamasïyen (+) ké musomanninw kan minnu bé
   musomannin bolokọrotalen ko.

Ce / Ni nògon ce

I. Kunnàlennà: Kalànsen laban na, kalànden ka kan ko se:
   - ka don mogo fila ni nògon ce, wàlima mogo do ni fen do
     ce,
   - ëka fen do bila fen fila ni nògon ce,
   - Walima ka fen do jọyọrọ jira fen fila we re ni nògon ce.

II. Baaràkàmínànà:
Kalànso, konòmínànà, kalàndenw…

Baara kèta 1:
Kàramogo bé cémànnin fila (2) anì musomannin këlen (1)
wele k’ù jò nògon ko ni cògo in na: Cémànnin këlen, mu-
somannin këlen, cémànnin këlen.
Kàramogo bé nininkali ké musomannin jọyọrọ la.
Kàramogo bé ni baara in nògon ko ni kalànden wèrèw ye.

Baara kèta 2:
Kàramogo bé kalànden fila wele ka na wàlanba la, k’i jù fila
ni nògon ce, ka soro ka nininkali ké a yèrë jọyọrọ la kalàndenw
ni nògon ce.

Baara kèta 3:
Kàramogo bé koori 4 ci nògon nofè wàlanba kan, ka
kalàndenw bila ka tangili ci olu ni nògon ce.

Baara kèta 4:
Kàramogo bé se ka misali wèrèw ta kalànsó kòno anì kalànsó
kòkan (dugu do bé dugu fila ni nògon ce; tarata bé ntenèn ni
aràba ce …)
Degeliw

1. Mun be fali ni kona ce?

2. Fen min be tangii ni keresaba ce, tiiri k' o kan

3. Mun be gafe ni cilan ni pagon ce?

4. Jaw dilan cogo la min b'a to:
   tangii be ke keresaba ni ci jengennen ni pagon ce
   koori be ke keresaba ni ci jengennen ni pagon ce
   Ci jengennen be ke tangii ni ci jolen ni pagon ce.

5. So min be jiriw ni pagon ce ne bulama k'o la, i ka nin
   gaamasiyen (x) ke jiri kan min be sow ni pagon ce.
1. Nin jirisinu in firi: daga dilan a kerefe, ka ntolol dilan ka yoro janya a la.

2. Karamogo ni kalanden firi firi: kalanden min yoro ka jan a la taamasiyen in (+) k'o kan.

3. Bikise minnu be dinge kerefe, nin taamasiyen (x) ke olu kan, minnu yoro ka jan, olu ke pe bikenema ye.

4. Kala in firi; a nogonna do ci k'o jengen ka taa numanyanfan fe, do were ci i k'o jengen ka taa kininyanfan fe.

5. Filen sigilen firi, filen were dilan, min dayelelen be ka taa kininyanfan fe, do were dilan min dayelelen be ka taa numanyanfan fe.

7. Koori min be koorokaara kofe o ke ni pe bilenman ye.

8. Tiiri fila ci denmisëni pefe.

5. Jau dilan cogo la min b’a to:
   - keresaba be ci jegennen pe
   - keresaba be tangili ko
   - ci jegennen be keresaba ni ci jelen ni pogon ce

10. Nin taamasiyen (+) ke ci datugulenw jukoro, ka nin taamasiyen (-) ke ci dayelslenw koro.

Koori kalansolen fila folci walanba kan Taamasiyen do ke min be koori bulama kono nk’a be bilenman kokan.
Ci dayeelen. Ci datugulen.

I. Kuntileena: Kalansen laban na, kalanden ka kan ka se:
- Ka ci dayeelen faranfasiya ka bo ci datugulen na.
- Ka ci dayeelen ni ci datugulen waleya.

II. Baarakeminew: Jurumisenw, gaariw, ngejurumisenw, kononkisew ani fen werew.

III. Taasira
Baara keta 1
Karamogo be kononkise kelen tonnen jira gaari la min kun fila sirjlen don jogon na.

- A be nininkali ke ni kononkise be se ka bo gaari la.
- Karamogo be gaari tigina ke walanba kan. A be jira k’a datugulen don (ci datugulen)

Baara keta 2:
Karamogo be gaari in ta tugun k’a daye le ka sorro ka nininkali ke ni kononkise be se ka bo.
Karamogo be gaari tigina ke walanba kan. A be jira k’a dayeelen don (ci dayeelen)

Baara keta 3:
Karamogo be kalandenw nininka u ka ci dayeelenw ni ci datugulenw togow di misali la u ka sigida la (palan talanw, dolenkise, wolos, mobiiisen...)

Degeliw:

1. Ci dayeelen saba dilan walannin kan

2. Ci datugulen naani dilan walannin kan.

II.B3. Nin ci dayeelenw dilan:
Walannin verew

- Ci dayeelen ka taa kinin fe.

III.F3.

- Ci dayeelen ka taa numan fe.

4. Nin ci dayeelenw dilan:

- Ci dayeelen ka taa sanfe.
- Ci dayeelen ka taa duguma.

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Nin taamasiyén (x) ke ci dayeelenw kan:
6. Nin taamasiyen (+) ke ci datugulenw kono.

7. Sonsannin ka sira ke ye bilenman ye, ka koorokaara ta ke bulama ye.

<table>
<thead>
<tr>
<th>Jegenw – konoci</th>
</tr>
</thead>
</table>

I. Kuntifenna:
Kalansen in laban na, kalanden ka kan-ka se:
- ka jegenw dilanni dege;
- ka jegen dow dafa
ka konoci dilanni dege
ka konoci dow dafa.

II. Baaraksmintenw:
Walanninw, farasu, kiriyn nemaw, sebenfura, kariton ani fen werew.

III. Taasira:
Bira kita.1
Kalumog be jegen dow ke walanba kan ni tomi ni tiiriw ye.

Kalandenw b’olu jegonna caman ke u ka walanninw kan ka
sana yelema ma don u kecogo la.

Nin’ger’o la, dow be na walanba la ka jegenw dafa.
Seringi be ke wale ninnu kan ni jegen werew ye.

Mishil: ——— ——— (ci jolen ni dalen)

Kumakita.2
Kalumog be konoci fila ke walanba kan.

| Jik: seguya kelen be ke folo soden dow kono.
| A. be mini kalandenw fe u ka n’ojogone konoci filanan
| sodeln dow kono konoci folo ta cogo la.
| Seringi be ke nin wale in kan ni konoci werew ye. |
Ne suguya werew be di kulu kelen-kelen bee ma. U be konoci dilen nagon dilan walannin kan.

Degeliw:

1. A dafa

2. Negen folo laje i ka ne ke filanan na

3. A to dafa.


5. Konoci folo laje, i ka filanan ke ten

6. Nin to lase.

7. Konoci in to dafa

Kosili: A pininen be karamogo fe a ye re ka ngenw ni konociw caman ke ni kalandeniw ye, ka d'a kan kalansen in kantaala ye san bee ye.
Tiirici

I. Kutilenna: Kalansen in laban na, kalanden ka kan ka se:
- ka ci do ke n'a bolo ye (cilan te ta)
- ka tiiri tilenn en do ci ni tiiricil en ye.

II. Baarakeminew: farasu, walannin, tiiricil en, kiriyon ani fen werew.

III. Taasira:
Baara keta 1.
Karamogo be ci do ke walanba kan n’a bolo ye. Kalandenw be o n’ogon ke u ka walaninw kan.

Baara keta 2.
Karamogo be ci tilenn en do ke n’a bolo ye walanba kan.
Kalandenw b’o n’ogon ke u ka walaninw kan.

Baara keta 3.
Karamogo be tiiri tilenn en do ci walanba kan ni tiiricil en ye.
Kalandenw b’o n’ogon ke u ka walaninw kan.
Janto: Karamogo b’a wajibiya kalandenw ka tiiri ci tiiricil en jojan fe sanfe.

Baara keta 4.
Karamogo b’a wajibiya kalandenw fe, be ke tiiri tilenn en dow ci ni tiiricil en ye u ka walaninw kan.

Degeliw:
1. Tiiri jolen do ke koori in numanyanfan fe ni tiiricil en ye, i ka dalen do ke a kininyanfan fe.

2. Tiiri do ke ce in sanfe, i ka do were ke a senkoro.
5. Farikolon senfe, karamogò be tiiri jan dow ci. Kalandew be jo keleikelen tiiriw kun keleen na. A bë pinni u fe, u ka boli tiiri kan fo ka t'u se kun do in na k'asoro u ma jIGIN ka bò tiiri kan.

Kalandew kelen

Kalandew

Kalandew

Kalandew

6. Ci do ke min be teme tomi in fe.

7. Ci 3 ke ka teme tomi in fe.
Cikunkurunci

I. Kuntileenna: kalansen laban na kalanden ka kan ka se:
- ka tiiri ci ka bo tomi do la ni tiiricilan ye.
- ka tiiri ci ni tiiricilan ye ka bo tomi do la ka taa do were la.

II. Baarakeminęw: walannin, farasu, tiiricilan, kirirön

III. Taasira:
Baara kəta 1.
Karamogo bo tomi kelen ke walamba kan. A yere be tiiri kelen ci ka bo tomi in na ka taa fan do fe.

Kalandenw be na kelen-kelen ka tiiri ci ka bo tomi in na ka taa fan were fe.

Baara kəta 2.
Kalanden kelen o kelen be tomi kelen ke walannin kan ko jira.
Kalanden kelen o kelen be tiiri kelen ci ka bo tomi in na ka taa fan do fe.

Baara kəta 3.
Karamogo be tomi fila ke walamba kan. A be tiiri ci ka bo tomi kelen na ka t’a bila to kelen na.

Degeliw:
1. Cikunkurun dalen ci
2. Cikunkurun jolen ci
3. Cikunkurun jengenn ci ka taa kinin fe
4. Cikunkurun jengenn ci ka taa numan fe
5. Farikolon:
Kalandenw jolen be farikolon kẹns kan, k’u mabo pogon na.
Kalanden min mana sugandi o be tiiri kunkurun ci n’a sen ye, hango a joyọra la ka t’a bila a tönogon na:
- kinin fe
- numan fe
- jẹfe
- kọfe.
Seginkanni:

1. Nin ciw nōgen dilan:

2. Nin ja nōgen ke i ka kaye kono ni ne folenw ye:

3. Nin nēgen to laban

4. Nin sawuraw ci ni cilan ye
   - kekeresaba
   - kare
   - koori

5. Sonin in nōgen dilan k'a soro i ma segin tiiri kan.

- Nin taamsiyan ( □ ) ke cogoya la, min b'a to a be ke ci bulama kunna ani ci bilenman kono.
- Nin taamsiyan ( ⬛ ) ke ci bulama kan a ka ke ci nuguji ma kokan.
- Nin taamsiyan( ⬤ ) ke cogoya la min b'a to a be ke ci nuguji ma ci bilenman ce nka a ka ke bulama jukoro.

Jaabi numanw

1
2
3
4
5

91
92
Daw k’a ta 1 na ka t’a bila 9 na

I. Kuntilemma : kalansen laban na kalanden ka kan ka se :
- Ka kuluw sigi pogan koro minnu konofen hake ye kelen ye.
- Ka kulu konofen hake don.
- Ka da taamasiyen n’a hake don, k’a kalan k’a seben.
- Ka kulu sigi min konofen hake donnen don.

II. Barakeminene : 
- Kulu minnu konofen hake b’ay ta 1 na fo 9
- Kariton tigelien 9.
- Buwati 9.

III. Taasira :
Baara keta 1 : kuluw be nin manaforokow ni belekisew nini k’yibila u ka tabaliw kan.
- Manaforoko 3 belekise 2 be minnu kelen kelenna kono
- Manaforoko 5 belekise 1 be minnu kelen kelenna kono
- Manaforoko 4 belekise 3 be minnu kelen kelenna kono
- Manaforoko 2 belekise 4 be minnu kelen kelenna kono
- Manaforoko 2 belekise 5 be minnu kelen kelenna kono
- Manaforoko 3 belekise 6 be minnu kelen kelenna kono
- Manaforoko 4 belekise 7 be minnu kelen kelenna kono
- Manaforoko 2 belekise 8 be minnu kelen kelenna kono
    manaforoko 1 belekise 9 be min kono.

Baara keta 2 :
- Misali be ta kulu do ka tabali la manaforokow kan.
- Manaforoko minnu konobelekisew dama ka kan, olu be bila buwati kelen kono.
- Kulu tow be nin baara pogan ke.

Janto : baara in senfe sinsin ka kan ka ke kunkenponsi ni saradali kan, bawo manaforoko minnu konobelekisew dama ka kan, olu de be ta pogan fe, k’u ke kulu kelen ye k’u bila buwati kono.

Baara keta 3 :
- Karamogo be belekisew tigina ke manaforoko damadow kono walanba kan nin cogo la :

- Kalandenw b’o pogan ke u ka walanninw kan ka manaforokow bolo di pogan ma, minnu konobelekisew dama ka kan.

Baara keta 4 :
- Belekisew 1 be manaforoko minnu kono o buwati be bila a dama.
- Kelen tigina be ke walanba kan.
- Kelen be jira ka tila k' a seben ni jatedenw ni signinidenw ye :

1

1 1 1 1
kelen kelen kelen kelen...

- Kelen be kalan walamba kan k' a seben walanninw kan :

**Baara ksta 5 :**

- Belekiise 4 be manaforoko minnu kono, o buwati be bila a dama.
- Nanni tigina be ke walamba kan :

- Nanni be jira ka tila k' a seben ni jatedenw ni signinidenw ye :

4 4 4 4...
nanni nanni nanni nanni

- Nanni be kalan walamba kan k' a seben walanninw kan :

**Baara ksta 6 :**

1 ni 4 sorola cogo min, da taw be soro o cogo kelen na fo ka taa se 9 ma.

**Koona :** k' a da u sebenni gilaya kan, a pininen be karamogow fe u ka daw kalan no gen ko nin cogo la : 1, 4, 2, 5, 3, 6, 7, 8, 9.

4. Nin taamasiyen ( + ) ke kuluw kono minnu konoftew ye naani ye.

5. Kulu minnu konoftew ye naani ye, tiiri ci ka b'olu la ka na naani sonin na.

7. Fenw dan k'u hake seben sonin konco duguma.

8. Fenw dan k'u hake seben soninw konco cemance la.

Kolali : nin degeliw nogon ka kan ka ke ni da tow ye.
Daw sigi – sigi ropheko ko k'ar 1 na ka t'a bila 9 na

I. Kuntienna:
Kalansen in laban na, kalanden ka kan ka se:
- Ka fenkulu fila konofew sanga rophek ma
- Ka dogoya, caya ni ko meni taamasiyenw don.
- Ka baara ke n'u ye.
- Ka daw don k'u sigi-sigi ropheko ko k'ar 1 na ka t'a bila 9 na
- Ka daw don k'u sigi-sigi ropheko ko ka bo 9 na ka na 1 na.

