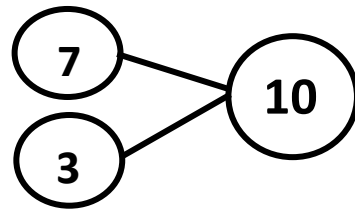
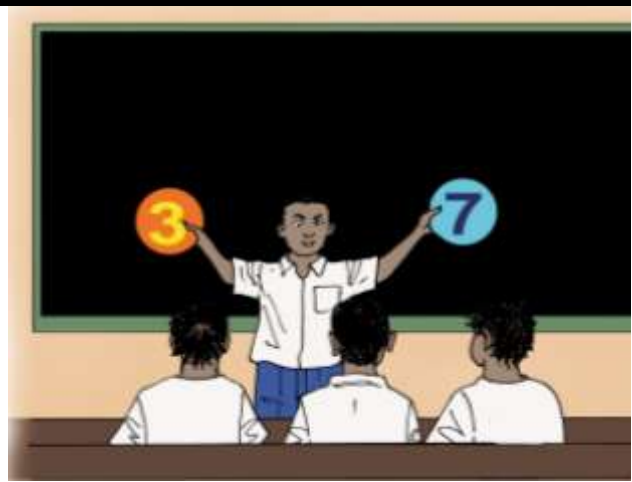
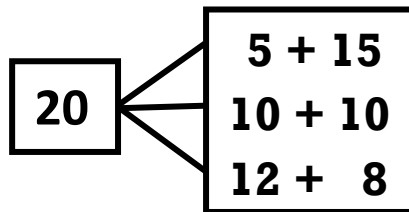


DITUNGA DIA KONGO WA MUNGALATA
TSHIBAMBALU TSHIA MALONGESHA A TULASA TUPUEKELE, TUBANDILA NE DISHIDIMUNA DIA
BUENA MUABO BUPIABUPIA
BULOMBODI BUA NDONGAMU YA TULASA NE BINTU BIA KULONGESHA NABIO

MUA KUENZA NE MAKUMI 2

Mukanda wa kalasa kibidi



DILONGESHA MU DIJANDULA MIANDA

Mukanda wa mulongeshi

Tshiongo wa Minanga 2016

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Nimelo ya mu Tshilaminu tshia Mikanda ya Ditunga :

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KADIOSHA

Mu 2013, Tshibambalu tshia Ndongeshelu wa Tulasa Tupuekele, Tubandila ne Dishidimuna dia Buena muabo Bupiabupia tshivua tshisangisha bamanyi bapiluke bua kutangila ndongeshelu wa makumi mu tulasa tupuekele tua mu Kongo wa Mungalata.

Mu luapolo luabu lua ndekelu, bavua baleja mapanga mavule avua anyanga ndongeshelu muimpe wa makumi.

Bua kukebulula ngenyi ya kulongolola nayi ndongeshelu eu wa makumi uvua munyanguka, Tshibambalu tshia Malongesha a Tulasa Tupuekele, Tubandila ne Dishidimuna dia Bu ena Muabo Bupiabupia tshivua tshifila mudimu wa diela dia menji ne difila mapangadika mapiamapia kudi bamanyi ba makumi ne bakebuludi ba ngenyi.

Bamanyi aba bavua bamona ne bidi bikengela kufunda mikanda ya makumi mu miakulu inayi ya mu ditunga bua kulongesha makumi bimpe mu tulasa tubidi tua ntuadijilu. Mikanda eyi idi ne tshia kulonda ngenzelu mupiamupia wa ndongeshelu udi ulomba bua se bakolesha mamanya a ndongeshelu ne bafundila balongeshi mikanda idi ne tshia kubaludika bua kulondabo ndongamu.

Ndongamu udi ulomba bua se ndongeshelu ikala ulonda Bipatshila, akeba mianda idi mua kuambuluisha balongi ne kukeba bionso bidi bikengedibua bua kukolesha mamanya a bana mu makumi.

Ke bualu kayi, mikanda idi midika ne «MUA KUENZA NE MAKUMI 1 & 2» idi mifundibua.

Tudi tujingila balongi ne balongeshi bonso ba tulasa etu dibala dia mikanda eyi ne tshisumi bua se ndongeshelu mulenga abandisha mamanya a bana mu makumi.

Mufundi munene wa Tshibambalu tshia Ndongeshelu wa Tulasa
Tupuekele, Tubandila ne Dishidimuna dia Buena muabo
Bupiabupia

MUENA MUABO LUFUNISABO BUNDOKI

MPALA WA MUANDA

Mu 2011, Tshibambalu tshia Ndongeshelu wa Tulasa Tupuekele, Tubandila ne Dishidimuna dia Buena Muabo Bupiabupia tshivua tshilongolola dibalulula ne ditentulula dia Ndongamu wa ditunga wa tulasa tupuekele.

Ndongamu ewu wa 2011 kena mupiamupia nansha ; udi mufundulula bua kuakaja Ndongamu wa 2000. Mmufunda pa dijinga dia se ikala ulonda malu mapiamapia adi majungulula kudi bamanyi bapiluke ba malu a kala, ba malu a nsombelu ne ba malu a bushidimuke.

Ndongamu eyi yonso ibidi idi ilonda amu Bipatshila ne ikeba mianda ya kukolesha nayi lungenyi lua balongi ne ndongeshelu udibo babapesha kudi balongeshi.

Mu dilonda lungenyi elu luimpe ke mudi Bulongolodi bua Ndongamu ya Tulasa ne Bintu bia Kulongesha Nabio bufunda mikanda eyi ibidi ya makumi idi midika ne « Mua Kuenza ne Makumi 1 & 2 ».

Mikanda eyi mmifunda nangananga pa mianda idi bana bamona pa tshibidilu mu nsombelu wabo anyi mu manaya. Mulongeshi udi ne tshia kuyisulakaja bua kukeba bidi mua kulongeshibua anyi kulongibua mu makumi.

Kudi mikanda ibidi ya balongi ne mikuabo ibidi ya balongeshi bua kubambuluisha ne kubavuluija imue mikenji idibo kabayi mua kulengulula anyi kupua moyo mu ndongoluelu wa malongesha.

Dibueja edi dia mianda ke didi ne tshia kuikala nshindamenu wa mudimu wa mulongeshi yonso wa tulasa etu tupuekele tua ntuadijilu.

Dilongesha edi dia makumi mu dijandula mianda didi dikengela imue miaku idi mulongeshi ne tshia kukebulula bua balongi bafika ku diumvua bipatshila ne ku dinanga malongesha onso a makumi.

Ke bua tshinyi mulongeshi udi ne tshia kukeba mianda mishilangane idi mua kufikisha balongi ku dinanga ne ku disuminina mu dilonga makumi.

Tudi tujingila balongi ne balongeshi bonso ba tulasa etu dibala dilenga dia mikanda eyi ne tshisumi bua se ndongeshelu abandisha mamanya a bana mu makumi.

Tshibambalu tshia Ndongeshelu wa Tulasa Tupuekele, Tubandila ne Dishidimuna dia Buena Muabo Bupiabupia tshidi tshielulula Unicef tuasakidila wa manza tenta bua diambuluisa didiye mufila bua Tshisumbu tshia bamanyi bapiluka ba makumi tshimona mua kufunda mikanda eyi ne kuyikudimuna mu miakulu yonso inayi ya Ditunga dia Kongo wa Mungalata.

Mulombodi-Mfumumu wa Ndongamu ya Tulasa
ne Bintu bia Kulongesha nabio

Inabanza **Anne-Marie NZUMBA NTEBA LUVEFU**

MBANGIDILU

Mukanda udi muidika ne « Mua Kuenza ne Makumi 2 » mmufunda bilondeshela ndongoluelu mupiamupia wa Ndongamu wa 2011.

Udi ufila diandamuna ku dijinga dia Baludiki ba Tshibambalu tshia Ndongeshelu wa Tulasa Tupuekele, Tubandila ne Dishidimuna dia Buena Muabo Bupiabupia, badi bajinga bua ndongeshelu wa makumi mu tulasa tupuekele alongoloke ne alonda malu a kala, a nsombelu ne a bushidimuke adi majungulula kudi bamanyi bapiluke.

Malongesha a makumi adi mu Mukanda eu, « Mua Kuenza ne Makumi 2 », adi mmangatshila mu mianda idi ikolesha mamanya a balongi ne ishintulula ndongeshelu wa makumi.

Mianda idi yambuluisha mulongi yonso wa disuminyina bua apete mamanya makumbane a kujandula nau ntatu idiye mua kupetangana nayi mu makumi.

Mukanda eu « Mua Kuenza ne Makumi 2 », udi mufunda ne Mianda 32, miabulula mu bitupa binene 6 ne tshitupa tshonso tshinene tshidi tshishikila ne Diambulula dia malongesha.

Muanda onso mmuabanya mu malongesha 4 a tusunsa 45 ku dilongesha. Muanda mumana kulonga badi mua ku-upinganyina bua balongi bumvua bimpe dilongesha dipiadipia dia munkatshi anyi ku ndekelu kua tshidimu.

Malongesha adi mu Mianda eyi yonso adi makumbanangana ne bipatshila bidi bifila mu Ndongamu. Muanda onso mmusungula mu muaba kampanda, bilondeshela midimu ya kuenza ne ya kutshinka nayi mamanya a balongi.

Mukanda wa mulongeshi mmufunda pa buawu, bua kumuambuluisha mu tutupa tuonso tua mu mukanda wa mulongi ne bua kumuleja ne kumuvulujia bionso bidi bikengedibua bua kulongeshaye bimpe : nomba, disangisha, diumbushila, divudija ne diabanya, bipapu ne dijandula dia nshinga.

« Muanda 0 » mmufila ku ntudijilu wa mukanda bua kupesha balongi tshilejilu tshia kulonda mu malongesha afidibua pashishe. Udi wuambuluisha kabidi Mulongeshi bua amanya mua kutabelela balongi ne kumanya mua kubaleja mushindu wa kulonda malongesha ende.

Mulongi yonso kena ne tshia kufunda munda mua mukanda wende to. Enzela midimu yonso ya kufunda amu mu kaye kende anyi pa mabeji, bilondeshela mibelu idi mulongeshi ufila mukana kumpala kua kubanga.

Mukanda eu « Mua Kuenza ne Makumi 2 » mmufunda bilondeshela malu ne miaba bidi bana bibidilangana nabi. Mbua kumona mua kubumvujia bimpe malongesha, kukolesha ntema yabo, lungenyi lua difuka ne menji a dikeba mua kujandula bimpe « mianda ne kuenzela makumi mu amue malu masokome.