II. Baarakminwen:
kalaninw, belkisew, kalandenw.

III. Taasisra
Batra k'eta 1:
- Karamogo be kalandenkuw sigi minnu hake te kelen ye
- Kalandenw be kuwu sanga rophek ma fila-fila k'a don min ka
cani min ye, min ka dogo ni min ye, min ni min ka kan.

Batra k'eta 2:
- Karamogo be kuwu tginke te walanba kan, kalandenw be
kulu konofew sanga rophek ma.
Karamago be dogoya « < », caya « > » ani kepeni « = » taamasiyen nefo, ka tila ka daw be sa nga pong ma fila-fila.
Misali : $2 < 3 ; 6 > 4 ; 1 = 1$

Baara keta 3 :
- Kalandenw be danni ke k'a ta 1 na k'a t'a bila 9 na, ka bo 9 na ka na 1 na.

Degeliw :
1. Koori minnu konofenw ha he yeken ye, olu bolo di pong ma.

2. Kulu min konofen ka dogo, nin taamasiyen (x) ke o jukoro goniin kono.

3. Koo na konofenw dan ku hake ssben soninw kono, ka soro kei dogoya taamasiyen ke un ni pong ce.
4. Kuluw konofenw dan k’u hakew seben soniw kono, ka soró ka dogoya, caya walima kéntá taamasiyen bila u ni pogon cè.

5. Daw dafa.

Daw warakali k’a ta 1 na ka t’a bila 9 na

I. Kuntilla : Kalansen laban na, kalanden ka kan ka se :
- ka daw waraka
- ka fënkulubá kelen waraka kulu misinw ye
- ka nin taamasiyenw « + », « = » ke warakali senfe.

II. Baarakminenw : kalaninw, belékisew, kalandenw ani fën wërew.

III. Taasíra :
Baara këta 1 :
Kulu kelen o kelen bë kalanin 5 dan, k’a waraka a sago la.
Kuluw kelen-kelen bec b’a ka warakali kcógow jefo.
Kulu damado b’u ka warakali kcógo ke walanba kan.
1, 1, 1, 1, 1
1, 1, 1, 2
1, 1, 3
1, 4
1, 2, 2

Nin taamasiyen in « + » be ke daw ni pogon ce
1+1+1+1+1
1+1+1+2
1+1+3
1+4
1+2+2

Kalali : Da mana waraka cogo o cogo, n’i ye da dogomanninw fea pogon kan, olu be bsn da kelen in ma
5 ye 2+2+1, walima 2+3, walima
2+1+1+1. O koró ye 5=2+2+1; 5=2+3; 5=2+1+1+1.

Baara këta 2 :
Kalanden be segin baara kelen in kan ni da wërew yë
6, 7, 8, 9
Baara ksta 3 :
- Karamogo bs koori do ci walanba kan, ka buteli datugulan 9 ja k'a kono nin cogo la :
  - Kalanidw bs segin nin ja kan u ka walaninw kan.
  - Karamogo b'a jini kalanidw fe u ka buteli datugulan ninwu ke kuluw ye, u sago la.

Misali :

- 9 bs seem ni da sorolenw ye.
  
  9 = 3 + 2 + 3 + 1

Degeliw

1. Kulu ninnu tila kulu fila ye ka da dilenw waraka :

3 = __ + ___
4 = __ + ___

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6. Dogoya taamasiyen « < » bé se ka sigi da minnu ni pagon ce, a sigi yen.

2...........3 3...........5
1...........2 3...........2

7. Caya taamasiyen « > » bé se ka bila da minnu ni pagon ce a sigi yen.

5...........3 9...........6
4...........8 6...........5
3...........1 5...........5

8. Tine Nkalon

Sedew ka ca ni basaw ye /.../ /.../
Dolow ka dogo ni bikisew ye /.../ /.../
Basaw ni dolow hake dama ka kan /.../ /.../
Bikisew ka ca ni sedenw ye /.../ /.../

Daw : 0 ni 10

I. Kuntilenna :
Kalansen laban na, kalenden ka kan ka se :
- ka 0 don, k’ala ka, k’ala seben
- ka 10 don, k’ala ka, k’ala seben
- ka bi soroogo nédon
- ka bi warakacogo nédon
- ka daw sigi-sigi pagon ko k’ala ta 0 la ka se 10 ma ;
- ka daw sigi-sigi pagon ko ka bo 10 na ka na 0 la
- ka danni ke ka bo 0 la ka t’ala bila 10 na.

II. Baaraksménèw :
kalendenw, belekisew, gafew, kalainw walanninw.

III. Taasira :
Baara keta 1 :
- Karamogo bé kalain 5 min ni boló k’u jira kalendenw na.
- A be kalain 5 minni di kalanden damado ma fo k’u ban.
- A be nininkali ke ni kala to b’ala boló.
- Karamogo ni kalendenw be nin wale m pagoniaw ka ni fen wersaw ye
- A be 0 seben walanba kan
- 0 be kalán k’ala seben walaninw kan.

Baara keta 2 :
- kalandenw be kalain 9 dan.
- karamogo b’a pini u fê u ka kalain 1 fara kalain 9 kan, k’o tigina ke walanba kan.
- Kalandewn bę kalanimw dan k'u da fo, o ye tan ye. Tan tigina bę ke walamba kan:

Tan bę sëben ni jatedenw ye walamba kan, k'a sebencogo fo:
1 ka 0 sëben 0 kofe. = 10
- kalandewn bę tan kalan k'a sëben u ka walanimw kan.
10, 10, 10, 10.................................
- Kalanin 10 ninnu bę ke siri kelen ye.
- A bę jira ko siri kelen in ye bi 1 ye.
- Karamgö bę katimu dilan ka 10 sëben a kono

<table>
<thead>
<tr>
<th>Bi</th>
<th>Kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

- Karamgö b'a jini kalandewn fe u ka 10 sorocogow ke ni kalanimw walima fen werew ye.
- Karamgö b'a jini kalandewn fe u ka 10 warakacogow nefo ni kalanimw walima belekisew ye.
- Karamgö b'a jini kalandewn fe u ka danni ke k'a damine 0 la ka taa 10 na, ka bo 10 na ka na 0 la.
4. Tangili konô jateden minnu faralen be n'gon kan n'ô be ben 10 ma, olu ni 10 bolo di n'gon ma.

5. Kooriw konofenw haka seben u jukoro.

Daw k'a ta 0 la ka t'a bila 10 na.

I.Kuntienna : Kalansen laban na, kalanden ka kan ka se :
- Ka danni ke k'a ta 0 la ka t'a bila 10 na, walima ka bo 10 na bau na 0 la.
- Ka daw seben k'u sige n'gon ko k'a ta 0 la ka t'a bila 10 na, walima ka bo 10 na ka na 0 la.
- Ka daw waraka k'a ta 0 la ka t'a bila 10 na

II. Karakeminnew : belekisew, kalaninw, kalandenw ani fen weñew.

III. Taasiria :
- Banka keta 1 :
  - Kalandenw be danni ke k'a ta 0 la ka t'a bila 10 na
  - Kalandenw be danni ke ka bo 10 na ka na 0 la.

- Banka keta 2 :
  - Kalandenw be daw seben k'a ta 0 la ka t'a bila 10 na
  - Kalandenw be daw seben ka bo 10 na ka na 0 la

- Banka keta 3 :
  - Ka amogo be da daw fo kalandenw b'u seben k'u kalan k'a na 0 la ka t'a bila 10 na.
  - Ka amogo be da daw seben, kalandenw 'yu alan, ka bo 10 mas bau na 0 la.
  - Kalandenw be da fila sanga n'gon ma :

  \[ 2 < 3 ; 0 < 1 ; 10 < 7 \]
  \[ 5 = 2 + 3 ; 10 = 9 + 1 \]

- Banka keta 4 :
  - Kalandenw be fen hake damado sarada i n'ô fo belekisew ni kalandenw.
3. Nin saradliw dafa:

\[ 9 = 2 + \ldots + 6 \]

\[ 10 = 1 + 3 + \ldots + 2 \]
1. Kuntlenwa: kalansen laban na, kalanden ka kan ka se:
ak ka foli kekun don:

2. Baarakeminew:
Kalandenw, kalaniw, belekejew, jiriwen an'nu jungonnaw.

3. Taasira:
Baara kcte: karamogo be kalanden 5 sugandi kulu do kono, 
ka 3 sugandi kulu weje kono. Olu be na u jo kalandenw nefe.
Karamogo b'jo kalandenkwila ninu ni nogon ce.
Kalanden tow be jininka kalanden sugandilenw hake la, ka 
sojo k'jininka hake in sorocogo la (5 kafo 3 la, o ye 8 ye).
Kalanden 5 ni kalanden 3 tigina be ke nin cogo la walanba 
ba.

4. Daw seben ka bo 10 na ka na 0 la

5. Nin daw seben ni singidinew ye

6. Da ninu sanga nogon ma i ka taamasiyen nuran bila u ni 
nogon ce.

7. Nin daw waraka.

Degeliw

1. Daw seben soninw kono ani kafoli soba kono.

2. Nin jatenini be jaabi walanninw kan. Namasa 5 be Aya ka segi kono, a ba ye lenburuba 7 d'a ma. Jiriden joli be Aya ka segi kono?

3. Laji ye mangoro 6 kari, Sidi ye 3 kari. U y'a bec ke segi kelen kono. Mangoro joli b'u ka segi kono?

4. Asa ye nömi 5 san, a dogonin ye 3 san, nömiseerela ye nömi joli feere u ma?

5. Kafoli ninnu jaabi seben

\[
3 + 4 = \quad 6 + 3 = \quad 5 + 2 = \\
7 + 2 = \quad 8 + 1 = \quad 5 + 3 =
\]

6. Kafoli ninnu jaabi seben

\[
2 + 4 + 3 = \quad 1 + 5 + 2 = \\
3 + 1 + 4 = \quad 6 + 1 + 2 =
\]

Daw k'a ta 10 na ka t'a bila 19 na

| Kuntilenna : Kalansen laban na kalanden ka kan ka se : |
| ka kulu do konofenw da don |
| ka daw soro, k'u kalan, k'u seben k'a ta 10 na ka t'a bila 19 na |
| ka kulu tigina dilan min konofen hake dadonnen don |
| ka daw soro walima k'u waraka, k'a ta 11 na ka t'a bila 19 na |
| ka daw kalan k'u seben k'a ta 0 la ka t'a bila 19 na, ka bo 19 na, ka na 0 la. |

| Baarakeminw : belekisew, kalanimw, kalandenw, farasuwa |

| Taasiraka : |
| Ena keta 1 : Kalanden kelen - kelen be kalanim tan dan, k'a be tabali kan u jeokoro. |
| Karamogo b'a nimi u fe u bec ka kalanim 1 da kalanim 10 in kerefo |
| Ena keta 2 : |
| Karamogo b'o tigina ke walamba kan |

| Taasiraka 3 : |
| Karamogo be soro ka kalanimw bikalasiri, k'o tigina ke walamba kan |

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- Bikalasiri 1 ni 1 be seben katimu kono.
- Karamogo be 11 seben walanba kan k'a kalan, kalandenw b'a fo karamogo nofe, ka tila k'a seben walaninew kan:

| 11 | 11 |

**Baara keta 4:**
Kalanderw ni karamogo be 11 sorocogo n'a warakacogo caman ke.

**Baara keta 5:**
- Da kalannenw ni 11 be sanga pogen ma ka 11 sigi a juyoro la.
- Kalanderw be danni ke k'a ta 0 la ka t'a bila 11 na, ka bo 11 na ka na 0 la.

**Baara keta 6:**

**Baara keta 7:**
Kuluw konofenw dilan, k'u hakew seben soninw kono ; ka soru ka kofoli sebeniwi dafa jukoro.

---

**Degeliw:**

1. Ninnu bikulu sigi ka da sorlen seben jukoro.

2. Nin jatesigiw dafa

<table>
<thead>
<tr>
<th>10</th>
<th>+...</th>
<th>= 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>+...</td>
<td>= 11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10</th>
<th>+...</th>
<th>= 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>+...</td>
<td>= 13</td>
</tr>
<tr>
<td>7</td>
<td>+...</td>
<td>= 11</td>
</tr>
<tr>
<td>6</td>
<td>+...</td>
<td>= 14</td>
</tr>
<tr>
<td>13</td>
<td>+...</td>
<td>= 17</td>
</tr>
<tr>
<td>8</td>
<td>+...</td>
<td>= 15</td>
</tr>
</tbody>
</table>

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120
3. Nin daw sigi n'sogon ko ka bo caman na ka na dogomannin na:
   8, 3, 13, 7, 19, 11, 12, 9, 0
4. Kono 15 ke koori kelen kono

5. Nin jatesigi ninnu dafa

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10 + 6 = 13 + 6 = 12 + 5 =</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 + 4 = 4 + 6 =</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 + 7 = 6 + 9 =</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 + 8 = 1 + 3 =</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kafoli : Kecogo

I. Kuntilenna : Kalansen laban na, kalanden ka kan ka se:
- ka kafoli kecogo waley
- ka da fila kafa ko’u mume soro.

II. Baarakemin’ew : Kalainw, daw katimu

III. Taasira:
Baara keta 1 : Nin kafoli in misali be seben walanba kan.

\[ 12 + 15 = \]

12 tigina be ke walanba kan ni kalain 10 siri kelen (bi 1) ani kalain 2 ye ; ka 12 seben a jukoro.

\[
\begin{align*}
\text{Bi 1} & \quad \text{2} \\
\text{Bi 1} & \quad \text{5}
\end{align*}
\]

- 15 fana tigina be ke walanba kan ni kalain 10 siri kelen (bi 1) ye ani kalain 5 ye, ka 15 seben a jukoro.
Baara keta 2:
- 12 ni 15 be seben katimu kono ka kafoli ni kepeni taamasiyen ke nin cogo la.

<table>
<thead>
<tr>
<th>Bi</th>
<th>Kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>+ 1</td>
<td>5</td>
</tr>
<tr>
<td>= 2</td>
<td>7</td>
</tr>
</tbody>
</table>

- kafoli be ke so ni so:
  - kelenw ka so: 2 + 5 o ye; 7 ye 7 be seben kelenw ka so 5 jukoro.
  - Biw ka so: 1 + 1 o ye 2 ye; 2 be seben biw ka so kelen jukoro.
  - O ko, jatesigi be kalan.
  - Kalanden damado be taa walanba la, ka kafoli misali warew waley.

*Marata*: kafoli jatesigi waleyali senf, kelenw be kafoy pogon na folo, ka soro ka biw kafoy pogon na ka bo sane ke jigin.