Bafundi

MUNANGU NE MAYELE A DIENZELA

Mbilombibua bua mulongeshi yonso abala mukanda eu kumpala kua kutuadija malongesha bua alonda ku kanungu mamanyisha a ndongeshelu adi mafilamu.

Mbipite buimpe mulongeshi alonda mukanda wa mulongi dibeji ku dibeji bua kubenga kupua moyo imue minangu ne amue mayele adi mafunda mu Ndongamu wa Ditunga bua Tulasu Tupuekele.

Pikalabi bikengedibua, mulongeshi udi mua kusakidila midimu miangata mu mikanda mikuabo ya kalasa ka kumpala, bu eyi idi miabanya kudi Bamfumu ba Tshibambalu tshinene tshia Ndongeshelu, bu mudi : Jenovic, Muntu ne makumi 2 ne mikuabo.

Bua kushindika mamanya, badi balomba mulongeshi bua anyemena ku ngenzeli ya ditabulula ne dibueja mu ndongelu tekenika yonso ya ndongeshelu/ndongelu idi mikebulula.

Diba dia ndongeshelu/ndongelu, mulongeshi udi ne tshia kujikija bangabanga muanda udiye mutuadija kumpala kua kupita ku muanda mukuabo.

Bu mudi ndongeshelu/ndongelu mu kalasa ka kumpala ufidibua nangananga mukana, ku ntuadijilu wa tshidimu, bidi bilombibua bua mulongeshi umvuija balongi muanda mukana kumpala kua kuwujandulabo mu kabujima, nangananga padi bimfuanyi bifidibua pashishe.

Mulongeshi kakebi amu bua se, kumpala kua kujandula muanda, balongi bikala bamanya mua kubala miaku idi yumvuija Muanda eu to.

Nsombelu ya mu muanda ne midimu idi balongi ne tshia kuenza bidi bienza tshintu tshimue ; mulongeshi alondela balongi muanda mukana, kadi midimu ayenzeja kudi balongi, mukana anyi mu difunda bilondeshela mikenji idiya mufila.

Difila dia nimelo ku bipatshila bidi bifila mu mukanda eu wa mulongeshi bidi biteka mushindu udibi bilondangana mu Ndongamu wa Ditunga wa Tulasu Tupuekele, ne mbua bipatshila bia pankatshi, ne mbua bipatshila bia pa buabi.

Diambedi mulongeshi avuluka bau kubala mukanda wa mulongi onso pamue ne wa mulongeshi. Kakuena bualu nansha bumue budi mua kumukandika to!

Bafundi

MUANDA 0 – TSHLANGATSHILU TSHIA BISA

1- Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kulongesha mulongi mua kubadika, kufunda ne kubala nomba ku 0 too ne ku 20, kubangila ku mukese too ne ku munene ne kubangila ku munene too ne ku mukese. Udi wipatshila kabidi bua kulongesha balongi mua kusangisha, kumbushila ne kuteka mu mulongo nomba mishadila ku 20 anyi ya momumue ne 20.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilongesha dia makumi mu tshidia tshia ntudijilu, mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :

1. Kujadika, Kubadika, Kutela dina, kufuanyikija bintu, kubala ne kufunda nomba ku 0 too ne ku 100
2. Kusangisha, kumbushila, kuvudija ne kuabanya nomba idi pankatshi pa 0 ne 100.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba

1. Kubadika kubangila ku mukese too ne ku munene ne kubangila ku munene too ne ku mukese nomba ku 0 too ne ku 100;
2. Kubala ne kufundanombamba ku 0 too ne ku 100;
3. Kubadika nombamba idi pankatshi pa 0 ne 100 mu tusumbu tua 2, 3, 4 ne 5 ;
6. Kuteka nombamba ku 0 too ne ku 100 pa mulongo mululame, pa tshipapu tshia tshijengu.

Bienzedi bia Makumi

- 1. Kufuanyikija, kujingulula, kulonga, kulondakaja bintu, nombamba ku 0 too ne ku 100
- 2. Kukeba tshipeta tshia disangisha, tshia diumbushila, tshia divudija ne tshia diabanya mu mangi a momumue

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a Muanda;
- Tubuikidiji ne tumabua.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi Muanda ne ajadika bua se bonso mbumvua bimpe tshidiye muindile kudibo.
- Abalomba bua bapeta bungu bua mashinyi mabadika kudi muana yonso ne abalomba kabidi bua bafundulula nombamba mishilangane.
- Pashishe, balongi batuadija kufuanyikija nombamba eyi
- Abalomba bua benza disangisha dia mangi a mashinyi majoja.
- Mpindieu ke diba didiyi ne tshia kupinganyinuna bua dienzela kakuyi kalema, bimanyinu + ne = ne kupinganyina makumi menza pa nombamba milonga kuntuadijilu mu kalasa ka kumpala, ku 0 too ne ku 20
- Mulongeshi ajoja balongi ne abaludika mu dienza dia midimu idiyi mubapesha.

5- Dilongolola pa meba ne dienza bidi biumvuija Muanda

- Tusumbu tua bantu 2 anyi 3;
- Muanda mujima baujingulula mu malongesha 2 a tusunsa 45 ku dilongesha. Mbuena kuamba ne benza mudimu wa 1 ne mudimu wa 2 mu dilongesha 1 ne « Dibidija nkayebe » mu dilongesha 1.

6- Mumvuija, didibingisha, mibelu anyi difila menji

Mulongeshi umvuija dishilangana didi pankatshi pa shiferi ne nomba anyi mudimu wa shiferi ne wa nomba

8- Dijandula dia Muanda

1. 1 ; 2 ; 3 ; 4 ; 6 ; 9 ; 11 ; 13 ; 14 ; 17 ; 18 ; 19.

2.

- | | | | |
|-----------------|-------------------|------------------|------------------|
| a) $1 + 8 = 9$ | e) $10 + 1 = 11$ | i) $10 - 8 = 2$ | m) $20 - 4 = 16$ |
| b) $8 + 5 = 13$ | f) $10 + 5 = 15$ | j) $6 - 5 = 1$ | n) $20 - 1 = 19$ |
| c) $6 + 6 = 12$ | g) $10 + 8 = 18$ | k) $10 - 6 = 2$ | o) $18 - 5 = 13$ |
| d) $6 + 8 = 14$ | h) $10 + 10 = 20$ | l) $17 - 10 = 7$ | p) $19 - 19 = 0$ |

3.

- a) Ndaya udi ne bintu bia kalasa 19 mu tshibuta tshiende.
- b) Udi upingana ku mbelu mu tshibuta mutupu.

MUANDA 1 – MIDIMU YA KUDIENZELA KU NZUBU

1- Bipatshila mu ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kulongesha mulongi mua kubadika, kufunda ne kubala nombamba ku 0 too ne ku 100, kubangila ku mukese too ne ku munene ne kubangila ku munene too ne ku mukese.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tsha ntua dijilu, mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :

- 1. Kujadika, Kubadika, Kutela dina, kufuanyikija bintu, kubala ne kufunda nombamba ku 0 too ne ku 100

Bipatshila bia pa buabi

1 Dibadika, dibala ne difunda nombamba

- 1. Kubadika nombamba ku 0 too ne ku 100, kubangila ku mukese too ne ku munene ne kubangila ku munene too ne ku mukese;
- 2. Kubala ne kufunda nombamba ku 0 too ne ku 100;
- 3. Kubadika nombamba idi pankatshi pa 0 ne 100 mu tusumbu tua 2, 3, 4 ne 5;
- 6. Kuteka nombamba ku 0 too ne ku 100 pa mulongo mululame, pa tshipapu tshia tshijengu.

Bienzedi bia Makumi

- 1. Kufuanyikija, kujingulula, kulonga, kulondakaja bintu, nombamba ku 0 too ne ku 100
- 2. Kukeba tshipeta tshia disangisha, tshia diumbushila, tshia divudija ne tshia diabanya mu mangi a momumue

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a Muanda;
- Tuye.

4- Mudimu wa mulongeshi

- Mulongesha alomba balongi bua bafunda nimelo pa tuye tuabo tua mfualansa kumbukila ku 1;
- Abalomba bua bateka nombamba pa mulongo wa muketa
- Kunyima, abalomba bua basangisha tuye tua makumi ne tua dizola mu tusumbu tua 10 ;
- Mulongeshi ajoja balongi ne abaludika mu dienza dia midimu idiyi mubapesha.

5- Dibala bintu ne mudimu wa kuenza nabi

- Diabanya tuye tua malongesha mu tusumbu tua 10.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda

- Tusumbu tua bantu 2 anyi 3;
- Muanda mujima baulongesha mu malongesha 4 a tusunsa 45 ku dilongesha. Midimu bayenza kuangathshila ku 1 too ne ku 3 mu dilongesha dimue, ku 4 too ne ku 6 mu dilongesha 1 ne «Dibidija nkayebe» mu malongesha 2.

7- Mumvuija, didibingisha, mibelu anyi difila menji

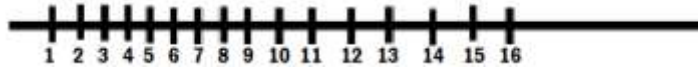
Mulongeshi umvuija mushindu kayi wa kuenza tusumbu tua tuye ne mushindu kayi wa kuteka nombamba pa mulongo wa muketa.

8- Dijandula dia Muanda

1.

a) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

b) Tentula ne kumbaja pa mulongo mululame.

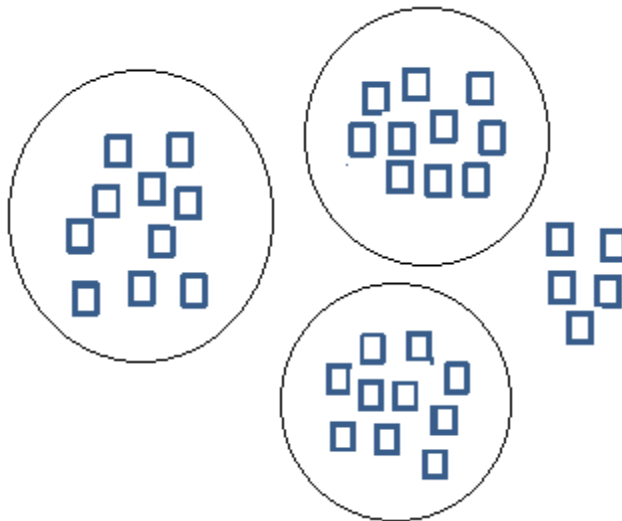


2.

a) Dileja Tuye ne tupapu tua matumba malulame 4.



b) Tusumbu tua tuye 10.



c) Tusumbu 3 tua tuye 10

d) Tuye 5.

3.

a) Kusuika mu bijengu tusumbu tua tuye 10.

b) Tusumbu 4 tua tuye 10.

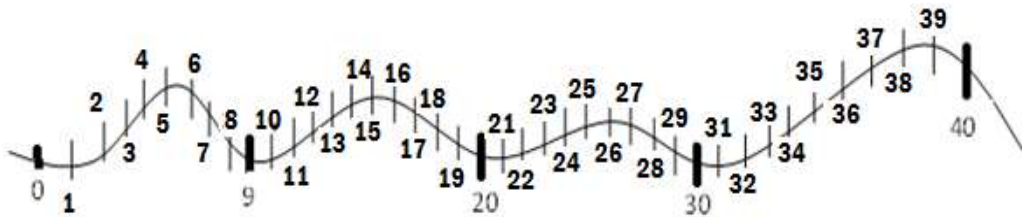
c) Tuye 9.

- 4.
- Kusuika tuye tonso 100 mu tusumbu tua tuye 10 tujingila mu bijengu.
 - Tusumbu 10 tua tuye 10.
 - 10, 20, 30, 40, 50, 60, 70, 80, 90.
 - Tuye 100.
5. Kubala bungi bua bikuta onso kumbukila ku tshikuta tshikese too ne ku tshinene ne kumbukila ku tshinene too ne ku tshikese.
- 6.
- 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
 - 31, 32, 33, 34, 35, 36, 37, 38, 39, 40
 - 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26.....40
 - 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39
 - 4, 8, 12, 16, 20, 24, 28, 32, 36, 40
 - 5, 10, 15, 20, 25, 30, 35, 40, 45, 50

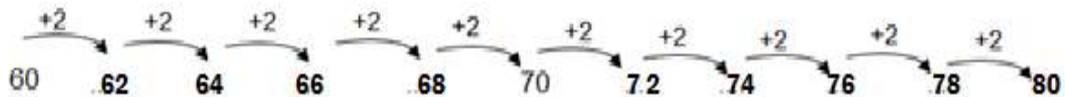
Dibidija nkayebe

1. Kubadika mukana nomba yonso kumbukila ku 1 too ne ku 60 ; kumbukila ku 60 too ne ku 1

2.



3. Kubala ne kufunda nomba milondangana ku 80 too ne ku 100 ; ku 100 too ne ku 80.



4. 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

100, 99, 98, 97, 96, 95, 94, 93, 92, 91, 90, 89, 88, 87, 86, 85, 84, 83, 82, 81, 80

5. 1, 2, 3, 4, 5,91, 92, 93, 94, 95, 96, 97, 98, 99, 100

2, 4, 6, 8, 10,90, 92, 94, 96, 98, 100

5, 10, 15, 20, 25, 30,80, 85, 90, 95, 100

100, 99, 98, 97, 96, 95, 94, 93, 92, 91,5, 4, 3, 2, 1

100, 98, 96, 94, 92, 90,10, 8, 6, 4, 2,

100, 95, 90, 85, 80,30, 25, 20, 15, 10, 5

MUANDA 2 – TSHITUPA TSHIA DINAYA DIA NDUNDU

1- Bipatshila bia ndongeshilu mu Muanda

Muanda eu udi ne kipatshila ka kufuanyikija, kulongolola ne kulonga bintu, nomba ku 0 too ne ku 100 pa mulongo

Udi uleja balongi mushindu wa kufuanyikija nomba 2 ya pankatshi pa 0 ne 100

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntudijilu, mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :

1. Kufuanyikija, kupima, kutshinka, kukeba bula, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba

6. Kuteka nomba ku 0 too ne ku 100 pa mulongo mululame, pa tshipapu tshia tshijengu, amu nanku.

Bienzedi bia Makumi

1. Kufuanyikija, kujingulula, kulonga, kulondakaja bintu, nomba ku 0 too ne ku 100

Manene mashilangane

1. Kufuanyikija manene matshinka anyi manene mapima

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda
- Bintu bia mishindu mishilangane anyi mafuka

4- Mudimu wa mulongeshi

- a)- Mulongeshi aleja balongi Muanda. Abanyina mulongi yonso mazola a Muanda ne abapesha midimu idibo mua kuenza.
- b)- Mulongeshi alekele balongi badienzela midimu nkayabo kadi ikala ubakontonona.
- c)- Alongolola bilema bia mu muanda mu tshibungi.
- d)- Balongi benza «Didibidija nkayebe» ku muntu ku muntu anyi mu tshibungi

5- Dibala bintu ne mudimu wa kuenza nabi

Mulongeshi umvuija mudimu wa kuenza ne mazola a muanda.


Ne apinganununa pa muanda onso udi mua kumuambuluisha bua kulejaye difuanyikija, dilonga, dilongolola bintu

Bua difuanyikija nomba idi mpankatshi pa 0 ne 100, mulongeshi akeba mua kufikisha balongi ku didikebela mushindu wa kuenza bua kufuanyikija nomba 2.

6- Dilongolola pa meba ne dienza bidi biumvuija muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda eu udi ne tshia kuenjibua mu tusumbu tua 2 anyi 3.
- b) Muanda mujima baulongesha mu malongesha 3 a tusunsa 45 ku dilongesha. Bandamuna ku nkonko 1, 2 ne 3 mu dilongesha dia kumpala; ku nkonko 4 ne 5 mu dilongesha dibidi ne benza « Dibidija nkayebe » mu dilongesha 1

7- Dijandula dia Muanda

1. Luebe udi ne bibota 4; Mukuna udi ne bibota 3; Tshimpaka udi ne bibota 2 ne Beya udi ne tshibota 1.
2. Mukuna udi ne bungu bua bibote bupita ne Beya udi ne bungu bua bibote bukesa.
3. $3 > 2$; $3 < 4$; $4 > 1$
4. a) Tshimpaka
b) 23, 25, 32.
c) $25 < 32$; $32 > 23$, $23 < 25$
5. 

Dibidija nkayebe :

1. Mutshi wa tshibote 3 ke udi mupite bula ; mutshi wa tshibote 2 ke udi mupite buipi.
2. a) $54 > 28$ b) $9 < 17$ c) $79 < 97$
3. a) $19 > 15$ b) $25 > 23$ c) $37 < 41$ d) $50 > 46$ e) $51 < 58$ f) $10=10$ g) $45 > 40$
4.
 - a) $20 + 7 = 27$
 - b) $40 + 8 = 48$
 - c) $30 + 3 = 33$
 - d) $70 + 9 = 79$
 - e) $90 + 0 = 9$
 - f) $10 + 6 = 16$
 - g) $50 + 4 = 54$
 - h) $60 + 5 = 65$
 - i) $80 + 2 = 82$
 - j) $40 + 1 = 41$

MUANDA 3 – DINAYA DIA NOMBA

1- Bipatshila bia ndongeshilu mu Muanda

Muanda ewu udi ne kipatshila ka kulongesha balongi mua kusuikakaja ne mua kusulakaja nomba mishadila kudi 100 mu tshipeta tshia disangisha

2- Bipatshila bia ndongamu

Bipatshilabia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntudijilu, mulongi ajandula kakuyi lutatu mianda idi imulomba bua:

2- Kusangisha, kumbushila, kuvudija, kuabanya nomba idi pankatshi pa 0 ne 100.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba

4- Kusuikakaja ne kusulakaja nomba kumbukila ku 0 too ne ku 100.

Bienzedi bia Makumi

Kusuikakaja ne kusulakaja nomba kumbukila ku 0 too ne ku 100.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a Muanda

- Tubeji tua matumba 4 malulame ne nseka 4 ya bula bumue pamue ne tubeji tua bijengu tufunda nomba mishilangane....

- Tumabua anyi tubuikidiji.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda. Ashintakaja nabo ngenyi.

- Alekela balongi bandamuna ku nkonko mishilangane bilondeshila tusumbu.

- Akula bua kubumvuija amu padibo bapangila.

5- Dibala bintu ne mudimu wa kuenza nabi

Mulongi nzuji udi ne tshia kuikala ne tubeji tufunda nomba mishilangane idiye ne tshia kuleja bakuabo : tua matumba 4 malulame ne nseka 4 ya bula bumue ne tua bijengu

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

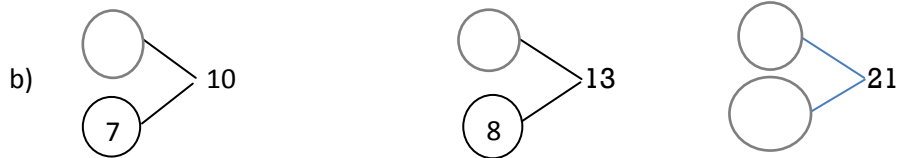
- Muanda eu udi ne tshia kuenjiba mu tusumbu;

- Udi mua kuikala muenza mu malongesha 2 a tusunsa 45 ku dilongesha . Dilongesha 1 bua Muanda ne dikuabo bua «Dibidija nkayebe».

7- Dijandula dia Muanda

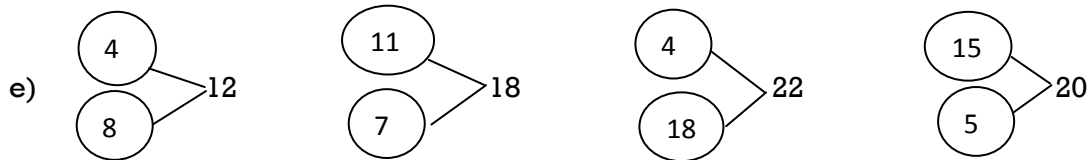
1.

a) $20 \begin{cases} 10 + 10 \\ 15 + 5 \\ 11 + 9 \end{cases}$ ou $\begin{matrix} 12 + 8 \\ 14 + 6 \\ 4 + 16 \end{matrix}$ ou $\begin{matrix} 19 + 1 \\ 18 + 2 \\ 17 + 3 \end{matrix}$



c) $15 \begin{cases} 10 + 5 \\ 11 + 4 \\ 14 + 1 \end{cases}$ ou $\begin{matrix} 9 + 6 \\ 8 + 7 \end{matrix}$ ou $\begin{matrix} 13 + 2 \\ 12 + 3 \end{matrix}$

d) $19 \begin{cases} 10 + 9 \\ 11 + 8 \\ 12 + 7 \end{cases}$ ou $\begin{matrix} 13 + 6 \\ 14 + 5 \\ 15 + 4 \end{matrix}$ ou $\begin{matrix} 16 + 3 \\ 17 + 2 \\ 18 + 1 \end{matrix}$



2.

$$3 + 7 = 3 + 2 + 5 = 5 + 5 = 10$$

$$5 + 8 = 5 + 5 + 3 = 10 + 3 = 13$$

$$4 + 8 = 2 + 2 + 8 = 2 + 10 = 12$$

$$11 + 7 = 8 + 3 + 7 = 8 + 10 = 18$$

$$4 + 18 = 2 + 2 + 18 = 2 + 20 = 22$$

$$15 + 5 = 10 + 5 + 5 = 11 + 10 = 20$$

$$9 + 12 = 9 + 1 + 11 = 10 + 11 = 21$$

Dibidija nkayebe :

1.