Degeliw

1. Katimu konoda ninnu waley walannin kan.

<table>
<thead>
<tr>
<th>Bi</th>
<th>Kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>+ 1</td>
<td>5</td>
</tr>
<tr>
<td>= 2</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bi</th>
<th>Kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>+ 1</td>
<td>1</td>
</tr>
<tr>
<td>+ 1</td>
<td>2</td>
</tr>
</tbody>
</table>

2. Jatesigiw jaabiw jini

<table>
<thead>
<tr>
<th>Misali</th>
<th>17</th>
<th>15</th>
<th>15</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>=</td>
<td></td>
<td></td>
<td>+13</td>
<td></td>
</tr>
<tr>
<td>=</td>
<td></td>
<td></td>
<td></td>
<td>+12</td>
</tr>
<tr>
<td>=</td>
<td>17</td>
<td>14</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>=</td>
<td>+11</td>
<td>+5</td>
<td>+12</td>
<td>+11</td>
</tr>
<tr>
<td>=</td>
<td></td>
<td>+10</td>
<td></td>
<td>+10</td>
</tr>
<tr>
<td>=</td>
<td>10</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>=</td>
<td>+9</td>
<td>+15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Katimu in dafa:

| + 4 5 7 8 |
| 4 8      |
| 5 13     |
| 7        |
| 8        |
Da 20

I. Kuntilena: kalansin laban na, kalanden ka kan ka se:
- ka 20 kalan k’a seben ni jateyen ni sigionenw ye
- ka fenw tan-tansigi
- ka jatedenw sigerew don.
- ka 20 soro, k’a waraka

II. Baarakminenew: kalaninw, belekiscw, farasuww,...

III. Taasira:
Baara keta 1.
- Kalandenw kelen-kelenna be kalasinn tan ni kallon dan k’o bila tabali kan u nako.
- Karamogo b’a pinu fe u bek ka kalasinn kelen da kalasinn tan ni kallon kerefe.
- Karamogo b’o tigna ke wulanba kan ni sorocco taamasiyen ye nin cogo la:

Baaara keta 2:
- Karamogo be kalasinn bikalasiri waliwa tan-tankulusigi, k’o tigna ke wulanba kan.
Bi 2 ni 0 be seben katimu kono.

Nin jatesiwiw dafa

10 + ..... = 20, 6 + ... = 20, 14 + ... = 20
+ 0 = 20, ... + 0 = 10 ..... + ... = 20

* Keresaba hake nininew ke koori kono, ka sebeniwiw dafa duguma.
* Tomi hake nininew ke koori kono ka da nininew seben
* Nin daw sigi nagon ko ka bo caman na ka na dogomannin
9, 12, 7, 4, 8, 1, 5, 14, 20

Degeliw

20 be tila ka seben ni sigionenw ye: muraan
Baara keta 4: 20 sorocco ni’o warakali be waleya karamogo ni kalandenw fe.
5. Jaabiw di
   9 + 11 = ...; 12 + 8 = ...; 10 + 10 = ...
   7 + 13 = ...; 15 + 5 = ...; 11 + 9 = ...


7. Sanfstileyoro jateden laban ye 3 ye.
   - Sanfstileyoro soden laban ani dugumatileyoro soden laban mumč ye 10 ye,
   - Dugumatileyoro jatedenw mumč ye 18 ye
   - Daw seben sodenw konč.

   Ne ye jatedenkelen da ye min ka dɔɔgɔ ni jatedenkelen daw bɛɛ ye. N ye da jumšen ye?

Tan – tankulusi gariyaw.

I. Kuntileenna: Kalensi laban na, kalanden ka kan ka se: ka fɛn w tankulusi gariyaw k’u hakə dan ka jateden joyo ro dan da sebeni hukumu konč

II. Baarakemine
   Belekisew, kalaniw ani fen wɛrɛw.

III. Taasira:
   Baara keta: Kalensi na bɛ kalenin caman ton u ka tabalı kan. Karamgo b’a jira ko tan-tansiga kulu kelen 0 kelen bɛ wele bi. Bi misaliw tigina bɛ ke walawba kan.

   - Haka min ma tan bo kalensi b’o dan k’o seben katimu konč kelewa konč ka so.

   Kelen (ke)

   Karamgo bɛ kalen na bɛ baara tigina ke walawba kan nin cogo in na.
Janto : Nin kalansen in be daw kalanni n’u sebenni nogeya kalandenw bolo ni karamogo ye misaliw caya.

Kalasili : Katimu te dower re baarakemin KO. Ni daw sigiyorow donna u ka sow kono, u ka kan ka seben ka soro u te katimu kono.

Degeliw :

1. Nin koori konofew tan-tansigi i ka biw hake seben biw ka so, ka kelenw hake seben kelenw ka so.

2. Jiriden ninnu fila-filakulusigi, i ka sebenniw dafa.

3. Jiriden ninnu duuru-duurukulusigi, i ka sebenniw dafa.
4. Da dilen laje duguma
   i ka fen dow dilan minnu
   n’al haco ka kan kene
cilen kono.

5. Kono bi fila ni kono duuru
   file. U tan-tankulusigi ka
   soro ka dugumakatimu
   lafa.

6. Takalakisesiri bi joli be yan?

7. Forontow tan-tankulusigi, i ka sebenniw dafa.

8. Jiri suguya ninnu tan-tankulusigi i ka Katimu dafa duguma.
Kafoli : fën te mara min na.

I. Kuntileenna: Kalansen laban na, kalanden ka kan ka se ka kafoli ke marata te min na.

II. Baarakcminenw: kalanimw, beleskisew, furabuluw ani sigida fën werew.

III. Taasira:

Baara keta 1:
- Sanba ye namasaden 9 san folo. A tilala ka namasaden 5 were san
Sanba ka mamasaden sannen hakë ye joli ye?
- Awa taara sugu la ni dorome 13 ye, a dogonin Madu taara ni dorome 6 ye.
Awa ni Madu ka wari bec lajelen ye dorome joli ye?

Baara keta 2:
- Karamogobo b’a nini kuwl fe u ka kalalin 14 dan k’u bila tabal fan do fe, ka 5 fana dan k’u bila tabali fan were fe, k’olu kafu k’u hakë fo.
- Kalandenw b’o tigina ke walaninw kan k’a hakë seben k’a jira.

Baara keta 3:
- Kalandenw be misali caman ke nin cogo in na ni da fila walima saba ye ni fën werew ye. O misaliw jatesig dalen ni jelenw be k’u walaninw ni walanba kan.
- Yobi, Salina ani Seku Umaru taara jege mine. Yobi ye jegedn 3 mine, Salina ye jegedn 10 mine, Seku Umaru ta kera 2 ye. Nin mogo saba ka jege minsen ye joli ye?
- Karamogobo ye farasu 10 di cemaninw ma, ka 10 di musomanniw ma.
- Karamogobo ye farasu den joli di kalandenw ma?

Baara keta 4: Nin jatesigiw jaabiw be di kulubaaraw senfe.

<table>
<thead>
<tr>
<th>14</th>
<th>4</th>
<th>52</th>
<th>35</th>
<th>60</th>
<th>18</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>4</td>
<td>+12</td>
<td>13</td>
<td>+5</td>
<td>+10</td>
<td>+2</td>
</tr>
</tbody>
</table>

Degeliw
1. Jatesigi ninnu dafa:

| 8 + ... = 10 ; 15 + ... = 18 ; ... + 16 = 19 |

2. Jatesigi ninnu dafa:

| 12 = 10 + ... ; 14 = 7 + ... ; 20 = ... + 10 |

3. Dogaya taamasiyên (<) ni kënci taamasiyên (=) ke jatedew ni pogon ce:

| 4 + 6...11 ; 12+5...13 ; 14...10+ 4 ; 19...8+6 |
Daw : k' a ta 20 na ka t'a bila 29 na

I. Kuntillenna : Kalansin laban na, kalanden ka kan ka se :
- ka daw sorwo, k'u kalann, k'u seben ni jatedenw ni sigwidenw ye k'a ta 20 na ka t'a bila 29 na
- k'u waraka.
- k'u sanga pogon ma k'a ta 0 la ka t'a bila 29 na.

II. Baarakeminenw :
Belekisew, kalaininw, katimu ani fen werew

III. Taasira :
Baara keta 1 :
- kalandenw be kalain 20 (bikalasiri 2) ta ka kalainin kelen fara o kan, k'o dan k'o da fo (21).

Baara keta 2 :
- Bikalasiri 2 ninnu ni kalainin kelen tigina be ke walanba kan k'u hake seben u korino cogo la :

- 21 be seben katimu kono k'a nefo.

<table>
<thead>
<tr>
<th>Bi</th>
<th>Kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

- Da soronen be seben walanba kan : 21
- Karamogo b'a kalann, kalandenw b'a fo a nofe ka sorc k'a seben ni jatedenw ye walanninw kan.

- Kalandenw b'a seben u ka walanninw kan ni sigwidenw ye, karamogo nofe nin cogo in na.

21, 21, 21, 21
mugan ni kelen, mugan ni kelen, mugan ni kelen

Baara keta 3 :
21 sorola cogo min, da fow fana be soro o cogo kelen na fo 29

Misali : 23 + 1 = 24
24 + 1 = 25
28 + 1 = 29

Da sorolen be be seben katimu kono.

Kolosili : 21 ni 12 be seben walanba kan.
- biw ni kelenw be danfara k'u hake fo.
- 21 sebencogo la 2 ye bi ye biw ka so.
- 12 sebencogo la 2 ye kelen ye kelenw ka so.

Baara keta 4 :
Daw sangan gangmali la, wala sa k'a dan min ka ca, biw de be sanga pogon na fojo. N'olu ye kelen ye, i be na kelenw na

<table>
<thead>
<tr>
<th>Misali</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>&lt; 21</td>
</tr>
<tr>
<td>21</td>
<td>&gt; 12</td>
</tr>
<tr>
<td>23</td>
<td>&lt; 25</td>
</tr>
</tbody>
</table>

Baara keta 5 :
Kalandenw be bila ka 21 sorcogo do ke n'u ka minenw ye.

1 + 4 + 8 + 8 = 21

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Da to w'orogow be k'21 ta cogo la.
Baara keta 6:
- Da kelen-kelen be di kulu bec ma u k'wara kali daow ke.

**Misali:** 24 ye

\[
24 = 4 + 3 + 2 + 7 + 7 + 1
\]

Misali:
- Da to w'orogow be k'21 ta cogo la.
- Baara keta 6:
- Da kelen-kelen be di kulu bec ma u k'wara kali daow ke.

6. **Nin katimu dafa:**

   a) \[27 = 7 + \ldots + 14 + \ldots\]

   b) \[24 = \ldots + 6 + \ldots\]

7. **Nin daw seben ni sifinidenye ye:**
   14 - 27 - 29 - 23

8. **Nin daw waraka ka ke sara saba ye:**
   29 - 21 - 28 - 14

**Misali:** 26 = 10 + 14 + 2

9. **Katimu dafa**

<table>
<thead>
<tr>
<th>23</th>
<th>Bi...ni...</th>
</tr>
</thead>
<tbody>
<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>29</td>
<td>Bi 2 ni 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>20 +5</th>
<th>Bi...ni...</th>
<th>10 + 7</th>
</tr>
</thead>
</table>
   | ... | ... | ... | 138
Wale minnu be na ni kafo li ye

I. Kuntilenna: Kalansen laban na, kalanden ka kan ka se:
- ka kafoli walew danfara ka bo wale werew la;
- ka kafoli waleya;
- ka kafoli jatesigi seben, k’a jaabi di.

II. Baarakmensnw: kalandenminenw ni sigida fen werew.

III. Taasira:

Baara keta 1
- Saga 8 tun be Musa fe. A ye saga 5 san ka fara u kan. Musa ka saga kera joli ye?
- Kalandenw be jatesigi ke jaw koro k’a jatedenw seben.

8  +  5

- Kalandenw be jatesig seben cogoya fila la, k’a da 8 + 5 = ......... walima 5 + 8 = ........
- Kalandenw be jatenini jaabi di kumasen do kono:
(Musa ka bagan hakye ye 13 ye).

Baara keta 2:
Segin be ke baara keta folo kan ni jatenini werew ye:
- Awa ye rangeloro 14 kari sogoma, ka 5 kari wula fe
Awa ka mangoro karilen hakye joli ye?
- Bikise 12 tun be Madu bolo sanni lafisebo be. Tulon sefe a ye bikise 13 sor.
Madu ka bikise hakye joli ye sisan?
- Ali Ba ye dorome 10 d’a ma ka dorome 9 di Mariyamu fana ma. Ali ni Mariyamu ka wara be. lajelen ye joli ye?

Degeliw

1. Dorome 5 tun be Madu bolo, a fa ye dorome saba di a ma.
   Dorome joli be Madu bolo?
2. Kamifan 15 tun be segi kono, Asa ye kamifan 13 fara o kan, Kamifan joli be segi kono?
   Sisan, mogo joli be mobili kono?
4. Da kafotaw n’u jaabi seben ka soru ka ja nefo.
Da 30

I. Kuntilemma: kalansen laban na, kalanden ka kan ka so:
- Ka 30 soro, k'a kalan, k'a seben ni jatedenw ni siginidenw ye.
- Ka 30 waraka

II. Baarakeminenw:
Belekisew, kalaninw, bikalasiriw ani fen werew

III. Taasira:
Baara keta 1: Kalandenw be kalain 29 dan ka soro ka kelen fara o kan ka da sorojen fo

- Kalaninw tigina be tan- tankulusigi walamba ni walanninw kan.
- Bihake be seben kalasiriw tigina koru nin cogo la?

Bi
Bi
Bi

- Kalandenw be bihake fo k'a seben katimu koru biw ka so.

<table>
<thead>
<tr>
<th>Bi</th>
<th>Ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

- O ko, u be soro ka kelenw hake fo k'o fana seben katimu koru kelenw ka so.

<table>
<thead>
<tr>
<th>Bi</th>
<th>Ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

- 30 be seben walamba ai walanninw kan ni jatedenw ni siginidenw ye.

30, 30, 30
bi saba bi saba bi saba

Baara keta 2:
- Kalandenw be 30 soroco do ka n'u bolokorominw ye

Misali:

9 + 9 + 7 + 5 = 30

Baara keta 3:
- Kalain 30 be ta kulu be fe, k'a waraka.

Misali:

30 = 5 + 6 + 3 + 12 + 4
Degeliw:

1) Kalandenw bə nin daw səbən katimu kono:

   24  26  28

2) 30 waraka k'a cə sara 2 ye sinə 2, ka soro k'a cə sara 3 ye sinə 3:

Misali: 30 = 26 + 4

   30 = 15 + 10 + 5

3) 30 soro cogo 3 ke.

4) Nin daw sıği pəgon ko ka bo caman na ka na dogomannin na ani k'u səbən k'a ta dogomannin na ka t'a bila caman na.

   21 - 7 - 17 - 24 - 23 - 25 - 30 - 28

5) Da ninu səbən ni jatedenw ye:

mugan ni wolunwula .......
Tan ni woọro : .................
Seeğin : ......................
Mugan ni konontən : ...........
Bi saba : ........................