$7 =$	$20 =$	$30 =$
$\begin{array}{c} + \\ \hline \end{array}$	$\begin{array}{c} + \\ \hline \end{array}$	$\begin{array}{c} + \\ \hline \end{array}$
$\begin{array}{ l} 3 \\ 5 \\ 5 \\ 7 \end{array} \begin{array}{ l} 4 \\ 2 \\ 2 \\ 0 \end{array}$	$\begin{array}{ l} 12 \\ 7 \\ 2 \\ 6 \end{array} \begin{array}{ l} 8 \\ 13 \\ 18 \\ 14 \end{array}$	$\begin{array}{ l} 17 \\ 24 \\ 21 \\ 19 \end{array} \begin{array}{ l} 13 \\ 6 \\ 9 \\ 11 \end{array}$

2.

a) $14 = 7 + 7$

b) $12 = 4 + 8$

c) $9 = 0 + 9$

3. a) $4 + 9 = 13$

d) $7 + 8 = 15$

g) $9 + 5 = 14$

d) $4 = 1 + 3$

e) $10 = 5 + 5$

f) $3 = 1 + 2$

b) $18 + 7 = 25$

e) $25 + 6 = 31$

h) $53 + 7 = 60$

g) $2 = 1 + 1$

h) $8 = 2 + 6$

i) $10 = 5 + 5$

c) $36 + 47 = 83$

f) $19 + 32 = 51$

i) $74 + 19 = 93$

j) $20 = 8 + 12$

k) $40 = 39 + 1$

l) $60 = 45 + 15$

MUANDA 4 – KABUATU KA TSHIELA

1- Bipatshila bia ndongeshilu mu Muanda

- Muanda eu udi ne kipatshila ka kulongesha balongi mua kusunguluja mishindu ya milongo ne mua kuyela.
- Udi wipatshila kabidi bua kulongesha balongi mua kumanya bipapu bu mudi tshipapu tshia matumba malulame 4 ne nseka 4 ya bula bumue, tshipapu tshia matumba 4 malulame, tshipapu tshia matumba 3 ne tshipapu tshia tshijengu, ne mua kubizola.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntudijilu, **mulongi neajandula kakuyi lutatu mianda idi imulomba bua :**

5. Kubunya, kukosoloja mu tutupa, kuzola bipapu ne bintu bilundamane;
6. Kuela mishonyi ne tshianza anyi ne kaludiki

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba

2. Kubala ne kufunda nomba kumbukila ku 0 too ne ku 100

Dilonga dia bipapu ne bintu bilundamane

1. Kujadika ne kuela milongo ya mishindu mishilangane : milongo milulame, tutupa tua miulongo mululame, milongo mikobama, milongo milulame mitshibulula, milongo ya nsongo mituangane, milongo ya nsongo 2
2. Kujadika, kumanya bipapu ne bintu bilundamane mu muaba kampana (tshipapu tshia matumba 4 malulame ne nseka 4 ya bula bumue, tshipapu tshia matumba 4 malulame, tshipapu tshia nseka 3, tshipapu tshia tshijengu)
3. Kubunya, kukosolola mu tutupa, kufita mekala, kulamika, kukudimuna, kuambakaja bipapu ne bintu bilundamane bilonga

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a Muanda

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda.
- Abela nkonko bua kujadika ne mbumvua bimpe muanda.
- Balongi benza dijingulula dia muanda mu tusumbu tua 2 anyi 3.
- Balongolola bilema mu tshibungi pa disunguluja dia mishindu mishilangane ya milongo, ya bipapu ne ya bintu bilundamane bilonga ne mushindu wa kubizola

5- Dibala bintu ne mudimu wa kuenza nabi padibio bikengedibua

Mulongi yonso udi ne tshia kuikala ne mabeji a tuzubu anyi kaye ka mabeji a tuzubu ; bua tshianana, ikala ne mazola mamana kuenza ku luseka adiyе mua kutentula bua kuenza buatu anyi nzubu.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

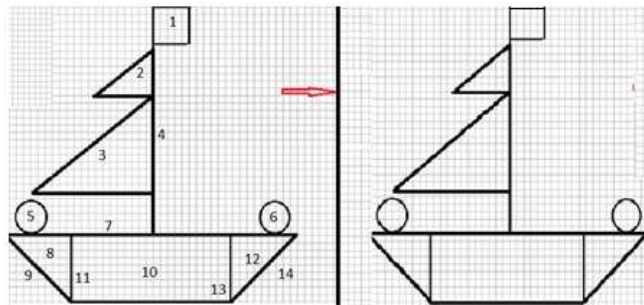
- a) Muanda eu bawenza mu tusumbu tua 2 anyi 3.
- b) Muanda mujima bawenza mu malongesha 2 a tusunsa 45 ku dilongesha ne «Dibidija nkayebe» mu dilongesha 1 dia tusunsa 45.

6- Mumvuija, didibingisha, mibelu anyi difila menji

- Mulongeshi aleja balongi ne tshipapu tshia matumba 4 malulame ne nseka 4 ya bula bumue, tshipapu tshia matumba 3, tshipapu tshia matumba 4 malulame ... mbienza ne milongo milulame mitshibulula ne mituangaja nsongo.
- Balongi bakeba mua kuleja dishilangana diabi.

8- Dijandula dia Muanda

- 1. a) Kuangatshila ku mazola a balongi:

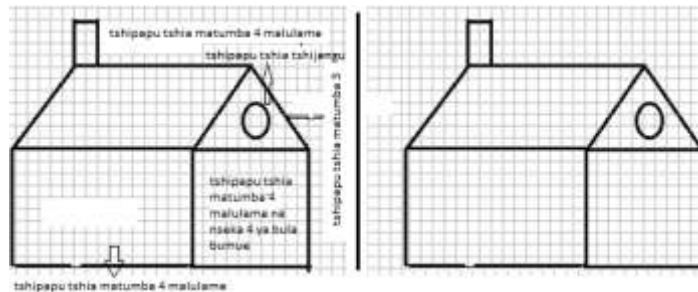


- b) Kaludiki ne ntanta wa dinungu bua kuzola nabi bimfuanyi bishilangane
- c) Badi mua kukebulula tutupa tua milongo tululame 19 kuangatshila ku nsongo mishilangane
- d) Milongo mikobama ya nsongo mituangane, milongo milulame mitshibulula ne milongo ya tshinsanga ya nsongo mituangane.

- 2. Kuangatshila ku mazola a balongi:

Dibidija nkayebe

- 1.



- 2. Mazola onso 2 adi mateka pa bula bua momumue ne mulongo muabuluji mu bitupa 2 bifuanangane ne mazola aa adi mua kuambakajangana mu dibunya bilondeshila mulongo eu.

MUANDA 5 – BIA KUZOLA NABI

1- Bipatshila bia ndongeshilu mu Muanda

Muanda eu udi ne kipatshila ka kuambuluisha balongi bua kujadika ne kuvuluka bipapu ne bintu bilundamane : tshipapu tshia matumba 4 malulame ne nseka 4 ya bula bumue, tshipapu tshia matumba 4 malulame, tshipapu tshia nseka 3 ne tshipapu tshia tshijengu.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntudijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua:**

5. Kubunya, kukosoloja mu tutupa, kuzola bipapu ne bintu bilundamane;
6. Kuela milongo ne tshanza anyi ne kaludiki.

Bipatshila bia pabuabi

2. Kujadika, kumanya bipapu ne bintu bilundamane mu muaba kampanda (tshipapu tshia matumba 4 malulame ne nseka 4 ya bula bumue, tshipapu tshia matumba 4 malulame, tshipapu tshia nseka 3, tshipapu tshia tshijengu) ;
4. Ne tutshi tululame anyi ne mionji, kuibaka bipapu bia matumba 4 malulame ne nseka 4 ya bula bumue, bipapu bia matumba 4 malulame, bipapu bia nseka 3 ne bipapu bia tshijengu.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a Muanda
- Ndambu wa tutshi tululame, wa tuyowa, ntanta wa dinungu, katshi ka ditumba dilulame, kaludiki.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda ne abumvuija bimpe nkonko idiye muela.
- Abateka mu tusumbu tua 2 anyi 3, bua bashintakaja ngenyi pa mushindu wa kujingulula muanda.
- Kunyima, mulongeshi abaludike mu dishintakaja dia ngenyi bua kubafikisha ku mandamuna mimpe.
- Dilongolola dia bilema badienza mu tshibungi.

5- Dibala bintu ne mudimu wa kuenza nabi

Mulongeshi alomba mulongi yonso bua enzela bintu bia mudimu bidiye nabi

6- Dilongolola pa meba ne dienza bidi biumvuija muanda

- Muanda eu udi ne tshia kulongeshibua mu malongesha 2 a tusunsa 45 ku dilongesha.

7- Mumvuija, didibingisha, mibelu anyi difila menji

Balongi bikala ne mamanya makumbane bua kujadika bipapu ne bintu bilundamane, bua kubifuanikija munkatshi muabi

8- Dijandula dia Muanda

1. Kuangatshila pa mazola menza kudi balongi.

2.

a)

	Bungi bua nsongo	Bungi bua matumba malulame	Bungi bua nseka	Bungi bua nseka ya bula bumue mu cm	Bungi bua nseka idi ipetangana mu disangu	Bungi bua nseka idi kayiyi ipetangana mu disangu
Tshipapu tshia matumba 4 malulame ne nseka ya bula bumue	4	4	4	4	4	2
Tshipapu tshia matumba 4 malulame	4	4	4	2	4	2

b) Eyowa, bualu tshidi ne matumba 4 malulame ne nseka 4 mikale ibidi ibidi ya bula bumue.

c) To, bualu nseka ya tshipapu tsha matumba 4 malulame kayena bula bumue to.