Seginkanni:

1. Nin jatesiğiw jaabiw ɲini:

   11 + 12 =
   13 + 5 =
   14 + 15 =
   12 + 10 + 5 =
   15 + 2 + 11 =

2. Nin jatesiğiw jaabiw ɲini:

   \[
   \begin{array}{cccccc}
   11 & +8 & +3 & +10 & +12 & +10 \\
   +5 & & & & & \\
   \end{array}
   \]

3. Katimu in dafa

\[
\begin{array}{cccccc}
+ & 10 & 14 & 13 & 11 & 3 \\
10 & 24 & & & & \\
14 & & & & & \\
13 & & & & & \\
11 & 21 & & & & \\
3 & & 14 & & & \\
\end{array}
\]
4. Jateñiniw:
- Penda ye kamifan 16 feere sogoma, ka 12 feere wula fc. Penda ka kamifan feerelen benna joli ma?
- Kunun, Musa taara mënnikeyoro la. A ye jëgëden 12 minc sogoma ka 14 minc wula fc. Musa ye jëgëden joli soro?
- Bikise 13 be Sidi bolo. A koroke ye bikise 10 di a ma. A terike Baru fana ye bikise 5 di a ma. Sidi ka bikise ye joli ye?

5. Katimu in dafa

\[
\begin{array}{c|c|c|c|c|c|}
+  &  &  &  &  & 11 & 7 \\
3  &  &  &  &  &  &  \\
1  &  &  &  &  &  &  \\
5  &  &  &  &  &  &  \\
2  &  &  &  & 3 &  & 9 \\
4  &  &  &  &  &  &  \\
\end{array}
\]

Doboli kun

I. Kuntileenna: kalansen laban na, kalanden ka kan ka se:
- ka doboli kekun don.
- ka doboli taamasiyen ke.

II. Baarakënenenw:
Kalandenw, kalanso konominenw ani fen werew.

III. Taasira:
Baara keta 1:
Kulu bec be kalanin 7 ta ka 3 dan ka b’o la. Kalanin 4 nake be jate k’o da fo.

Jënninkali be ke ni do farala walla ni do bora kalanin hake la.
Tigina be ke k’a jira k’a néfo.

Jatesigi be seben walanba kan k’a kalani:
- ka bo kinin fc ka taa numan fc:
  7 – 3 = 4
  3 bolen 7 la o to ye 4 ye.
- Ka bo numan fc ka taa kinin fc:
  7 dëselen ni 3 ye o ye 4 ye.
  * Nin taamasiyen in «_» ye doboli taamasiyen ye. A be wele «dobolan».
  * Nin taamasiyen in «=» ye keñeni taamasiyen ye.
  A be wele «keñenan». A be se ka fo fana «o ye».

Baara keta 2:
Kalanin 9 be karamogo ka tabali kan, 4 binna.
Kalanin to be dan k’o da fo. Kuluw b’o Tigina ke k’a néfo, ka tila ka jatesigi dalen ke.

\[
\begin{array}{c|c|c|c|c|c|}
&  &  &  &  &  &  \\
&  &  &  &  &  &  \\
&  &  &  &  &  &  \\
&  &  &  &  &  &  \\
&  &  &  &  &  &  \\
&  &  &  &  &  &  \\
&  &  &  &  &  &  \\
\end{array}
\]

9 – 4 = 5
Baara keta 3.
Kulu folo kalandenw ye 6 ye, musomanniw ye 4 ye. Cemanniw ye joli ye? Kalandenw b'o waley, k'o tigina ke k'a nfe k'a sororo k'a jatesigi seben walanba kan.

Baara keta 4:
Kalanden 10 be wele k'u jo nfe. Kalandenw hace be seben walanba ni walaninw kan. Musomanniw be t'u sigi. Cemanniw hace be dan. Jininkali be sororo ka ke walasa ka musomanniw hace don.
Tigina be ke, k'a jatesigi seben k'o kalan.

Baara Keta 5:
Misali werew be se ka ke ni fen werew ye.

Degeliw

1. Nin degeli in be se ka ke farikolon senfe.
Kalandenw be tila kulu 4 ye.
Kulu 1 ol = kalanden 2
Kulu 2 nan kalanden 4
Kulu 3 nan kalanden 7
Kulu 4 nan kalanden 10
Soden 10 be ci kene kan ka kalandenw jo k'u lamini.

A be fo kuluw ye, ni min donna sodenw kono ka bo, u ye soden hace minnu mine, u k'o jatemine.
Ka jatesigi ke ka so lankolonw da seben.

A be jini o ko kuluw fe u ka don kelen - Kelen ka bo.
Nin walew bannen ko, kulu be b'a ka jatesigi seben walanba kan k'a jaabi di.

2. Koori 9 file, 3 tine i k'a jatesigi seben a koro.


4. Jatesigi laje i ka keresaba fagataw faga

12 - 8 = 4

5. Joli be datugulan je?
6. Kononin 11 sigilen be jiri sanfe. Donsoke ye mugu ci u la, 2 binna. Kononin joli kisira?

Daw k’a ta 30 la ka t’a bila 39 na.

I. Kuntilenna: kalansen laban na, kalanden ka kan ka se:
-Ka daw soro, k’u kalan, k’u seben ni jatedenw ni siginidenw ye k’o ta 30 la ka t’a bila 39 na.
- k’u waraka
- k’u sanga pogon ma.

II. Baarakminenw, kalaninw, katimu ani fen werew.

III. Taasira
Baara keta 1:
- Kalandenw be kalanin 30 (bikalasiri 3) ta ka kala kelen fara o kan k’u dan k’a fo: bi 3 ni 1
- Bikalasiri 3 ninnu ni kala kelen tigina be ke walamba kan k’u hak: seben u koron nin cogo la;

\[
\begin{array}{c}
30 \\
1 \\
\end{array}
\]

Bi 3 ni 1

-Bi 3 ni 1 be seben katimu kono:

\[
\begin{array}{c|c}
Bi & Ke \\
3 & 1 \\
\end{array}
\]

- Da sorojen be seben walamba kan.
- Kalandenw b’a kalan, k’a seben u ka walanninw kan ni jatedenw ni siginidenw ye:

\[
\begin{array}{c|c|c|c}
 & 31 & 31 & 31 \\
\end{array}
\]

Bi saba ni kelen. Bi saba ni kelen Bi saba ni kelen
- 31 sorol cogo min, da tow sorol bë ke o cogo kelen na fo ka se 39 ma.

Misali :  
31 + 1 = 32  
32 + 1 = 33  
34 + 1 = 35  
37 + 1 = 38

Da sorolenw bë bë seben katimu kono.

Baara këta 2 :  
- Kalandenw bë bila ka 31 sorocogo do ke n’u bolominenw ye.

Misali :

Da tow kelenkelenna sorocogow bë waleya nin cogo in na.  
- 31 warakacogo do be ke kalandenw fe.

Baara këta 3 :  
Daw kelen –kelen be di kulu bë ma u k’o warakali dow ke  
Misali : 34 ye

Da tow fana bë waraka nin cogo in na k’a ta 30 la ka t’a bila 39 na.

Baara këta 4 : Nin daw sanga pogon ma :

31........32  
34........35  
37........3u  
39........30+4  
35........31+5

Degewi :

1. Daw seben k’a ta 30 la ka t’a bila 39 na.
2. Daw seben ka bo 39 na ka na 30 la.
3. Da ninnu seben k’a ta dogomannin na ka t’a bila caman na.
3 – 28 – 23 – 39 – 32 , 1, 12 - 6

4. Nin katimuw dafa

\[38 = 7 + \ldots + 18 + \ldots\]
\[35 = 9 + \ldots + 12\]

5. Nin daw waraka ka ke sara saba ye.

39 , 31, 38, 14
Misali: \[32 = 18 + 14\]
\[32 = 10 + 12 + 10\]
6. Taamasiyen numan (<, >, =) bila tomiw no na.
\[3 + 4 \ldots 7\]
\[4 + 3 \ldots 1\]
\[30 \ldots 27 + 3\]
\[38 \ldots 24\]
\[35 \ldots 13 + 22\]
\[32 \ldots 37\]
7. Katimu dafa ni daw ye minnu be na da dilenw ye walima u ko.

<table>
<thead>
<tr>
<th>27</th>
<th>28</th>
<th>29</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td>37</td>
<td>---</td>
</tr>
<tr>
<td>---</td>
<td>15</td>
<td>---</td>
</tr>
<tr>
<td>---</td>
<td>31</td>
<td>---</td>
</tr>
</tbody>
</table>

8. Da minnu be se ka ke kooriw kono, olu seben ka tugu da dilenw na.

---

**Doboli kecogo**

I. **Kuntillen:** kalansen laban na, kalanden ka kan ka se:
- ka doboli ke.

II. **Baarakminenw:**
Kalandenw, kalanso konominenw ani fen werew

III. **Taastra:**
**Baara keta 1**
kalandenw haka ye 25 ye. Kalanden 12 ma na. Kalanden joli nana?
Kuluw be jaabi pini k’a nefo.
U be jatesigi seben walanba kan, k’a kalan.

**Baara keta 2**
Jatesigi in be waleya ni kalaniu ye kalandenw fe, k’a tigina ke k’a nefo.

\[
\begin{array}{c|c|c}
25 & -12 & 13 \\
\end{array}
\]

**Baara keta 3**
Katimu be ci, ka daw sigi o kono, ka jatesigi kecogo nefo.

<table>
<thead>
<tr>
<th>bi</th>
<th>kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Kelenw be seben kelenw ka so, biw be seben biw ka so.
Doboli la, dugumada de be bo sanfeta la, k’a damine kinin fe kelenw ka so ka taa numan fe biw ka so.
- Kelenw ka so : 2 bolen 5 la, o to ye 3 ye
3 be seben 2 jukoro.
- biw ka so : 1 bolen 2la , o to ye 1 ye
1 be seben 1 jukoro!

Baara keta 4 : doboli be ke jatesi jolen

25
- 12

= ___

Nin baara keta ninu pogonnaw be se ka ke ni kalaninw ni fen werew ye.

Marata : Doboli sente, da caman be seben sanfe ka da
dogomennin seben jukoro. Kelenw be bo kelenw na, biw be
bo biw la, ka bo duguma ka taa sanfe.
Da dogomennin de be bo da belebele la tuma bsc.

1. Kulubaara.
Jatesi ninu seben katimu kono ku jaabi ninu:

26-4 ; 30-20 ; 16-3 ; 25-12 ; 27-27 ;

2. Jatesi ninu jaabi ninu:

8
-7

16
-6

25
-25

30
-20

21
-11

= ___

= = =

3. Jatesi ninu dafa

29 17 4.
-13 .. -21

30 28 ..
-.. -18 -14

= .. = 10 = ..1

= 30 = .. = 35

4. Doboliw ke ka katimu dafa

[Diagram of a grid filled with numbers and shaded areas]

155

156
Da 40

I. Kuntlenna : Kalansen laban na kalanden ka kan ka se :
- ka 40 soro, k’a kalan, k’a seben ni jatedenw ni siginindew ye.
- ka 40 waraka.

II. Baarakeminew :
Belekisew, bikalasiriw ani fen werew.

III. Taasira :

Baara keta 1 : Kalandenw be kalanin 39 dan ka kelen fara u kan, k’u bikalasiri
- Kalaninw tigina be tan-tankulusi gwalanba ni walaninw kan.
- Bihake be seben kalasiriw tigina koro nin cogo la :

```
1
39
```

- Kalanden be bihake fo k’a seben katimu kogo biw ka so.

```
Bi Ke
4 0
```

- O ko u be soro ka kelenw hake fo k’o fana seben katimu koro kelenw ka so.

```
40 40 40
Bi naani 40 40
```

Baara keta 2 :
- Kalandenw be 40 soro coco do ke n’u bolokorominew ye.

```
6 + 18 + 3 + 5 + 8 = 40
```

158
$40 = 3 + 14 + 18 + 5$

4. $5 + \ldots \ldots \ldots 12$
5. $3 - \ldots \ldots \ldots 2$
6. $34 + \ldots \ldots \ldots 2$
7. $24$
8. $\ldots \ldots \ldots$
9. $\ldots \ldots \ldots$
10. $\ldots \ldots \ldots$

5) Taamasiyen numan $<, >, =$ bila tomiw na na.
6) Da ninnu seben ni jatedenw ye
   Bi saba ni seegi : 
   Bi saba ni naani :
   Bi saba ni saba :
   Bi naani :

7) Nin daw seben ni siginidenw ye.

39: 
40: 
17: 
5: 

159
Doboli marata te min na

1. Kuntillena: Kalansen laban na, kalanden ka kan ka se:
   - ka doboli ke marata te min na.

2. Baarakemintew: kalaniw, belkeisew, fen werew

3. Taasira:
   - Baara keta 1. Kulubaara
     Kulu kelen o kelen be kalani 45 da tabali kan.
     Kulu kelen o kelen be soro ka kalani 12 be kalani 45 in na
     0 tigina be ke walanba kan
     Kalandenw be kalani to dan k’a fo.
     Waleya in jatesigi be seben walanba kan:

     45 - 12 = 33 walima

<table>
<thead>
<tr>
<th>Bi</th>
<th>Kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>-1</td>
<td>2</td>
</tr>
<tr>
<td>=3</td>
<td>3</td>
</tr>
</tbody>
</table>

Jatesigi jaabi ninicogo be fo.

Kelenw ka so: 2 bolen 5 la, o to ye 3 ye
3 be seben kelennw ka so 2 jukoro

Biw ka so: 1 bolen 4 la, o to ye 3 ye.
3 be seben biw ka so 1 jukoro.

Baara keta 2.
-Walanta don, gafe 47 tun be kalanso do kono.
Walannbila don, gafe 31 numan de yera.
Gafe joli tijena?
Kuluw be jatesigi seben k’jaabi ninini k’o seben.

Degeliw:

1. Jaabiw seben

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>39</td>
<td>48</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>-12</td>
<td>-16</td>
<td>-35</td>
<td>-49</td>
<td></td>
</tr>
</tbody>
</table>

= =

2. Jatesigiw dafa

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 - 12</td>
<td>=</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 - 9</td>
<td>=</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46 - 12</td>
<td>=</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   "Nogobore to ye joli ye ?

   A ye 45 di kalandenw ma, k’a to bila alimori kono.
   Walanninw to ye joli ye ?
Daw k'a ta 40 na ka t'a bila 49 na.

I. Kuntileena : Kalansen laban na, kalanden ka kan ka se:
- Ka daw soro, k'u kalan, k'u seben ni jatedenw ni siginidenw ye k'a ta 40 na ka t'a bila 49 na.
- Ka daw sanga pogon ma

II. Baarakminenw : Kalaninw, belekisew, furabuluw ani sigida fen werew.

III. Taasira:
Baara kcta 1:
- Karamogo be kalanin 40 (bikalasiri 4) mine a kininbolo la ka kalanin 1 mine a numanbolo la, k'olu jira kalandenw na.
- Kala 1 in be fara bikalasiri 4 kan, ka kalandenw nininka o hake la.
- O tigina be ke walamba la k'a jateden seben a koro.

Baara kcta 2:
- Kalandenw be 41 seben ni jatedenw ni siginidenw ye walanninw kan k'a kalan.