3. a) Kuangatshila pa mazola a balongi

b) Kulonda ne kulongolola mumvuija a balongi.

c) Tshipapu tshia tshijengu tshizola ne diyowa dinenne tshidi ne njingilukilu mupite bula.

4. Kulonda mibelu ya mu mukanda wa mulongi.

Dibidija nkayebe

1. à 3. Kulonda mibelu ya mu mukanda wa mulongi.

DIAMBULULA DIA TSHITUPA 1

1. 50, 52, 54, 56, 58, 60, 62, 64, 66, 68

2.



3. a) $35 + 21 = 21 + 35$

b) $28 - 17 < 40 - 28$

c) 7 misangu 2 > 4 misangu 3

4.

a)	
= 50	
25	25
32	18
9	41
33	17

b)

32 =

16 + 16

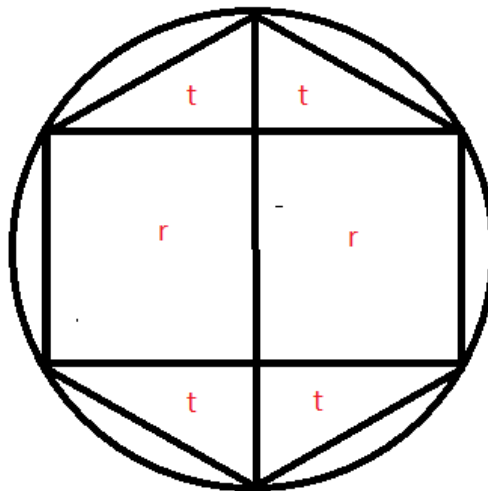
20 + 12

18 + 14

21 + 11

5.

a)



b) Kudi bipapu 2 bia matumba 4 malulame ne bipapu 4 bia nseka 3.

MUANDA 6 – TSHIBASA TSHIA MU KALASA

1- Bipatshila bia ndongeshilu mu Muanda

- Muanda ewu udi ne kipatshila ka kulongesha balongi mua kupima kakuyi kalema ne kaludiki ka 1 m
- Udi wipatshila kabidi bua kulongeshabalongi mua kukudimuna 1 m mu dm, 1 dm mu cm ne 1 m mu cm

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntudijilu, **mulongi ne ajandula**

kakuyi lutatu mianda idi imulomba bua:

1. Kubadika, Kutela dina, kufuanyikija bintu, kubala ne kufunda mu shiferi nomba kumbukila ku 0 too ne ku 100;
3. Kufuanyikija, kupima, kutshinka, kukeba mala, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba

2. Kubala ne kufunda nomba kumbukila ku 0 too ne ku 100

Manene mashilangane

1. Kufuanyikija manene matshinka anyi manene mapima
2. Kupima manene mashilangane ne bipiminu bia tshipungidi

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a Muanda

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda.
- Abela nkonko bua kujadika ne mbumvua bimpe Muanda.
- Balongi benza dijingulula dia muanda mu tusumbu tua 2 anyi 3.
- Mulongeshi atangila bimpe bua balongi bamona ne bipiminu bia tshipungidi bia kupima nabi bula bidiye ubaleja ne bintu bia kuenza nabi mpiminu eyi bidi ne mushinga.
- Dilongolola dia bilema badienza mu tshibungi bua kuleja balongi mushindu wa kukudimuna m 1 mu dm, dm 1 mu cm ne m 1 mu cm.
- Mulongeshi enzeja balongi midimu ya kupima bua amona ne mbakudimuna bimpe bipiminu bia tshipungidi

5- Dileja bintu bia mudimu ne mua kuenza nabi

Bipiminu bia mfukilu bia bula (bu mudi bintu bidibo benza nabi muanda) ne babilekela pa lukasa bua kupingaja bipiminu bia tshipungidi bia kupima nabi bula.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda eu baulongesha mu tusumbu tua 3 anyi 4.
- b) Muanda mujima baulongesha mu malongesha 3 a tusunsa 45 ku dilongesha ne dilongesha 1 dia tusunsa 45 bua midimu ya «Dibidija nkayebe»

7- Dijandula dia Muanda

- 1. too ne ku 3. Kuangatshila pa mandamuna a balongi.
- 4. Eyowa, badi mua kupima bula mu dm anyi mu cm.
- 5. Mu m1 mudi mubuela cm 10
- 6. Mu dm mudi mubuela cm 10 ne mu m 1 mudi mubuela 100 cm.

Dibidija nkayebe

1.

Bula bua :		Bula bua :
Nshinga webe wa tshisabata	>	Tshisabata tshiebe
Keleyo webe	=	Mutshi webe wa mukanda
Mukanda webe wa makumi	>	Keleyo webe mufika
Nshinga webe wa tshisabata	<	Kaludiki

2. 2 ne 3. Kuangatshila pa mangi a bipimu bienza kudi balongi

MUANDA 7 – NZUBU WA TSHIKA

1- Bipatshila bia ndongeshilu mu Muanda

Muanda eu udi ne kipatshila ka kulongesha balongi mua kufuanyikija manene. Udi wipatshila kabidi bua kuteka mu mulongo bintu bia bula bushilangane ne bipiminu bia bunene bushilangane.

2- Bipatshila bia ndongamu

Bipatshilabia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntudijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :**

- 3- Kufuanyikija, kupima, kutshinka, kupima bula bua bintu, mafuka ne bipiminu
- 5- Kubunya, kukosoloja mu tutupa, kuzola bipapu ne bintu bilundamane

Bipatshila bia pabuabi

Bienzedi bia Makumi

1- Kufuanyikija, kulongolola, kulonga, kulondakaja bintu, nomba kumbukila ku 0 too ne ku 100

Manene mashilangane

- 1- Kufuanyikija manene matshinka anyi manene mapima
- 2- Kupima manene mashilangane ne bipiminu bia tshipungidi.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a pa Muanda;
- Lukanu lua mupimi, kaludiki ka m 1, kaludiki ka mulongi;
- Bimuma;
- Bimua bibutshidi anyi bilaminu.

4- Mudimu wa mulongeshi

- 1) Mulongeshi aleja balongi muanda. Abalomba bua bajoja bimfuanyi ne benza midimu ya mu mukanda wa mulongi.
- 2) Alomba balongi bua bafuanyikija bintu ne babilongolola ;
- 3) Bua kujikija, Alomba balongi bua bumvuija masungula adibo benza

5- Dibala bintu ne mudimu wa kuenza nabi

Balongi badi bajoja, bafuanyikija ne batshinka bunene, bula anyi bondoka bua bintu.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (Meba , dilongolola dia kalasa, dienzela mu meba)

- a) Muanda eu bawenza mu tusumbu tua 2 anyi 3. Akumbaja Muanda 6, udi mubikidibua ne «Bula bua tshibasa tshia mu kalasa»
- b) Muanda mujima baulongesha mu dilongesha 1 dia tusunsa 45.

7- Mumvuija, didibingisha, mibelu ne difila menji

Muanda udi mua kulongeshibua ne dienzela bimanyinu bia mfuanyikijilu

8- Dijandula dia Muanda

1. a) Tshisanji tshia ditangalaja ngumu ne bindidimbi
b) Telefone.
c) Kuangatshila pa mandamuna a balongi.

2. a) Kaludiki kabanya mu bipiminu bia bula
b) Lukanu lua mupimi
c) Kaludiki kabanya mu bipimu bia bula, Lukanu lua mupimi, kaludiki ka m l.

Dibidija nkayebe

1. a), b) et c) : Kuangatshila pa mandamuna a balongi

2. a) tshipapayi, savuka, mandalina, dilala
b) dilala dia buanji
c) tshipapayi

3. Kalangi ka ml 30, mulangi wa l l, Mulangi wa dl 40, tshindundu tshia l 5

MUANDA 8 – KANDE NE BANA BENDE

1- Bipatshila bia ndongeshilu mu Muanda

Balongi balonga «bimue, bikuta ne muaba wa shiferi mu nomba
Balonga kabidi mua kubala ne kufunda nomba ku 0 too ne ku 100

2- Bipatshila bia ndongamu

Bipatshilabia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntudijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :**

1. Kujadika, Kubadika, Kutela dina, kufuanyikija bintu, kubala ne kufunda mu shiferi nomba kumbukila ku 0 too ne ku 100;
2. Kusangisha, kumbushila, kuvudija ne kuabanya nomba ya pankatshi pa 0 ne 100

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba

2. Kubala ne kufunda nomba kumbukila ku 0 too ne ku 100
4. Kumanya kutua muaba wa shiferi mushinga mu mfundilu wa nomba
5. Kusuikakaja ne kusulakaja nomba idi pankatshi pa 0 ne 100

Bienzedi bia Makumi

1. Kulongolola, Kusuikakaja, Kulonga, kulongolola bintu, nomba kumbukila ku 0 too ne ku 100
2. Kusangisha nomba 2

Nshinga

1. Kujandula nshinga mitekete idi itangila dibadika, dibala ne difunda nomba

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Tshiata tshia bimue ne makuta a nomba
- Mazola a muanda,
- Tshiata tshia mabulu a dibadika,
- Tumabua anyi tubuikidiji.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda :
- Muanda onso baujingulula kudi balongi mu tusumbu tua 2 anyi 3
- Mu disangisha bipeta bia midimu, mulongeshi ashindika miaba ya bimue ne ya bikuta ; ne aleje mushinga wabi mu nomba
- Enzeja dilongolola dia bilema mu tshibungi

5- Dilongolola pa meba ne dienza bidi biumvuija muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda ne baujingulula mu tusumbu tua 2 anyi 3 mu tusunsa 20 ne «Dibidija nkayebe» mu tusunsa 25.
- b) Muanda mujima baulongesha mu tusunsa 45.

6- Dijandula dia Muanda

1. Dituku dia kumpala:

- a) Kuangatshila pa mandamuna a balongi
- b) Tuye 14
- c) Kasumbu ka 10
- d) Tuye 4.
- e) $14 = 10 + 4$
 $= 1 D + 4 U$

D	U
1	4

2. Dituku dibidi

- a) Tuye 26 b) Tusumbu tua 10 c) Tuye 6 d) $26 = 20 + 6 = 2 D + 6 u$

D	U
2	6

3. $4 + 6 = 10$ (Tshikuta tshimue)

D	U
1	0

4. Mu tshipeta tshia disangisha mudi bikuta 4.

5. $4 D : 2 = 2 D$. Muana yonso ne apeta bikuta 2 bia tuye.