Baara kcta 3:
- Kalandenw be 41 warakali ke n'u ka minenninw ye k'u seben walanninw kan.

Misali : 41 = 10 + 14 + 7 + 5 + 5
Janto : Nin taasira kelen in be ke ni da tow ye k'a ta 42 la k'a t'a bila 49 na.

Baara kcta 4: Daw be sanga pogon ma.

Baara kcta 5:
- Da kafota dafa ni da were ye ka cemanza daw soro (40 ni 49)

k'a kalan (bi naani ni kelen)
Degeliw

1. Nin katimu ninnu dafa k’a ta da dogomannin na ka na, da caman na, ka bo numan fe ka taa kinin fe walima ka bo sanfe ka na duguma.


3. Daw seben kooriw kono k’a ta da dogomannin na ka t’a bila da caman na.

Wale minnu bɛ na ni doboli ye.

I. Kuntile: Kalansen laban na, kalanden ka kan ka se - ka doboli walew danfara ka bo wale wew re la.
- Ka doboli waleya.
- Ka doboli jatesigi seben k’a jaabi di.

II. Baarakeminew: minen fen o fen.

III. Taasira:
Baara keta 1: Lenburuba 9 tun bɛ Kaja ka segi kono. A ye lenburuba 6 feere u la. Kaja ka lenburuba to ye joli ye?
- Kalanden do bɛ Kaja ka feereli in waleya.
- Kalandenw bɛ feereli jatesigi seben = 9 - 6 =
- Kalandenw bɛ jaabi fo kumasen kono: « a to ye lenburuba 3 ye ».

Baara keta 2.
Kamifan 8 tun bɛ Madu bolo, 3 binna ka ci. Kamifan to ye joli ye?
- Kalandenw bɛ kamifanci in waleya ni belekiss ye. Kalandenw bɛ jaabi pini k’a fo.
- Jatesigi bɛ seben : 8 - 3 = ...
- Kalanden bɛ jaabi fo kumasen kono : « Madu ka kamifan to ye 5 ye ».

Baara keta 3:
Misali dilenw jaabi bɛ pini i na fo baara keta 1 ta kera cogo min.
- Takalagomi 9 tun bɛ cenin do bolo. A ye 5 mugan tafalagomi in na. Tagalagomi to ye joli ye?

9 - 5 = ....
6. Ja in lakali, i ka sebenniw dafa duguma.

Mangoro 45 be te kake ne ka bore kono

...........+.............= 45

walima 45 ..............= ..............
mangoro karita to ye ..............
I. Kuntienna: Kalansen laban na, kalanden ka kan ka se:
- ka 50 soro, k’ala kalan, k’seben ni jatedenw ni siginidenw ye.
- ka 50 waraka.

II. Baarakeminenw: kalaninw, beleksesew, furabuluw ani sigida fen werew.

III. Taasira:
Baara keta 1:
- karamo ho kalabin 49 (bikalasiri 4 ni kalabin 9) minc a numabolo la ka kalabin 1 minc a kininbolo la, k’olu jira kalandenw na. Kalabin 1 in be fara bikalasiri 4 ni kalabin 9 ka k’alandenw hininka o hak la (lo be ben kalabin 50 ma walima bikalasiri 5).
O tigina be ke walanba la k’ala jateden seben a koro.

50 be seben katimu koro

<table>
<thead>
<tr>
<th>Biw</th>
<th>Kelenw</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

50 be seben ni siginidenw ye walanba kan k’ala kalan.
Kalandenw be 50 seben ni jatedenw ni siginidenw ye walanninw kan k’ala kalan.

50
Bi duuru

50
Bi duuru

Baara keta 2:
Kalandenw be 50 sorocogo dow waley kaluw na ni kaladinw, beleksew, furabuluw walima sigida fen werew ye.

Misali: $18 + 5 + 19 + 8 = 50$

Baara keta 3:
Kalandenw be 50 warakali ke kuluw la nu ka mineninnw ye k’u seben walanninw kan.

50 = 3 + 12 + 3 + 32
Misali: $50 = 5 + 25 + 12 + 8$

Baara keta 4:
Kalandenw be Dann ni k’a ta 1 na ka t’a bila 50 la.
Kalandenw be daw seben k’ala ta 1 na ka t’a bila 50 la ni jatedenw ye.

Baara keta 5:
Kalandenw be daw seben ka bo 50 la ka n’al siginidenw ye.
Degeliw:

1) Jatesigi minnu jaabi ye kelen ye, olu bolo di pogon ma.

15 + 4   8 + 8

13 + 3   10 + 6

22 + 6   2 + 19

20 + 10  15 + 15

18 + 3   10 + 9

2) Tiñe wa nkalon?

<table>
<thead>
<tr>
<th>T</th>
<th>NK</th>
</tr>
</thead>
<tbody>
<tr>
<td>47&lt;20</td>
<td></td>
</tr>
<tr>
<td>19&gt;5</td>
<td></td>
</tr>
<tr>
<td>50&lt;25</td>
<td></td>
</tr>
</tbody>
</table>

Seginkanni:

1. Jatesigi ninnu jaabi di:

27 – 5 ; 36 – 4 ; 49 – 6 ; 38 – 27 ; 50 – 20

2. Jatesigi ninnu jaabi di:

<table>
<thead>
<tr>
<th>18</th>
<th>29</th>
<th>39</th>
<th>48</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3</td>
<td>-9</td>
<td>-17</td>
<td>-23</td>
<td>-40</td>
</tr>
</tbody>
</table>

3. Jateniniw jaabi:

- Birama ye mangaroden 45 kari, a ye mangoroden 22 di Dala ma. Birama ka mangoroden to ye joli ye?

- Jenentugannin 48 be Madu bolo. A ye jenentugannin 36 feere. Madu ka jenentugannin to ye joli ye?

- Dороме 50 be Fatu bolo. A ye дороме 20 di Sidi ma. Fatu ka wari to ye joli ye?
kafoli marata be min na

I. Kuntile na: kalansen laban na, kalanden ka kan ka se:
- ka kafoli ke marata be min na.

II. Baarakeminswn: kalandenw, gafew

III. Taasira:
Baara keta 1. Gafe 35 dira kalanso folo ma walanta don. Bi gafe
18 dira o kalanso kelen ma.
Gafe joli dira kalanso in ma?
Kalandenw be pininka jatesigi keta la
Kalandenw be na gafew kafo pogon na k'u hake fo.
Karamogo b'o jatesigi jolen seben walanba kan daw
katimu kono nin cogo la

<table>
<thead>
<tr>
<th>bi</th>
<th>Kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>+</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>= 5</td>
<td>3</td>
</tr>
</tbody>
</table>

Kafoli be ke so ni so:
Kelenw ka so: 5 + 8 na o ye 13 ye
13 ye jateden 2 ye; jateden 2 te seben so kelen kono. O la 3 be seben
kelenw ka so, ka bi 1 mara.

Biw ka so: bi 1 maralen be kafo 3 la biw ka so. o ye 4 ye. 4 kafo
1 na, o ye 5 ye, 5 be seben biw ka so 1 jukoro. O jatesigi file:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>+</td>
<td>18</td>
<td>= 53</td>
</tr>
</tbody>
</table>

Jatesigi be kalan

Jatesigi be kalan

Baara keta 2. Karamogo ni kalandenw be. nin misaliw ke
walanba ni walanninw kan.

\[
\begin{array}{ccc}
32 & 35 & 15 \\
+ & 18 & + 9 & + 7 \\
\hline
= & = & + 19 \\
\end{array}
\]

\[
\begin{array}{ccc}
12 & 11 & 24 \\
+ & 19 & + 9 & + 11 & + 15 \\
\hline
= & = & + 8 & = & + 6 & = & \\
\end{array}
\]

Degeliw:

1. Nin jatesigiw ke
\[
\begin{array}{c}
25 + 6 = \\
19 + 19 = \\
18 + 12 + 16 = \\
\end{array}
\]
\[
\begin{array}{c}
35 + 15 = \\
24 + 26 = \\
14 + 8 + 24 = \\
\end{array}
\]

2. Nin jatesigiw ke:
\[
\begin{array}{cccc}
13 & 14 & 39 & 7 \\
+ & 8 & + 16 & + 7 & + 35 & + 17 \\
\hline
= & = & + 20 & = & = & = & \\
\end{array}
\]


4. Cemannin 7 ani musomannin 14 be Seku ka du kono.
Denmisennin joli be Seku ka du kono?
Daw k’a ta 50 la ka t’a bila 59 na

i. Kunti lenna: Kalansen laban na, kalanden ka kan ka se:
    ka daw sorro, k’u kalan, k’u seben ni jatedenw ni sugini denw
    ye k’a ta 50 la ka t’a bila 59 na.

ii. Baarakeminw : kalaninw, belekisew, furabuluw ani sigida
    fen we’rew.

iii. Taasira
    Baara kcta 1
    Kalandenw be kalanin 50 dan (bi kalasiri 5) ka kalanin 1 fara a
    kan k’o hake fo.
    - O tigina be ke walanba kan k’a jateden seben a korw.

    Bi 1  Bi 1  Bi 1  Bi 1  Bi 1

    Bi 5 ni 1

    Bi  Ke
    5  1

    - 51 be seben ni sugini denw ye walanba kan k’a kalan (bi
duuru ni kelen)
    - Kalandenw be da 51 seben ni jatedenw ni sugini denw ye
    walaninw kan k’a kalan.

    51
    Bi duuru ni kelen

 Baara kcta 2 :
- Kalandenw be 51 sorocco dow waley kuluw la ni
  kalaninw, belekisew, furabuluw walima sigida fen we’rew ye

Misali :

10  +  25  +  13  +  3  =  51

Baara kcta 3
Kalandenw be 51 warakali ke n’u ka mineninw ye k’u seben
walaninw kan.

Misali :

51 =  9  +  18  +  10  +  7  +  5  +  2

Janto : Nin taasira kelen in be ke ni da tow ye k’a ta 51 na ka
t’a bila 59 na.

Baara kcta 4 : Daw be sanga pogon ma.

Degeliw

1. Keresabaw bolo di pogon ma k’a ta da dogominn na ka
taa a bila caman na.

   47    48    45    50    51

   46    49    44    43
2. Taamasiyen nunan bila daw ni jogan ce.

50...50 39...37 23...40 45...25
18...10 12...32 27...27 7...7

3. Tanglininw konosebeni w dafa, ka kareninw konodaw soro.

---

**Doboli** : marata be min na

I. Kuntillenna : Kalansen laban na kalanden ka kan ka se :
- ka doboli ke marata be min na.

II. Baarakensinw : kalanninw, walanninw, ani fen werew.

III. Taasira :

Baara keta 1. Farasu 32 tun be karamogo bolo, a ye farasu 7 di kalandenw ma. A to ye joli a bolo ?

Jatesigi be seben walanba kan k'aa kecogo nefo : 32 - 7 =

<table>
<thead>
<tr>
<th>Bi</th>
<th>Ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>(1) 2</td>
</tr>
<tr>
<td>(1)</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Kelenw ka so : 7 bolen 2 la o ye joli ye ?
7 te se ka bo fila la, bi 1 be kafa 2 la kelenw ka so, o ye 12 ye. 7 bolen 12 la o ye 5 ye, 5 be seben kelenw ka so 7 jukoro, ka bi danzen mara.
Bi 1 maralen be na kafa bi bozaw la duguma.
Biw ka so : 1 maralen kafo 0 la o ye 1 ye, 1 bolen 3 la o ye 2 ye, 2 be seben biw ka so 1 jukoro.

Jaabi : 32
- 7
= 25

---
Baara ksta 2 : Misi 55 tun bë Zan bolo. A ye misi 18 feere.
Zan ka misi to ye joli ye?
Jatesigi be seben walanba ka n’kecogo nèfo : 55 – 18 =

<table>
<thead>
<tr>
<th>bi</th>
<th>Ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(1)5</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>=</td>
<td>7</td>
</tr>
</tbody>
</table>

Kelenw ka so : 8 bolen 5 la o ye joli ye?
8 te se ka bo 5 la. bi 1 be singa k’o kafò 5 la, o be ke 15 ye. 8 bolen 15 la o to ye 7 ye. 7 be seben 8 jukò ro kelenw ka so, bi 1 donen be mara.

Biw ka so : bi 1 marale n be kafò 1 na o ye 2 ye. 2 bolen 5 la, o to ye 3 ye. 3 be seben 1 jukò ro biw ka so.
Jaabi : 55
       - 18
= 37

Degelìw :

1. Jatesigiy jaabi nìni.
   37 - 29 = ;43 - 27 = ; 52 - 36 = ;33 - 7 = ;58 - 8 =
   26 - 9 = ; 54 - 18 = ; 27 - 19 = ; 51 - 48 = ; 56 - 17 =

2. Jatesigiy jaabi nìni.
   54 - 42 - 28 - 50 - 44 - 17 - 58 - 31
   = = = = = = = =

3. Jatepèniw
   a) Dala taara sugi la ni doròmè 50 ye. A ye tamati 35 la san.
      Dala ni doromè joli seginna?
   b) Kalanden 58 tun bë kalanso do kono. Kalanden 39 taara
      sanfèkalanso la. Kalanden joli tora u no na?

   c) Bikise 48 tun bë Alu bolo. Lafiñebøwaati la 25 tununa.
      Joli tor’a bolo?

   d) Misi 43 bë Hamadi bolo. 16 sogora bagandogotoro fe.

   Misi sogobali ye joli ye?
Da 60

I. Kuntileenna: Kalansen laban na, kalanden ka kan ka se:
- Ka 60 soro, k'a kalan, k'a seben ni jatedenw ni siginidenw ye.
- Ka 60 waraka.

II. Baaraksminkelw: Kalaninw, belekisew, furabuluw ani sigida fen werew ye.

III. Taasira:
Baara keta 1:
Kalandenw be kaladin 59 (bikalasiri 5 ni kaladin 9) dan ka kaladin 1 fara o kan k'a hakse fo. (o be ben kaladin 60 ma walima bikalasiri 6).
O tigina be ke walanba kan k'a jateden seben a koro

![Diagram 1]

Bi 1

- 60 be seben daw katimu kono

<table>
<thead>
<tr>
<th>bi</th>
<th>Ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

- 60 be seben ni siginidenw ye walanba la k'a kalan.

Baara keta 3:
Kalandenw be 60 warakali daw ke n'u ka minenninw ye k'u, seben walaninw kan.

![Diagram 2]

\[ 12 + 15 + 3 + 30 = 60 \]

Degeliiw

1. Taamasiyen numan bila daw ni pogoce:

<table>
<thead>
<tr>
<th>43...42</th>
<th>18...50</th>
<th>21...16</th>
<th>30...30</th>
</tr>
</thead>
<tbody>
<tr>
<td>39...39</td>
<td>10...0</td>
<td>1...1</td>
<td>57...47</td>
</tr>
</tbody>
</table>
2. Da minnu ye kelen ye, olu bolo di jогon ma ni kalainiw ye.

<table>
<thead>
<tr>
<th>bi duuru ni fila</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>bi naani ni saba</td>
<td>38</td>
</tr>
<tr>
<td>bi wooro</td>
<td>25</td>
</tr>
<tr>
<td>mugan ni duuru</td>
<td>50</td>
</tr>
<tr>
<td>bi saba ni seegin</td>
<td>40</td>
</tr>
</tbody>
</table>

3. Da ninnu sigicogo sariya jatemine i ka tow seben

- Hake joli be u ni jогon ce?

kafoli marata be min na walia marata te min na

I. Kuntlenna : kalansen laban na, kalanden ka kan ka se:
- ka kafoli ke marata be min na
- ka kafoli ke marata te min na.

II. Baarakeminew: kalandenw, gafew, walanninw.

III. Taasira:

Baara keta 1. Nin jatemini be seben walanba kan karamogo fe:
Ali ye mangoroden 32 kari, a dogomuso ye 7 tomo ka d'a ma.
Mangoro joli be Ali bolo?
Karamogo ni kalandenw be je ka jatemini jaabi jini jогon fe,
k'a seben walanba kan nin cogo la:

<table>
<thead>
<tr>
<th>Nefoli</th>
<th>Sorolen</th>
<th>Jatesigi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ali ka mangoro hake ye:</td>
<td>32 + 7</td>
<td>= 39</td>
</tr>
<tr>
<td></td>
<td>+ 7</td>
<td>= 39</td>
</tr>
</tbody>
</table>

Baara keta 2:

Nin jatemini be seben walanba kan karamogo fe: Madu ka jогosi don folo, a ye jоборе 33 soro, a don filanan, a ye 19 soro. Madu ye jоборе joli soro?
Jatemini in be waleya kulubaara senfe.

Degeliw:

<table>
<thead>
<tr>
<th>1. Nin jatesigiw ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
</tr>
<tr>
<td>+ 8</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
2. Çemannin 35 ani musomannin 25 be kalanso folo kono. Kalanden joli be kalanso in kono?

3. Umaru ka bitiki kono, a ye sukaro pake 22 feere sogomada fe, ka 35 feere wulada fe. Umaru ye sukaro pake joli feere tile kono?

_Janto_: Kafoli, marata be min na, o misali do be seben, a n’akcogo, k’o dulon kalanso kono.

---

_Daw k’a ta 60 la ka t’a bila 69 na._

I Kuntillenn: kalansen in laban na, kalanden ka kan ka se:
- Ka daw sor, k’u kalan, k’u seben ni jatedenw ni siginidenw ye k’a ta 60 la ka t’a bila 69 na.
- K’u waraka
- K’u sanga n’ogon ma.

II. Baarakeminèn
Bikalasiriw, belskisèw ani fen werew

III. Taasira

_Baara keta 1:_
Karamogo b’a nini kalandenw fe u ka 60 dan, n’o be ben bikalasiri wooro ma. Kala kelen be kafa o la. U b’o dan k’o hake fo. Da sorojen be seben ni siginidenw ni jatedenw ye walanba kan, a be kalan k’a seben walanninw kan ni siginidenw ni jatedenw ye.

---

61
Bi wooro ni kelen

61
Bi woororo ni kelen

61 sorola cogo min, da tow be sor o cogo kelen na fo ka se 69 ma.
**Misali:**

60 + 1 = 61
60 + 2 = 61 + 1 = 62
60 + 3 = 62 + 1 = 63
60 + 4 = 63 + 1 = 64
60 + 5 = 64 + 1 = 65
60 + 6 = 65 + 1 = 66
60 + 7 = 66 + 1 = 67
60 + 8 = 67 + 1 = 68
60 + 9 = 68 + 1 = 69

Da sorolenw be se seben katimu kon.  
**Baara keta 2:**  
Karamogo b’a nini kuluw fe, be se 61 sorocogo de ke ni bolominenw ye.

**Misali:**  
Da tow fana sorocogo be ke nin cogo la k’a ta 61 na ka taa se 69 ma.  
**Baara keta 3:**  
Daw kelen-kelen be di kulu be se ma u k’o warakali dow ke.

**Misali:** 68 ye

68 = 10 + 21 + 2 + 16 + 15 + 4

Da tow fana be se ka waraka nin cogo in na k’a ta 61 na ka t’a se 69 ma.  

**Baara keta 4:**  
Daw be sanga ngon na ma.

**Baara keta 5:**  
Sebenniw bolo di ngon na, minnu kono mumew ka kan.
Degelih:

1. Daw sëben ka bo 60 la ka t'a bila 69 na
2. Daw sëben ka bo 69 na ka na 60 la.
3. Da ninnu sëben k'a ta dogomannah na ka taq caman na.
   58, 12, 0, 31, 63, 69, 24, 8, 47
4. Da ninnu sëben ka bo caman na ka na dogomannah na.
   5, 56, 34, 3, 66, 9, 42, 38, 1, 25

5. Da nininenew sëgi tomiw no na

   a) \[65 = \ldots + 35 + \ldots + 10\]

   b) \[\ldots + 23 + \ldots + 15 + \ldots = 69\]

6. Caya walima doguya taamasiyen ke nin daw ni nogon ce

   67.....52; 46.....19; 60......0; 5.....38; 23.....63

Doboli ; marata be min na walima marata te min na

I. Kuntillenna : kalansen laban na, kalanden ka kan ka se :
   - ka doboli ke marata te min na
   - ka doboli ke marata be min na

II. Baarakeminew : walanba, walannin, farasu ani fen werew

III. Taasira :
Baara keta 1.
Marata te min na : jatesigi duuru nogonna be seben walanba kan. Kalandenw b'u seben walanninw kan k'u jaabi.
Misali :
   \[18 - 5 = ; 35 - 23 = ; 47 - 38 = ; 69 - 69 = ; 69 - 47 =\]

Baara keta 2.
   Saga 29 tun be Madu bolo. A ye saga 17 feere. Madu ka saga to ye joli ye sisan ?
Jatepin bi seben walanba kan. Kalandenw b'a seben k'a jaabi soro.

Baara keta 3.
Marata be min na :
   Jatesigi duuru nogonna be seben walanba kan. Kalandenw b'u seben walanninw kan k'u jaabi.

Misali
   \[31 - 15 = ; 43 - 25 = ; 56 - 18 = ; 60 - 15 = ; 63 - 58 =\]

Baara keta 4.
   Seden 41 tun be Sedu ka sesslu kono. Bana ye 28 faga u la. Sedu ka sedenw to tora joli ye sesslu kono ?
Jatesigi be seben walanba kan. Karamo be pefoli ke, o ko kalandenw be jatepin in jaabi ke walanninw kan.
Degeliw :

1. Nin jatesigiw seben k’u jaabi :
   16 - 13 = ; 57 - 28 = ; 31 - 8 = ; 49 - 37 = ; 51 - 48 =
   69 - 47 = ; 61 - 45 = ; 68 - 39 = ; 69 - 47 =

2. JatejiNW
   a) Dorome 65 tun be Ali kun. A ye kulusin di san dorome
      54. Ali ka wari to tora joli ye ?
   b) Nobore 68 tun be mangasan kond. Dugumogow ye 49 san.
      Nobore joli be mangasan kond sisan ?

Da 70

I. Kuntileenna : kalansen in laban na kalanden ka kan ka se :
- Ka da 70 soro k’a kalan, k’a seben ni jatedenw ni siginidenw ye.
- K’a waraka.

II. Baarakeminew :
Bikalasiriw, beskisew ani fen werew.

III. Taasira
Baara keta 1 :
Kalandenw be kalanin 69 dan, n’o be ben bikalasiri wooro ani
kala kononton ma.
Kala kelen be kafo o la. U b’o dan, k’o hake fo.

<table>
<thead>
<tr>
<th>Bi</th>
<th>Ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

Bi 7

Da soraten in be seben walamba kan. A be kalan k’a seben
walanninw kan ni jatedenw ni siginidenw ye.

70
Bi wolonwula

70
Bi wolonwula

70
Bi wolonwula
Baara kta 2:
Kulu kelenkelenna bec be 70 sorocogo do ke n’al bolomimenye (tigakolo, jiridenkise, belekise,...)

Misali:

Baara kta 3:
Kulu kelenkelenna bec be 70 warakacogo do ke.

Misali:

Degeliw:

1. Daw seben fila -filadanni na k’a ta 60 la ka taa bila 70 la.
2. Daw seben duuru – duuru danni na ka bo 0 la ka taa 70 la
3. Daw seben tan-tandanni na ka bo 70 la ka na 0 la.
4. Da ninnu sigi nigon ko ka bo dogomannin na ka taa caman na.
52, 3, 27, 69, 13, 45, 0, 70

5. Da do seben tomiw no na ka ben taamasiyen ma.

54 <.............
...........................>35
...........................=60
70 >.............
0 <.............

6. Da ninnu seben katimu kono.

70, 21, 9, 63, 37, 46, 2
1. Jatesigiw jaabiw jini
   - \(50 + 19 = \ldots\), \(57 - 25 = \ldots\)
   - \(13 + 24 + 31 = \ldots\), \(69 - 6 = \ldots\)
   - \(52 + 8 = \ldots\), \(70 - 15 = \ldots\)
   - \(19 + 34 = \ldots\), \(58 - 9 = \ldots\)

2. Jatesigiw jaabiw jini

\[
\begin{array}{cccc}
52 & 70 & 45 & 62 \\
+ 16 & - 20 & + 8 & - 16 \\
\hline
26 & 63 & 45 & 57 \\
+ 17 & - 9 & + 13 & - 27 \\
\hline
3 & 72 & 58 & 30 \\
\end{array}
\]

3. Jatejniw :
   - Isa ni Madu taara ntonmin na. Isa ye nton 30 mine.

Denmisewn ye nton joli mine ?
   - Dorome 35 tun be Fako bolo. Sata ye dorome 17 di a ma. Fako ka wari ye joli ye sisan ?
   - Taji litiri 70 tun be Dirisa bolo. A ye litiri 40 feere. Taji to ye litiri joli ye ?
   - Dugu in mogow tun ye jiri 66 turu. Jiri 8 sara. Jiri balolenw ye joli ye ?

---

kafoli ni doboli jatejniw kono

I. kuntillena : kalansen laban na, kalanden ka kan ka se
   - ka jatejniw ke kafoli ni doboli be min na.

II. Baarakeminew : walanninw, farasu

III. Taasira :

Baara keta 1. jatejni in be seben walamba kan, karamogo fc.
Kaja taara sugü la. A ye sefan 45 san Sedu fc ka 22 san Sidi fc. Kaja ye sefan joli san ?
A nann so, a denw ye sefan kuru 15 jiran k'o dun. Sefan to tora joli ye ?
Karamogo ni kalandenw be je ka jatejni jaabi jini pogon fc k'o seben walamba kan.

<table>
<thead>
<tr>
<th>Nefoli</th>
<th>Sorolen</th>
<th>Jatesigi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaja ka sefan sannen ye :</td>
<td>45 + 22 = 67</td>
<td>67 + 22 = 89</td>
</tr>
<tr>
<td>Sefan to ye :</td>
<td>67 - 15 = 52</td>
<td>52 = 67 = 119</td>
</tr>
</tbody>
</table>

Baara keta 2.

Madu ye baara numan ke kalanso kono. Karamogo ye dorome.30 di a ma, karamogokorsba ye .40 d'a ma. A taato so, a ye dorome.10 di a dogonin ma.
1) Madu ye dorome joli sorrow ?
2) Joli tora a bolo ?
jatejni be waleya kulubaara senfe.
Degeliw :

1. Nin jatesigiw ke
   20 + 18 = 55 + 15 =
   33 - 1 = 60 - 20 =
   65 - 48 = 40 - 11 =
   36 - 13 = 65 - 49 =

   1) Tigatulu litiri joli feerela ?
   2) Tigatulu litiri to ye joli ye ?

3. Nin katimu in dafa :

---

Daw k'a ta 70 la ka taa bila 79 na

I. Kuntileenna : kalansen laban na, kalanden ka kan ka se :
   - ka daw soro, k'u kalan, k'u sëben k'a ta 70 la ka t'a bila 79 na ni jatedenw ni siginidenw ye.
   - K'u waraka.
   - K'u sanga pogon ma.

II. Baarakeminenw :
   Bikalasirw, bëlekisëw ani fen warëw.

III. Taasira :
   Baara këta 1.
   Kalandenw be kalanin 70 dan, n'o be ben bikalasiri 7 ma.
   Kalanin kelen be kafo o la u b'o dan k'o hâke fo.
   Da sërolen tigina be kë ka soro k'a don katimu këno :

---

Da sërolen be sëben ni jatedenw ni siginidenw ye walamba kan. A be kalan , k'a sëben walanninw kan ni jatedenw ni siginidenw ye.

71 71

Bi wolonwula ni kelen  Bi wolonwula ni kelen
71 sërala cogo min, da tow sëroli be kë o cogo kelen na fo ka se 79 ma.
71 ni 77 warakara cogo min, da tow be waraka o cogo kelen na k'a ta 71 na ka t'a bila 79 na.

Misali : 
72 = 54 + 18 
73 = 46 + 15 + \( \_ \_ \_ \) 
76 = 32 + 28 + \( \_ \_ \_ \_ \) 
78 = 10 + 10 + 10 + 10 + 10 + 10 + 10 + 8 
79 = 50 + 20 + 9 

Baara keta 4 : 
- Daw be sanga nogon ma 

Degeliw : 

1. Taamasiyenw laje i ka daw sigi tomiw no na.
10<\ldots, 75 = \ldots, 77> \ldots, 72<\ldots 

2. Da ninnu waraka.
79, 55, 66, 70, 63.

3. A dafa
70 + 5 = \ldots 
\ldots + 9 = 69 
73 + \ldots = 73 
68 = \ldots + 44 
51 + 8 + 13 = \ldots
4. A dafa

Bi 7 ni 4, 0 ye .......

Bi 7 ni 9 ,0 ye.......... 

71 sigi katimu kono

<table>
<thead>
<tr>
<th>Bi</th>
<th>Kæ</th>
</tr>
</thead>
</table>

bi 7 , 0 ye.......... 

5.Da ninnu ssben pogon ko k'a ta caman na ka t'a bila dogomannin na.