Dibidija nkayebe

1. Tusumbu 4 tua balongi 10 ne kushala balongi 6

D	U
4	6

2.

37=		99=		81 =												
<table border="1"><tr><td>D</td><td>U</td></tr><tr><td>3</td><td>7</td></tr></table>	D	U	3	7		<table border="1"><tr><td>D</td><td>U</td></tr><tr><td>9</td><td>9</td></tr></table>	D	U	9	9		<table border="1"><tr><td>D</td><td>U</td></tr><tr><td>8</td><td>1</td></tr></table>	D	U	8	1
D	U															
3	7															
D	U															
9	9															
D	U															
8	1															

3.

$3 D + 7 U = 37$

$9 D + 9 U = 99$

$8 D + 1 U = 81$

$5 D + 3 U = 53 U$

$8 D + 9 U = 89 U$

$6 D + 4 U = 64 U$

4. a) Tulavuanda 30 ne nzumiji 10

b) Bintu bia disumbisha 40

MUANDA 9 – MUTSHI WA MANGEYA WA TSHIALU

1- Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka ne balongi bamanya kusangisha ne kumbusha nomba ibidi idi panshi pa 100. Udi wipatshila kabidi bua dienza dia tshinsanga mu disangisha dia nomba 2 mikala pakantshi pa 0 ne 100.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilongesha dia makumi mu tshidia tshia ntudijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :**

1. Kujadika, Kubadika, Kutela dina, kufuanyikija bintu, kubala ne kufunda mu shiferi nomba ku 0 too ne ku 100;
2. Kusangisha, kumbushila, kuvudija ne kuabanya nomba ya pankatshi pa 0 ne 100

Bipatshila bia pa buabi

Kubala ne kufunda nomba

- 1- Kusangisha ne kusulakaja nomba ku 0 too ne ku 100

Dienzela dia makumi

- 2- Kusuikakaja ne kusulakaja tshipeta bintu ne nomba ku 0 too ne 100
- 3- Kuenza tshisanga

Nshinga

2. Kusangisha anyi kuamba ne miaku misunguluke nshinga ya pa nomba idi muinshi mua 100 ne kuyijandula.

1- Bintu bidiye nabio pa dienzela ne Muanda

- Mazola a muanda;
- Mangeya.

2- Mudimu wa mulongeshi

- a- Mulongeshi aleja balongi muanda ne afile midimu ya kuenza ;
- b- Alekela balongi benza midimu yabo kadi ikala ubakontonona ;
- c- Alongolola muanda ;
- d- Madibidija baenza kudi mulongi nkayenda anyi mu tusumbu.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

Mulongeshi enzela bintu bilongolola ne biakaja. Alekela balongi bua badienzelabi.

3- Dilongolola pa meba ne dienza bidi biumvuija muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Mudimu ne wenjibua mu tusumbu tua balongi 2 anyi 3.
- b) Muanda eu ne wenjibua mu malongesha 2 a tusunsa 45 ku dilongesha.

4- Dijandula dia muanda

- 1- a) mangeya 30
b) $25 + 5 = 30$
c) Diandamuna dia balongi

- 2- $30 + 8 = 38$

- 3- $38 - 4 = 34$

- 4- $34 - 3 = 31$

- 5- a) disangisha ne diumbusha
b) +, -
c) Tshipeta ne dishilangane





Dibidija nkayebe

- 1- a) 30
b) 30
c) 40
d) 40

- 2- a) $16 - 7 = 9$
b) $7 - 2 = 5$
c) $9 + 5 = 14$

- 3- a) 39
b) 77
c) 44
d) 24
e) 63
f) 17
g) 48
h) 28
i) 100
j) 40

4-

a) $28 + 32$		32 + 72
b) $72 + 32$		32 + 28
c) $48 - 14$		55 + 17
d) $72 + 0$		27 + 7

MUANDA 10 – TSHIPANYISHILU TSHIA KANYEBA

1- Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kuleja balongi mua kukudimuna ne kuenzela mfualanga ya Ditunga dia Kongu wa Mungalata.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua malongesha a makumi mu tshidia tshia ntudijilu, mulongi ne enza kakuyi lutatu mianda idi imulomba bua:

1. Kufuanyikija, kutshinka ne kuenzela mfualanga ya ditunga.

Bipatshila bia pa buabi

Manene mashilangane

1. Kukudimuna ne kuenzela bidikijilu bia mfualuanga.

3. Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mabeji a mfualanga 50 Fc ne a 100 Fc.
- Mazola a muanda

3- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda
- Afila midimu ya muanda kudi balongi pa dieyemena ku mazola a mu mukanda wa mulongi.
- Enzeja balongi madibidija pa bienzedi 4 bia makumi : disangisha, diumbushila, divundija ne diabanya.
- Dikudimuna dia mabeji a mfualanga a 100 Fc mu mabeji 2 a 50 Fc nedienjibua bu dinaya.

4- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Tusumbu tua balongi 2 anyi 3
- b) Muanda eu bawenza mu dilongesha dia tusunsa 45.

5- Dijandula dia Muanda

- | | | |
|---------------------------|--------------------------------|-------------|
| 1- a) 50 FC, 10 bisikita. | 2- a) 50 Fc | 3- a) 50 Fc |
| b) dibeki 1 dia 50 FC | b) misangu 2 ya 50 Fc = 100 Fc | b) 100 Fc |
| c) 100 Fc | | c) 100 Fc |
| d) 2 mabeji 2 a 50 Fc | | |

Dibidija nkayebe

- a) 100 Fc
- b) Mabeji 2 a 50 Fc
- c) 50 Fc
- d) 100 Fc

MUANDA 11 – TSHILONGELU TSHIA MU KAMAYI

1. Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kuleja balongi mua kusulakaja anyi kusuikakaja mu divudija nomba idi pakantshi pa 0 ne 100.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua malongesha a makumi mu tshidia tshia ntuadijilu, mulongi ne ajandula kakuyi lutatu Mianda idi imulomba bua se:
Kusangisha, kumbusha, kuvudija ne kuabanya nomba idi pakantshi pa 0 ne 100.

3. Bipatshila bia pa buabi

Dibala ne difunda bishiferi

1. Kubadika mu bukese ne ku bunene nomba ku 0 too ne ku 100.
2. Kubala ne kufunda nomba ku 0 too ne ku 100.
3. Kubadika mu tusumbu tua 2, 3, 4, 5, ... nomba idi pakantshi pa 0 ne 100.
4. Kusuikakaja ne kusulakaja nomba ku 0 ne 100.

Bienzedi bia Makumi

1. Kubadika tshipeta tshia disangisha, tshia diumbushila, tshia divudija ne tshia diabanya nomba 2 kakuyi tshishadila.
2. Kusuikakaja ne kusulakaja mu kusangisha anyi mu kuvudija bintu anyi nomba ku 0 too ne ku 100.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a mu muanda.
- Nsoka ne bibuikidiji bidi bileja tusheta tua mpemba.

4. Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda ;
- Alekela balongi bandamuna ku nkonko 1, 2 ne 3. Dilongolola dia bilema badenza mu tshibungi ;
- Aleja balongi mua kusuikakaja ne kusulakaja 36 ne 72. Udi mua kuenzejai balongi midimu ya didibidija pa disuikakaja ne disulakaja dia nomba mikuabo.
- Ashintakaja ngenyi ne balongi pa mishindu mishilangane ya disuikakaja
- Apesha balongi mutantshi wa diba mukumbane bua midimu ya mu tshisumbu

5- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda eu ne wenjibua mu tusumbu tua balongi 2 anyi 3 nansha ku mulongi.
- b) Muanda eu ne baujandula mu malongesha 3 a tusunsa 45 ku dilongesha.
- c) Tshitupa tshia midimu ne atshienzeja kudi mulongi nkayende
- d) Dilongolola dia bilema ne dienjibua mu tshibungi.

5. Dijandula dia Muanda

1. a) Mulongi asangisha kabidi tusheta tua mpemba mitoka mu mishiki mikubangane 9.
b) kudi tusheta 8 pa mushiki

$$\begin{array}{ll} \text{c) } 36 = 9 \times 4 & 36 \div 9 = 4 \\ & = 4 \times 9 & 36 \div 4 = 9 \end{array}$$

2. a) Mulongi asangisha tusheta tua mpemba ya mekala mu mishiki mikumbanagane 9
b) Mushiki onso udi ne tusheta 4

$$\begin{array}{ll} \text{c) } 72 = 9 \times 8 & 72 \div 9 = 8 \\ & = 8 \times 9 & 72 \div 8 = 9 \end{array}$$

3. a) Mulongi abala bungu bua tusheta 72 mu tusumbu tua 2, 3, 4 et 6

- b) Bua kupeta 72, bidi bikengela tusumbu: 36 tua 2, tusumbu 24 tua 3, tusumbu 18 tua 4 ne tusumbu 12 tua 6

c)

72 bu tshipeta	
12	6
6	12
18	4
8	9
2	36

36 bu tshipeta	
9 x 4	= 36
12 x 3	= 36
18 x 2	= 36
4 x 9	= 36
12 x 3	= 36

Dibidija nkayebe

- 1- Bua kupeta 24 bu tshipeta :

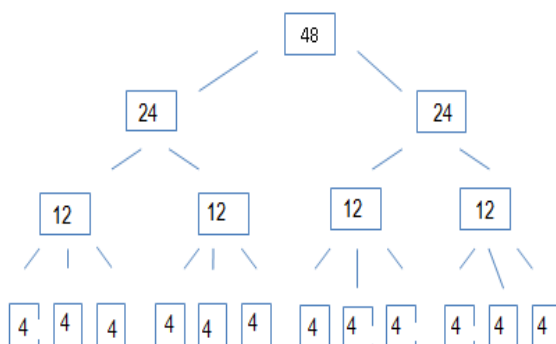
24 =	
3	8
4	6
2	12
6	4
12	2

= 24	
6 x 4	= 24
2 x 12	= 24
12 x 2	= 24
4 x 6	= 24
24 x 1	= 24

- 2-

- | | | |
|---------------------|---------------------|---------------------|
| a) $56 \div 4 = 14$ | d) $64 \div 2 = 32$ | g) $99 \div 11 = 9$ |
| b) $56 \div 2 = 28$ | e) $64 \div 4 = 16$ | h) $99 \div 3 = 33$ |
| c) $56 \div 8 = 7$ | f) $64 \div 8 = 8$ | i) $99 \div 9 = 11$ |