1 – 55 – 79 – 60 – 43 – 18 – 77 – 2 – 70 – 33

6. Katimu dafa :

<table>
<thead>
<tr>
<th>n£fe</th>
<th>Cemancx</th>
<th>Kofe</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>71</td>
<td>72</td>
</tr>
<tr>
<td>...</td>
<td>78</td>
<td>...</td>
</tr>
<tr>
<td>...</td>
<td>69</td>
<td>70</td>
</tr>
<tr>
<td>...</td>
<td>75</td>
<td>...</td>
</tr>
<tr>
<td>73</td>
<td>...</td>
<td>75</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>78</td>
</tr>
</tbody>
</table>

Kafoli ni doboli, teme te kæ 79 kan

I. Nin jatesigiv jaabi nini

<table>
<thead>
<tr>
<th>51</th>
<th>22</th>
<th>29</th>
<th>67</th>
<th>62</th>
<th>64</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>+15</td>
<td>-19</td>
<td>+10</td>
<td>-16</td>
<td>+17</td>
<td>-28</td>
<td>+30</td>
</tr>
</tbody>
</table>

= = = = = = = =

<table>
<thead>
<tr>
<th>28</th>
<th>53</th>
<th>27</th>
<th>69</th>
<th>24</th>
<th>56</th>
</tr>
</thead>
<tbody>
<tr>
<td>+39</td>
<td>-36</td>
<td>+38</td>
<td>-48</td>
<td>+10</td>
<td>23</td>
</tr>
</tbody>
</table>

= = = = = = = =

Il Jateppiiw :
1. Misi 79 tun be fulaks bolo. A ye misi 60 feere. Fulaks ka misi to tora joli ye ?
2. Karamogokorsba ye walannin 35 di kalanso folo la, ka 36 di kalanso filanan na. Karamogo ye walannin joli di kalandenw ma ?

   - Ada ka musaka benna joli ma ?
   - A ka wari to ye joli ye ?
   - Kaja ka musaka benna joli ma ?
   - Joli ka kan ka segin Kaja ma ?

201
Da 80

I. Kunti lenna: Kalansen in laban na, kalanden ka kan ka se:
- ka 80 soro, k'a kalan, k'a seben ni jatedenw ni siginidenw ye.
- K'a waraka.

II. Baarakeminsnw:
Bikalasiriw, belekisew ani fen werew.

III. Taasira:
Baara keta 1:
- kalandenw be 79 dan, n'o be ben bikalasiri 7 ni kalnin 9 ma. Kala 1 be kafo o la, u b'o dan, k'o hake fo.
Da sorolen tigina be ke walanba la:

![Diagram](image)

<table>
<thead>
<tr>
<th>Bi</th>
<th>Ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>0</td>
</tr>
</tbody>
</table>

Da sorolen be seben ni jatedenw ni siginidenw ye walanba kan. A be kalan k'a seben walaninw kan ni jatedenw ni siginidenw ye.

80 80 80
Bi seegin Bi seegin Bi seegin

Baara keta 2:
Kulu kelenkelenna bee be 80 soro coco do ke n'a bolominenw ye k'a n'fo (tigakolo, jiridenkise, belekise...)

Misali:

![Diagram](image)

40 + 15 + 25 = 80

Baara keta 3:
Kulu kelenkelenna bee be 80 warakacogo do ke.

Misali:

80 = 10 + 10 + 10 + 10 + 10 + 10 + 10
80 = 45 + 15 + 15 + 5
80 = 10 + 30 + 25 + 15
80 = 28 + 12 + 17 + 13 + 10
80 = 60 + 10 + 5 + 5
1. Taamasay jumwan \(<\) = bila tomiw na na.

\[
\begin{align*}
&70 \ldots 5 + 55 \\
&40 + 40 \ldots 30 + 30 \\
&= & 80 \\
&70 + \ldots = 80 \\
&76 + \ldots = 80 \\
&50 + 30 = \ldots
\end{align*}
\]

2. A laje k'a da ta.

3. Daw ru sebeni bolo di hogon ma.

4. Da taw jin ku seben.

5. Da jin jem wai jumwan tomiw na na.
Kafoli ni doboli, teme te ke 80 kan

1. Daw dafa katimu kono :

<p>| | | | | | | | | | | |</p>
<table>
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<td>60</td>
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<td></td>
<td></td>
<td></td>
<td>80</td>
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</tbody>
</table>

2. Doboli katimu konodaw dafa.

<p>| | | | | | | | | | | | |</p>
<table>
<thead>
<tr>
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<td>19</td>
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<td>37</td>
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<td>22</td>
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<td></td>
<td></td>
<td></td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Da tonnenw na, da fila pini minnu mume be ben da were ma, tonnen tow la, ka soro k'u seben.

- Da tonnenw na, da fila pini minnu mume be ben 80 ma, ka soro k'u seben.

4. Daw lakoori kelen-kelen, minnu ka ca ni 60 ye, nka u ka dogo ni 80 ye.

<table>
<thead>
<tr>
<th></th>
<th>79</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>+31</td>
<td>78-12</td>
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<td></td>
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</tbody>
</table>

5. Jatesigiw dafa :

<p>| | | | | | | | | | | | |</p>
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<tbody>
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<td></td>
<td></td>
<td>45</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td>42</td>
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<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>+25</td>
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<td>+10</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

= 80

6. Katimu konodaw dafa ni jatedenw walima siginidenw ye

Ni siginidenw ye. | Ni jatedenw ye | Kafoli do.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>bi wolonwula ni kelen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bi seegiin</td>
<td>35</td>
<td>30 + 5</td>
</tr>
<tr>
<td>tan ni duuru</td>
<td>70 + 4</td>
<td></td>
</tr>
</tbody>
</table>

---

207

---

208
Daw k'a ta 80 na ka t'a bila 89 na.

I. Kuntilenna: Kalansen laban na, kalanden ka kan ka se:
- Ka daw soro
- Ka daw kalan, k'u seben ni jatedenw ni sigenidew ye
- Ka daw waraka
- Ka daw sanga nogon ma.

II. Baarakminenw: bikasirw, bëlekisèw, jiridenkisèw ani fen werëw.

III. Taasiara:
Baara keta 1:
Karamogo b'a pini kalandenw fe u ka bikalasiri 80 ta. Kala kelen be kafo o la. U b'o dan k'o hake fo.
Da soroli tigina be ke walanba kan

![Diagram 1](image)

Da sorolen be seben katimu kono

![Diagram 2](image)

Da sorolen be seben ni sigenidenw ni jatedenw ye walanba kan, a be kalan k'a seben walaminw kan ni jatedenw ni sigenidenw ye.

81

bi seegin ni kelen

81

bi seegin ni kelen

81 sorola cogo min, da tow soroli be ke o cogo kelen na fo ka se 89 ma.

Misali:

<table>
<thead>
<tr>
<th>80</th>
<th>+</th>
<th>1</th>
<th>=</th>
<th>81</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>+</td>
<td>2</td>
<td>=</td>
<td>82</td>
</tr>
<tr>
<td>80</td>
<td>+</td>
<td>3</td>
<td>=</td>
<td>83</td>
</tr>
<tr>
<td>80</td>
<td>+</td>
<td>9</td>
<td>=</td>
<td>89</td>
</tr>
</tbody>
</table>

da sorolen be be seben katimu kono. Sinsini be ke katimu kan, daw sebecogo nefoli la.

Baara keta 2:
Karamogo b'a pini kalandenw fe u ka 81 soracogo do ke n'u ka baarakminenw ye.

![Diagram 3](image)

Misali:

| 30  | + | 20 | + | 10 | + | 20 | + | 1  | = | 81 |

- 81 warakacogo be soro ka ke kalandenw fe.

210
Baara kcta 3.
Da kelen-kelen be di kuluw ma u k'o warakali dow kr.

Misali: 87 ye: 20 + 20 + 20 + 30 + 7 ye
      85 ye: 30 + 40 + 5 + 10 ye
Da tow fana be se ka waraka nin cogo in na k’a ta 81 na ka
t’a bila 89 na.

Baara kcta 4:
Daw be sanga pogon ma.

Degeliw:

1. Da min be nin da in ye ani min b’a ko olu seben.
   ........ 88....
   ........ 86.....
   ........ 82.....
   ........ 80.....
   ........ 83....

2. Da ninnu seben ka bo dogomannin na ka taa caman na:

3. Tjiène wherence T NK (jaabi numan di)
   84 ka ca ni 82 ye /../ /../
   89 ni 89 ye kelen ye /../ /../
   87 ka doo ni 81 ye /../ /../
   85 ka ca ni 87 ye /../ /../

4. Da ninnu sanga pogon ma ni taamasiyan numan ye :
   <, >, =
   83...86;  85...82;  87...80
   88....81;  83....89;

5. Minnu haco ye kelen ye, olu bolo di pogon ma.

   86  80 + 9
   89  80 + 8
   84  80 + 6
   86  80 + 4

6. 80 sorc ni nin da dow kafolen ye pogon na ye
   20 , 8; 3 , 2 , 46 , 40 , 30 , 10 , 80 , 53 , 7 , 0.
7. Daw seben ni siginidenw ye.

211
Kafoli ni dobòli, teme te ke 89 kan

1. Jatesigiw jaabi seben

<table>
<thead>
<tr>
<th>83</th>
<th>74</th>
<th>87</th>
<th>34</th>
<th>50</th>
<th>49</th>
</tr>
</thead>
<tbody>
<tr>
<td>-42</td>
<td>-38</td>
<td>-9</td>
<td>+45</td>
<td>-44</td>
<td>+6</td>
</tr>
<tr>
<td>=</td>
<td>=</td>
<td>=</td>
<td>=</td>
<td>=</td>
<td>=</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>40</th>
<th>78</th>
<th>85</th>
<th>36</th>
<th>63</th>
<th>75</th>
</tr>
</thead>
<tbody>
<tr>
<td>+34</td>
<td>+9</td>
<td>-8</td>
<td>+45</td>
<td>-47</td>
<td>-48</td>
</tr>
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<td>=</td>
<td>=</td>
<td>=</td>
<td>=</td>
<td>=</td>
<td>=</td>
</tr>
</tbody>
</table>

| 47 |-10 |
| = |

2. Jatepiniw
- Ngolo fa ye dorome 57 di ma, a ba ye dorome 28 di ma.

Ngolo ka wari ye dorome joli ye?
Ngolo ye gafe do san dorome 39 a ka wari la. A ka wari to ye joli ye?

- Kalanen 37 be kalanso folo kono, 49 be filanen kono.
Musomannin 49 be kalanso fila ninnu kono.
Kalanso fila ninnu kalandenw ye joli ye?
Cemannin ye joli ye?

Da : 90

I. Kuntienna : Kalansen laban na kandanen ka kan ka se
- ka da 90 soro.
- K’a kalan, k’a seben ni jatedenw ni sigidenenw ye.
- K’a waraka.

II. Baarakeminenw : Bikalasiriw, belekisew, jirdenkisew ani fen werew.

III. Taasira :
Baara keta 1 :
Kalandenw be kalanin 89 dan n’o be ben bikalasiri seegin ani kala kononton ma.
Kala kelen be kafo 89 na, u b’o dan, k’o tigina ke :

<table>
<thead>
<tr>
<th>Bi</th>
<th>Ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>0</td>
</tr>
</tbody>
</table>

Da sorolen in be seben walanba kan. A be, kalan k’a seben walanin kan ni jatedenw ni sigidenenw ye :

<table>
<thead>
<tr>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>bi kononton</td>
</tr>
</tbody>
</table>

213
Baara kiya 2: Kulu kelen kelenna be be 90 sorocogo do ke n'a ka baarakeminew ye.

Marata: bi 10 ye kem 1 ye

Degeliw:

1. Daw seben ka bo 90 na ka na 80 na.
2. Daw seben tan - tandanni na ka bo 90 ka na 10 na.
3. Da ninnu sigi pagon ko ka bo dogomannin na ka taa caman na.

90, 8, 88, 21, 86, 43, 82, 55, 0, 87, 84.

4. Taamasiyɛn nunban bila tomiw no na
   >, < walima =
   90...18 ; 78...87 ; 83...73
   90...80 +10 . 90...80 +2 . 75...70 +1
   80 +3...90 82 +4...90 90...80 +7.

5. Da minnu kafolen be ben 90 ma, olu bolo di pagon ma ni tiiri ye.

<table>
<thead>
<tr>
<th>30 +10</th>
<th>60 +0</th>
<th>70 +20</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 +60</td>
<td>90</td>
<td>50 +30</td>
</tr>
<tr>
<td>40 +60</td>
<td>40 +50</td>
<td>40 +40</td>
</tr>
</tbody>
</table>
Daw k’a ta 90 na ka t’a bila 99 na.

I. Kuntilema: Kalansen laban na, kalanden na kan ka se.
   - Ka daw soro
   - Ka daw kalan, k’u seben ni jatedenw ni siginidenw ye.
   - Ka daw waraka.
   - Ka daw sanga nogan ma.

II. Baarakeminzw: bikalasiriw, belekisew, jirdenkisew, fen warenw.

III. Taasira:
   Baara keta 1: Karanggo b’a pini kalandenw fe u ka bikalasiri 90 ta.

   90 = 1 tigina be walanba kan
   91 be seben katimu kona

   Bi | Ke
   ---|---
   9  | 1

   Kala 1 be fara o kan. U b’o dan k’o haka fo.
   Da sorolen be seben ni siginidenw ni jatedenw ye walanba kan, a be kalan k’a seben walanmin kan ni jatedenw ni siginidenw ye.

   Bi konontan ni kelen
   Bi konontan ni kelen

   91 sora cogo min, da tow soroli be ke o cogo kelen na fo ka se 99 ma.

   Misali:
   90 + 2 = 92
   90 + 3 = 93
   90 + 4 = 94
   90 + 9 = 99

   Da sorolen be seben katimu kona. Sinsin be ke katimu kan, daw seben cogo nefali la.

   Baara keta 2: Kalandenw be 91 sorocogo do ke ni’u ka baarakeminzw ye.

   Misali:

   29 + 19 + 12 + 13 + 18 = 91

   Baara keta 3:
   91 warakali do be ke
91 = 18 + 15 + 17 + 16 + 17 + 9
Da kelen-kelen be di kuluw ma u k'o warakali dow ke.

Misali :  
93 = 40 + 12 + 28 + 10 + 3
99 = 20 + 30 + 22 + 17 + 10

Da tow fana be se ka waraka nin cogo in na k'a ta 91 na ka t'a bila 99 na.

Degeliiw :

1. Da ninu seben ka bo caman na ka na dogomannin na 90 - 93 - 98 - 91 - 73, 88 - 28, 41, 92, 99, 66, 95, 96,

2. Daw seben duuru -duurredani na ka bo o la ka t'a bila 95 la

3. Da ninu sanga ngon ma ni taamasien puman ye < , > walima = 
   99............90 ; 91............91 ;
   90............82 ; 98............98 ;
   99............98 ; 94............95 ;

4. Daw sebeni dafa :
   99, 98, ... , 95, ... 93, 92, ... 90.

5. Ninu hike ye kelen ye, olu bolow di ngow ma
   98  90 + 3 bi kononton ni dururu


7. Daw sugi katimu koro
   97, 90, 98, 95, 92, 99, 86, 83

8. Daw fila - filadanni ke k'a ta 2 la ka t'a bila 90 la.

219
Kafoli ni doboli, tème te ke 99 kan

1. Jatesigiw jaabi seben:

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<tr>
<th></th>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>81</td>
<td>92</td>
<td>90</td>
<td>67</td>
<td>98</td>
</tr>
<tr>
<td>+17</td>
<td></td>
<td>-7</td>
<td>28</td>
<td>-49</td>
</tr>
</tbody>
</table>

Da 100

i.Kunctilenna: Kalansen laban na, kalanden la kan ka se:
- ka 100 soro, k' a kalan, k’ a seben ni jatedenw ni siginidenw ye,
  - ka 100 waraka.

ii.Baarakceminenw: bèlekisèw, kalainw

III.Taesira:
Baara keta 1.
Kalanin 99 be ta, kalamin 1 be fara o kan, kalandenw be danni ke, ka da sorolen fo.
A tigina be ke walamba kan.