- 3-



$$48 \div 2 = 24 \quad 2 \times 24 = 48$$

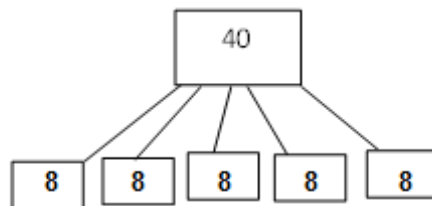
$$48 \div 4 = 12 \quad 12 \times 4 = 48$$

$$48 \div 12 = 4 \quad 4 \times 12 = 48$$

DIAMBULULA DIA TSHITUPA 2

- 1) 1. Madiotu 40
 2. a) $60 + 20 = 80$ madiotu
 - b) $80 - 20 = 60$ madiotu
- 2)
 - a) $35 + 65 = 100$
 - b) $95 - 20 = 75$
 - c) $88 - 40 = 48$
 - d) $65 - 20 = 45$
- 3) $2 \times 50 = 100$
- 4) $50 \times 2 = 100$ tusheta tua mpemba
- 5)
 - a) $66 : 2 = 33$
 - b) $99 : 9 = 11$
 - c) $64 : 8 = 8$
- 6) Kudimuna :
 - a) $7 \text{ m} = 70 \text{ dm}$
 - b) $9 \text{ m } 3 \text{ dm} = 93 \text{ dm}$
- 6) Mulongeshi MATULU mmuteka balongi 50 mu mulongo bua dilongesha dia dikolesha mubidi.
 - a) balongi 10 ku mulongo
 - b) balongi 8 ku mulongo
- 8)

$$40 : 5 = 8 \qquad 5 \times 8 = 40$$



9) Kumbaja: a) $45 = 4 \text{ D} + 5 \text{ U}$

b) $38 \text{ U} = 3 + 8 \text{ U}$

MUANDA 12 – DITANDA DIA DITELELA BILAMBA DIA MALU

1. Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kuleja balongi mua kuenza divudija ne diabanya nomba idi muinshi mua 100.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua malongesha a makumi mu tshidia tshia ntudijilu, mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua:

- Kusangisha, kumbushila, kuvudija ne kuabanya nomba idi pakantshi pa 0 ne 100.

Bipatshila bia pa buabi

Bienzedi bia Makumi

- Kubadika tshipeta tshia disangisha, diumbushila, divudija ne diabanya nomba 2 kakuyi tshishadila.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda.

4-Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda ;
- Alekela balongi bandamuna ku nkonko ;
- Ambuluisha balongi bua kulongolola bilema amu padiku lutatu.

5- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

Muanda eu wenjibua mu malongesha 3 a tusunsa 45 ku dilongesha, dilongesha 1 bua dijandula muanda ne malongesha 2 bua « Dibidija nkayebe »

6. Diumvuija, didibingisha, mibelu anyi difila menji

Mandamuna a balongi

7. Dijandula dia Muanda

Bipeta bia dimue 1	2	9	3	10	12
Bipeta bia ma dimue 2	4	18	6	20	24

 $\times 2$

Bipeta bia dimue 1	5	1	3	4	18
Bipeta bia ma dimue 3	15	3	9	12	36

 $\times 3$

2. Tentulula ne kumbaja nomba ya bilamba bitela mu madimue 3 ne madibidi 2.

	Bipeta bia madimue 3	Bipeta bia madibidi 2	Bionso
Nzumiji	6	10	16
Nkanku	27	2	29
Tuputula	9	6	15
Mipanu	30	8	38
Bitambala	36	36	72

3.

a) Bipeta bia madisatu 2

	Mitshu	Kanzu	Tuputuba	Micani	Bilambala
Bipeta bia dituku dia disatu dimue	6	4	5	3	10
Bipeta bia ma disatu 2	12	8	10	6	20

b) Bipeta bia madinayi 3

	Mitshu	Kanzu	Tuputuba	Micani	Bilambala
Bipeta bia dituku dia disatu dimue	6	3	4	5	12
Bipeta bia ma disatu 2	18	9	12	15	36

Dibidija nkayebe

1) YOMBO udi ne nzolo 4 ne mabata 5 ; Bimuna bienda bidi biela makela, tshimuna tshionso tshidi tshiela dikela dimue ku dituku. Panyima pa matuku 3 udi wangula dikela dimua ku:

- a) ...12..... makela a nzolu
- b) ...15.....makela a mabata

2) Katshi kamua kadi ne mushinga kayi? Mfualanga 50 Fc

3) Keleyo 6

4) Mandamuna a kumbaja :

- a) $2 \times \dots 3 = 6$
- b) $4 \times \dots 3 = 12$
- c) $7 \times \dots 3 = 21$
- d) $6 : \dots 6 = 1$
- e) $25 : \dots 5 = 5$
- f) $16 \dots : 8 = 2$

5) Ku tshitutuku udi upuisha litele 9 ya kasolonyi ku dituku.

a)

Bungi bua matuku	Kasoloni mu litele
1	9
2	18
3	27
4	36
5	45
6	54
7	63
8	72
9	81
10	90

$\times 9$

b)

Bungi bua matuku	Kasoloni mu litele
10	80
9	72
8	64
7	56
6	48
5	40
4	32
3	24
2	16
1	8

$: 8$

MUANDA 13 – DITEMBANGANA LUBILU MU TSHILONGELU

1- Bipatshila bia ndongeshilu mu Muanda

- Muanda eu udi ne kipatshila ka kulongesha balongi mua kuenzela bipimu bia bule
- Udi wipatshila kabidi bua kulongesha balongi mua kukudimuna bungi bua metele mu santimetele.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilongesha dia makumi mu tshidia tshia ntuadijilu, mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua:

3. Kufuanyikija, kupima, kutshinka, kukeba bula, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga.

Bipatshila bia pa buabi

Bienzedi bia Makumi

4. Kupeta misangu 2 ya mangi, tshia bibidi tshia, tshia misangu inayi ya, tshia binayi tshia, tshia misangu isatu ya, tshia bisatu tshia nomba udi munkatshi mua 0 ne 100.

Manene mashilangane

1. Kufuanyikija manena matshinka ne manena malelela
2. Kupima manene mashilangane ne bipiminu bia tshipungidi ;
6. Kupeta misangu 2 ya mangi, tshia bibidi tshia, tshia misangu inayi ya, tshia binayi, tshia misangu isatu ya, tshia bisatu tshia tshia bule, tshia bungi bua bintu bienguluke anyi tshia majitu.

Nshinga

Kusulakaja nshinga miela pa tshia misangu ibidi ya, tshia bibidi tshia, tshia misangu inayi ya, tshia binayi tshia, tshia misangu isatu ya, tshia bisatu tshia nomba udi munkatshi mua 0 ne 100 anyi tshia bunene bua tshintu.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda;
- Mutshi wa metele umue ;
- Lukanu lua metele 10.

4- Mudimu wa mulongeshi

- Mulongeshi aleja muanda kudi balongi ;
- Abele nkonko bua kujadika balongi ne mbunvua muanda bimpe.
- Mulongeshi alomba balongi bua bapima bule bua lupangu lua kalasa;
- Balongi benza dijingulula dia muanda mu tusumbu tua 2 anyi 3 ;
- Dilongolola dia bilema badienza mu tshibungi.
- Ateta kubalomba bua bakudimuna mu dekametele bule bupima mu metele, bakudimuna mu desimetele bule bupima mu dekametele, anyi bakudimuna mu santimetele bule bupima mu desimetele.
- Mulongeshi enzeja balongi midimu ya kupima bua kumona ne mbakudimuna bimpe bipiminu ebi bia tshipungidi

5- Dibala bintu ne mudimu wa kuenza nabi

Mulongeshi enzela mutshi wa metele umue bua kukontonona dipima dia bule bua lupangu lua kalasa ne kujadika dikudimuna dia bipiminu.

5- Dilongolola pa meba ne dienza bidi biuvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

6- Muanda eu udi ne tshia kuwenjibua mu tusumbu tua 2 anyi 3.

7- Muanda mujima bawenzaka mu malongesha 2 a tusunsa 45 ku dilongesha ne mudimu wa «Dibidija nkayebe» mu dilongesha 1 dia tusunsa 45.

7- Mumvuija, didibingisha, mibelu anyi difila menji

Mbipite buimpe bua kulongesha bule bua bintu mu muanda umue bua se balongi bumvua bimpe.

8- Dijandula dia Muanda

- a) Kuangatshila ku mandamuna a balongi.
b) 10m
c) Kuangatshila ku mandamuna a balongi.
d) Lukanu lua metele 10 ke ludi lukumbanyina bua kupima nalu bule bua mpangu.

2.

$$4 \text{ dam} = 40 \text{ m} \qquad 48 \text{ m} = 4 \text{ dam} + 8 \text{ m}$$

$$9 \text{ dam} = 90 \text{ m} \qquad 45 \text{ m} = 4 \text{ dam} + 5 \text{ m}$$

$$6 \text{ dam} = 60 \text{ m} \qquad 98 \text{ m} = 9 \text{ dam} + 8 \text{ m}$$

a) MFUAMBA

b) KAPINGA

c) MFUAMBA 90m, MULENDA 60m, BUKASA 48m, MULANGA 45m, KALUMA 40m, KAPINGA 28m

Dibidija nkayebe

1.

$$1 \text{ dm} = 10 \text{ cm}$$

$$4 \text{ dm} = 40 \text{ cm}$$

$$4 \text{ dm} + 5 \text{ dm} = 90 \text{ cm}$$

$$31 \text{ dm} = 3 \text{ dm} + 1 \text{ cm}$$

$$2 \text{ dm} = 20 \text{ cm}$$

$$\frac{1}{2} \text{ dam} + 5 \text{ m} = 10 \text{ m}$$

2.

$$\text{Misangu 4 ya 5 m} = 20 \text{ m} = 2 \text{ dam}$$

$$\text{Tshia bisatu tshia 60 m} = 20 \text{ m} = 2 \text{ dam}$$

$$\text{Misangu ibidi ya 20 m} = 40 \text{ m} = 4 \text{ dam}$$

$$\text{Misangu isatu ya 10 m} = 30 \text{ m} = 3 \text{ dam}$$

3. Nshinga :

$$L = \frac{1}{4} \text{ de } 100 \text{ m} = 25 \text{ m}$$

$$l = \frac{1}{4} \text{ de } 40 \text{ m} = 10 \text{ m}$$

MUANDA 14 – DIDIA DIA MU DINDA

1- Bipatshila bia ndongeshilu mu Muanda

- Muanda eu udi ne kipatshila ka kuleja balongi mua kulonga mua kuenzele bipimu bia bintu bienguluke.
- Udi wipatshila kabidi bua kulongesha balongi mua kukudimuna litele mu desilitele.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilongesha dia makumi mu tshidia tshia ntudijilu, **mulongi ne ajandula kakuyi lutatu Mianda idi imulomba bua :**

3. Kufuanyikija, kupima, kutshinka, kukeba mala, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga.

Bipatshila bia pa buabi

Manene mashilangane

1. Kufuanikija manene matshinka ku manene mapima ne tshipiminu.
2. Kupima manene mashilangane ne bipiminu bia tshipungidi.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda;
- Biasu bia bunene bushilangana.