<table>
<thead>
<tr>
<th>Kèmè</th>
<th>Bi</th>
<th>Kelen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Sinsin be ke katimu kan da sebencogo nèfoli la.
- 100 be kalan, k'a seben ni jatedenw ni siginidenw ye:

Baara keta 2.
-Kalanderenw be kalanimw ta, k'u ke saraw ye minnu kalanim hake be ben 100 ma.

30 + 20 + 40 + 10 = 100
-Kalanderenw be 100 warakali dow ke.

Misali:

Baara keta 3.
Belekise 100 be ke sara damado ye.

Misali:

100 = 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10

Degeliw:

1. tan - tandannu na, pan kera da minnu kan, olu seben.

2. da taw seben koori lankonw koo
3. Da minnu ye kelen ye siginidenw ni jatedenw na, olu bolo di pogon ma.

tan 100
bi saba 70
bi naani 40
mugan 30
bi woɔɔɔ 90
bi segin 60
kɛɛɛ 20
bi kononton 80
bi duuru 50
bi wolonwula 10

4. Da minnu kafolen be bɛn 100 ma, olu pi 100 bolo di pogon ma ni tiiri ye

90 + 10 80 + 20 30 + 60

40 + 20 100 20 + 50

30 + 30 40 + 60 70 + 30

225

Seginkanni :

1. Jatesigiw jaabiw ni ni:

46 - 32 = ... ; 40 + 50 = ... ; 86 - 51 = ... ; 78 - 35 = ...
96 - 53 = ... ; 58 + 36 = ... ; 46 + 32 = ... ; 73 - 58 = ...
87 - 55 = ...

2. Jatesigiw jaabi ni ni:

<table>
<thead>
<tr>
<th>77</th>
<th>67</th>
<th>95</th>
<th>66</th>
<th>80</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 7</td>
<td>+33</td>
<td>- 58</td>
<td>- 47</td>
<td>- 25</td>
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<td>+ 10</td>
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93 88 65 47 15
-36 -38 +28 +48 +85
= = = = =

3. Jate niniw:

- Ngolo ye mangoroden 85 kari sogoma, ka 15 kari wula fe. Ngolo ye mangoroden joli kari tile kono?
- Gafe 95 dira kalanyoɔ ma. Kalanyoɔ kuntigi ye gafe 88 di kalandenw ma. Gafe to ye joli ye?

| 8 | 3 | 13 | 7 | 11 | 2 | 9 |

226
Da 100 warakali

I. Kuntilemma : Kalansen laban na, kalanden ka kan ka se:
- ka 100 waraka,
- ka warakali ke k'a ta 1 na ka t'a bila 100 na.

II. Baarakeminew : kalanso konominew, ani fen werew.

III. Taasira

Baara kcta 1
Kalandenw be beleise 9 dan k'u ke sara damado ye.

- sara fila

- sara naani

warakali be ke ni fen werew ye k'a ta 1 na ka t'a bila 9 na.

Baara kcta 2 :
Kalandenw be kalain 12 ta k'u ke sara damado ye.

- sara saba : 12 = 4 + 5 + 3

- sara duuru : 12 = 1 + 3 + 5 + 1 + 2

warakali be ke ni fen werew ye k'a ta 10 na ka t'a bila 99 na.

Baara kcta 3 :
Kalandenw be beleise 100 ta k'u ke sara damado ye.

26 + 6 + 11 + 5 + 22 + 14 + 16 = 100

Warakali be ke ni fen do 100 ye.
Degeliw:

1. Scbhenni dafa.
   8 = 3 + ...........
   14 = ........... + 8
2. 100 – waraka tan-tan ye
3. 100 – waraka mugan – mugan ye
4. 100 – waraka bi duuru – bi duuru ye.
5. 100 – waraka mugan ni duuru – mugan ni duuru ye
6. 100 – warakali dafa

- 100 = 90 + ........
- 100 = 50 + ........ + 10
- 100 = ... + 25 + 50
100 = 30 + ........ + 40,......

7. Daw bole di nagan ma k’a ta dogamannin na ka se caman na.

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229

230
Janya donni

I. Kuntileenna: Kalansen laban na, kalanden ka kan ka se:
- Ka fen fila janya sanga nogon ma;
- Ka fenw sigi nogon ko ka da u janya kan

II. Baarakeminenw: Sebenfura, gaari, berew walima sigida fen werew,

III. Taasira:

Baara keta 1
-Karamogo be kalanden fila jo nogon koro minnu kundama te kelen ye, k'u ko don nogon na, ka kalandenw nininka min ka jan ni min ye ani min ka surun ni min ye.
- Karamogo be bere fila da nogon kerfè tabali kan minnu janya te kelen ye.
- Kakandenw be na bere jamanjan ni bere surunman jira.
- Gaari do be jira kalandenw na.
U be na gaari werew ta (jamanjan ni surunman k'olu sanga gaari jiralen in ma.
Misali caman werew be di ni fen werew ye janya ni surunya kan.

Yero naaninan sumani

231
3. Buguso min ka jan ni tow ye, o lakoor.

4. Tiiri do file. Tiiri fila ci ka kelen janya n’a ye, ka kelen surunya n’a ye.

5. Nin taamasiyen (x) ke mogow bec la jamanjan kan, i k’u bec la surunman koori.

6.- Dugu saba togo seben minnu ka jan i ka dugu la.

- Dugu saba togo seben minnu ka surun i ka dugu la.
Baara kcta 2 :
Tiiri bilenman do be ci walanba kan
Kalândenw be na tiiri jamanjan ani tiiri surunman dow ci
bilenman koro wàlima a sanfe ni farasu ne werew ye.
- Nin baara in misali pogonna werew be ke kalândenw fe
walanninw kan.

3aara kcta 3 :
- Karamogo be jirisu 4 nataliye dilan sebenfura kan minnu
janya te kelen ye.
- Kalândenw be nin taamasiyen in (p) ke jirisu be la
jamanjan koro, ka soor k’a be la surunman koori.

Baara kcta 4 :
Kalândenw be janya ni surunya misali werew ke n’u ka
baarakeminew ye i n’fo ; gafew, walanninw cilanw, kayew
n’u pogonnaw.

Degeliw

1. Jiri minnu janya ye kelen ye, taamasiyen in (x) k’olu koro.

2. Tangili minnu janya ye kelen ye, pe bilenman ke olu la

Girinya donn

I.Kuntilenno : Kalansen laban na, kalanden ka kan ka se :
- Ka fen fila ta, k’u girinya sanga nogon ma.

II.Baarakaeminew : Sigida fenw

III.Taasira :
Baara kcta 1 :
- Kalanden kelen –kelen be be walannin kelen ta
kininbolo la, ka kiriyon kelen ta numanbolo la k’olu sanga
nogon ma k’u girinya fo kumasen dow kono (walannin ka girin
ni kiriyon ye ; kiriyon ka fegen ni walannin ye).

Baara kcta 2 :
- Kalandenw be baara kcta 1 misali caman ke n’u ka
baarakeminen werew ye.

Baara kcta 3 :
- Kalanden kelen be a toponog fila bamuni bo nogon koro k’u
girinya fo.
- Segin be ke nin misali in kan kalanden werew fe.

Degeliw :

1. Nimafenw ni nintanfenw sanga nogon ma k’a ta min ka
girin na ka na min ka fegen na :

2. Karamogo ni kalandenw be misali caman ke farikolon
senfe.
Wari dønni

I. Kuntilemma : Kalansen laban na, kalanden ka kan ka se :
- Ka warigananw don
- K’u falen

II. Baarakeminenw : warigananw (a sebenen be minnu kan 5, 10, 25, 50, 100, 250)

III. Taasira :
Baara keta 1 :
Kalandelw be wari hake minnu don, u be ben olu la kulu kono k’olu fo.

Baara keta 2 :
Karamo go be wari suguyaw jir la kalandelw na :
Warigananw ni waribuluw (biyew).

Kalan be ke ni warigananw ye.
Wariganan, suguywa 6 ninnu be di kuluw ma : dorome 1, dorome 2, dorome 2, dorome 5, dorome 10, dorome 20, dorome 50.

- Karamo go be wari hake do fo. Kuluw be b’o pini, ka n’o bila tabali kan. Karamo go b’o hake seben wanamba kan, kalandelw b’a seben u ka walamunw kan : dorome 1, (d.1) dorome 2, (d.2) dorome 5, (d.5) dorome 10, (d.10) dorome 20, (d.20) dorome 50 (d.50)

<table>
<thead>
<tr>
<th>Misali</th>
<th>10F</th>
<th>100F</th>
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<tr>
<td>d.2</td>
<td></td>
<td>20</td>
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</table>

Baara keta 3 :
- dorome 50 be di kalandel do ma, o ka taa o falen warimisenw na, tabali kan.
- dorome 20 be di kalandel do were ma, o ka taa o falen tabalikanwarimisenw na.
Nin nogonnaw be ke ni wariganan werew ye.

Baara keta 4 :
- Karamo go be wari hake do fo, kalanden do be taa o ta k’o jira :
Misali : dorome 100 hake be jira ni warigananw ye.
Degeliw

1. ne biilenman ke dorome duuru gananw na, i ka bulama ke tan gananw na.

2. So saba ninnu konowarigananw mume seben soninw kono u duguma.

3. Taamasiyen in (x) ke koori kan min konowari ka ca.

4. Nin warigananw dafa walasa i ka dorome 50 (d.50) soro.
Seginkanni:

1. Sawuraw laje i k'u daw seben soninw kono jukoro, k'a damine u bee la jamanjan na, k'a laban ni u bee la surunman ye.

2. Tjne wa Nkalon (T,NK), T walima NK seben soninw kono.

3. Ja laje ka nininkaliw jaabi:

- Aminata ni Sali, jon ka girin?
- Ali ka kuma ye tjne ye wa?
- Togow seben k'a damine min ka girin, k'a laban min ka fejen na

4. Walanta nebila la, Aminata ba ye kaye 1 san a ye dorome 45, ka josilanbaranin san dorome 23 ani kirioy 1 dorome 15. A ye nin sanniseben jira Aminata fa la, nka a konosebeniwi ma dafa. U dafa

<table>
<thead>
<tr>
<th>SANNISEBEN</th>
<th>Hake</th>
<th>Minen</th>
<th>Songo</th>
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<tr>
<td>1</td>
<td>Kaye</td>
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<td>Josilanbaranin</td>
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<td>Mune sarata</td>
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5. Warimisenw fara pogon kan ka dorome 80 soro cogoya saba la.
<table>
<thead>
<tr>
<th>Dañesëbëñ</th>
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| Baaraboloden | !Projet |
| Baaraboloden kunatala jan | !Grand projet |
| Baaraboloden kunatala surun | !Petit projet |
| Benkan sumanikelanw | !Unités conventionnelles! |
| Bonyali | !Agrandissement |

| Ci dayëkonle npè ci datugullenw | !Ligne ouvertes / lignes fermées |
| Cikunkurun | !Segment |
| Cikunkurunci | !Tracé de segments |

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<th>D</th>
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| Da | !Nombre |
| Da soroli | !Composition – formation |
| Dalakeñeni | !Rangement |
| Dalakeñeni | !Rangement (rythme) |
| Dalakeñeni k’a da misali dilem kan | !Rangement (rythme) |
| Dann | !Comptage |
| Dann ka jëgin | !Decomptage |
| Dann ka yëlen | !Comptage |
| Dann ka bo da caman na | !Comptage du plus grand ou |
| Dann ka bo da caman ne | !Comptage du plus grand au plus petit |
| Daw sigñenkonk | !Ordonner les nombres |
| Da soroli | !Composition |
| Da warakali | !Décomposition |
| Daw katimu | !Tableau de classification |
| Doboli katimu | !Tableau de soustraction |
| Doboli këcogo | !Soustraction (technique) |

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| Farøgonkann | !Associativité |
| Fërewn | !Stratégies |
| Folo-folo sumanikelanw | !Unités arbitraires |

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| Girinya donni | !Masse (notion) |

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| Hake | !Mesure |

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| Jënya donni | !Longueur (notion) |
| Jateden | !Chiffre |
| Jatekalan | !Arithmétique |
| Jatekalan pëbilabaaraw | !Activités prénométriques |
| Jatekalan pëbiila | !Prénomération |
| Jateñini | !Problème |
| Jatesigi | !Opération |
| Jirali | !Présentation |
| Joyorsigi | !Rangement |
K

Ka ca ka dogo walia kẹpẹn
Ka ca ni
Ka dogo ni
K' a jira ka bo tow la
K' a korota
Kafoli jatem necogo min be ben
Kafoli katimu
Kafoli kecogo
Kafoli kun
Kafoli, marata te min na
Kafoli, marata be min na
Kafoli, marata be min na walia!
Kafoli, marata te min na
Kafoli, marata be min na walia!
Kafoli, marata te min na
Kafoli, marata be min na walia!
Ka jan a la – ka surun a la
Kan – kor
Katimu dondafi lam
Kenesumakalan
Keta
Kunkëpo gostisi
Kunnabisilikili
Kunnajate
Kuntien na kerenkerennw
Kuntien na kunbabaw
Kono – kovan
Konoci
Konona – kokanna
Korotali
Kunna – jukoro

K

N

Ndungowolomani ni ndungosaradali !Tris et classement
libres
Numan – kinin
Numan fe – kinin fe

N

Nebilakiimeni
Nëgenw
Në - ko
Nëfe- kof
Nogon ca
Nogonnadilan

S

Sanfe – duguma
Sanfel – dugumana
Seressi, saradali, kuluasi
Sìgni, goxoni, donni

S

Sigi, gojon, donni
Sokoje
Sokoje, lomi
Sokoje, bol
Sococo
Sumanimaben

T

Tìginajirali
Tiirici
Tinekuli

T

Semi abstraction
Tracé de traits
Glissement
W

Wale minnu bɛ na ni doboli ye !Situations relatives à la soustraction
Wale minnu bɛ na ni kafoli ye !Situations relatives à l'addition
Waleyali !Manipulation,
Waleyali ni minɛnw ye !Concrétisation
Warakali !Décomposition
Wari donni !Monnaie (manipulation)
Wolomalı (wolomani) !Tri
Wolomani k’a da cogoya kundama ani nɛ kan ! Tris selon la forme la taille, la couleur
Wolomani k’a da mankutu fila kan !Tris selon deux propriétés
Wolomani k’a da suguya kan !Tris selon la nature

Sinsin kera gafe minnu kan

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