4- Mudimu wa mulongeshi

- a) Mulongeshi aleja balongi muanda.
- b) Ela balongi nkonko bua kujadika ne mbumvua bimpe muanda.
- c) Balongi bajandula muanda mu tusumbu tua 2 anyi 3.
- d) Mulongeshi atangila bimpe bua balongi benzela anyi bapima ne bipiminu bia tshipungidi.
- e) Alomba balongi bua benzela diela dia bintu bienguluke mu biasu bishilangana. Mbipite buimpe kuenzela mayi pamutu pa mabela.

5- Dibala bintu ne mudimu wa kuenza nabi

Mbipite buimpe kuenzela mayi pamutu pa mabele bua kubenga kuangata meba mapite bua kushintulula bipiminu.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda eu bajandula mu tusumbu tua 2 anyi 3.
- b) Balongi bajandula muanda mujima mu dilongesha 1 dia tusunsa 45 , dilongesha dibidi ne dikale bua kuandamuna ku nkonko ya mu tshitupa tshia « Dibidija nkayebe ».

7- Dijandula dia Muanda

1. Bibalu (nzaba) 10
2. 10 dl
3. Bidi bikengela kumbusha 2 dl bua muntu yonso anua 2 dl ya mabele.
4. Kuangatshila ku mandamuna a balongi.

5. Kudimuna mu desilitele :

$$\begin{array}{ll} 1 \ell = 10 \text{ dl} & 36 \text{ dl} = 3 \ell + 6 \text{ dl} \\ 2 \ell = 20 \text{ dl} & 24 \text{ dl} = 2 \ell + 4 \text{ dl} \end{array}$$

Dibidija nkayebe :

1. Kumbaja :

$14 \text{ dl} + 6 \text{ dl}$	$= 2 \ell$
$2 \text{ dl} + 38 \text{ dl}$	$= 4 \ell$
$19 \text{ dl} - 9 \text{ dl}$	$= 1 \ell$
$7 \text{ dl} + 13 \text{ dl}$	$= 2 \ell$
$5 \text{ dl} + 25 \text{ dl}$	$= 30 \text{ dl}$
$17 \ell - 70 \text{ dl}$	$= 10 \ell$
$10 \ell - 13 \text{ dl}$	$= 87 \text{ dl}$
$25 \ell + 6 \ell$	$= 31 \ell$

2.

b) $20 - 3 - 9 = 8$

MUANDA 15 – TSHIPANYISHILU TSHIA BIAKUDIA TSHIA NDAYA

1- Bipatshila bia ndongeshilu mu Muanda

Muanda eu udi ne kipatshila ka kulongesha balongi mua kutshinka, kufuanyikija, kuenzele bipimu bia bunene mu bienzedi bia makumi.

2- Bipatshila bia ndongamu

Bipatshilabia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntuadijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :**

4. Kufuanyikija, kupima, kutshinka, kukeba mala, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga.

Bipatshila bia pa buabi

Bienzedi bia Makumi

2. Kusangisha, kumbushila, kuvudija anyi kuabanya nomba 2.

4. Kupeta misangu ibidi, tshia bibidi tshia, misangu inayi, tshia binayi tshia, misangu isatu, tshia bisatu tshia nomba wa munkatshi mua 0 ne 100

9. Kupeta nomba wa kusakidila ku mukuabo bua kupeta 100 ne ku mubandisha ku tshikuta tshishadila anyi tshibandila.

Manene mashilangane

1. Kufuanyikija manene matshinka ku manene mapima ne tshipiminu.

2. Kupima manene mashilangane ne bipiminu bia tshipungidi

6. Kupeta misangu ibidi ya mangi, tshia bibidi tshia, misangu inayi, tshia binayi, misangu isatu, tshia bisatu tshia, bule, bungi bua bintu bienguluke anyi tshia majitu.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda(1) et (2) ;
- Tshipiminu tshia majitu ;
- Bipimu bia tshipungidi

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi Muanda ;
- Ashintakaja ngenyi ne balongi pa muanda eu ;
- Abalomba bua kufuanyikija bunene bua bintu bishilangana ne Abaleja mua kuenzele tshipiminu tshia majitu.
- Abalombola mu dipima dia majitu.

5- Dileja muakuenza mudimu mudibi bikengedibua

Dienzele tshipiminu tshia majitu ne bipimu bia tshipungidi

Bumvuija bujitu bulelela bua tshintu tshionso tshipima bua kumona mua kubifuanyikija.

7- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

Balongi ne benze muanda eu mu tusumbu tua 2 anyi 3.

Muanda mujima baujandula mu malongesha 2 a tusunsa 45 ku dilongesha, ne bandamuna nkonko ya tshitupa tshia kumpala mu dilongesha 1 dia tusunsa 45, pashishe ya tshitupa tshibidi ne ya « Dibidija nkayebe» mu dilongesha 1 dia tusunsa 45.

8- Mumvuija, didibingisha, mibelu anyi difila menji

- Dienzela dia tshipiminu kudi balongi didi dikengedibua.
- Bidi bimpe balongi nkayabo badipimina majitu a bintu bua ku biteka bimpe mu mulongo bilondeshele majitu abi.

8- Dijandula dia Muanda

1)

- a) Bujitu bua kabombi ka bukula bua tshiomba budi 10 kg
- b) Bujitu bua dilongo dia bilunga budi 40 kg
- c) Bujitu bua kabombi ka bukula bua mampa budi 45 kg
- d) Bujitu bua kabombi ka kamfuela budi 30 kg

2)

- a) 2
- b) 4
- c) 5

3) Kabombi ka kamfuela kadi ne bujitu bua 100 kg

4) Kumbaja (...)

- a) 50 kg
- b) 60 kg
- c) 50 kg
- d) 55 kg

5) Kuangatshila ku mandamuna a balongi

Dibidija nkayebe

1. Lusala
2. Tshibombi tshia shimente - kabombi ka nsukadi - kabombi ka lupemba lutoke
3. 30kg
4. a) 20 kg b) 50 kg c) 25 kg

MUANDA 16 – MEKU ASATU

1- Bipatshila bia ndongeshilu mu Muanda

- Muanda eu udi ne kipatshila ka kumvuija balongi mushindu wa kuzola, kubala ne kufunda bia tshimue bia nomba anyi tshintu
- Udi wipatshila kabidi bua kulongesha balongi mua kuabanya tshia tshimue tshia nomba anyi tshia tshintu

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntuadijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua:**

1. Kujadika, kubadika, kutela dina kufuanyikija bintu, kubala ne kufunda mu shiferi nomba ku 0 too ne ku 100;
3. Kufuanyikija, kupima, kutshinka, kukeba mala, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba

7. Kujadika, kumanya kuteka nomba pa mulongo mululame, kubala ne kufunda bia tshimue bia

Manene mashilangane

6. Kuangata tshia misangu ibidi ya, tshia bibidi, tshia misangu isatu ya, tshia bisatu, tshia misangu inayi ya, tshia binayi tshia bula, tshia bungi kampanda, tshia difuka

Nshinga

1. Kujandula nshinga mitekete pa kuangata tshia misangu ibidi ya, tshia bibidi tshia, tshia misangu isatu ya, tshia bisatu tshia, tshia misangu inayi ya, tshia binayi tshia

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda
- Bipesa bia mabeji bia matumba 4 malulame

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda ;
- Ashintakaja nabo ngenyi pa diabanya dia mampa mu diku ne diumvuija dia muaku «mu mangi a momumue»
- Ela balongi nkonko bua kujadika ne mbumvua bimpe muanda ;
- Dilongolola dia bilema badienza mu tshibungi bua kushintakaja ngenyi pa mushindu wa kukeba bia bungi kampanda bia tshimue (padi bia bungi kampanda ebi bikese, bia bungi kampanda bia tshimue bidi bivule)
- Mulongeshi abanyina mulongi yonso kapesa ka dibeji ka tshipapu tshia matumba 4 malulame;
- Abalomba bua bandamuna ku nkonko ya nimelo 2, 3 ne 4 ;
- Ashintakaja nabo ngenyi pa ngumvuilu wa bia bungi kampanda bia tshimue diba dia dilongolola bilema mu tshibungi;
- Balongi badi mua kudibidija diba dikuabo, nkayabo anyi mu tusumbu ku dilombola dia mulongeshi.

5- Bintu bia dijandula nabi Muanda ne mua kubipeta

Balongi badi bajoja, bafuanyikija ne batshinka bunene, bula anyi munda mua bintu.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa , dienzela mu meba)

- a) Muanda eu baujandula mu tusumbu tua 2 anyi 3.
- b) Muanda mujima baujandula mu malongesha 4 a tusunsa 45 ku dilongesha, malongesha 3 a tusunsa 45 bua muanda ne dilongesha 1 bua midimu ya «Dibidija nkayebe».

7- Mumvuija, didibingisha, mibelu anyi difila menji

Tshia bungi kampanda tshia nomba ke tshidibo babakila ne tshia tshimue tshia. Mu makumi, padi mangi mapeta mu dikosolola mikala makeke, tshia bungi kampanda tshia nomba tshidi tshipita bunene

8- Dijandula dia Muanda

1.

- 1) a) bitupa 2b) $\frac{1}{2}$
- 2) a) bitupa 3b) $\frac{1}{3}$
- 3) a) bitupa 4 b) $\frac{1}{4}$
- 4) $\frac{1}{2}$ badi babala tshia bibidi; $\frac{1}{3}$ badi babala tshia bisatu; $\frac{1}{4}$ badi babala tshia binayi
- 5) bana ba mu diku dia Nshimba
- 6) $\frac{1}{4}$
- 7) Padibo babanya diampa mu bitupa 4, kudi bitupa bidi biabungu kadi bidi bula bukesa. Padibo babanya diampa mu bitupa 2, kudi bitupa bidi bikeze kadi bidi bula bunene

2.

- kuangatsihla pa mabeji mabunya kudi balongi
- $\frac{1}{2}$ udi ubadibua tshia bibidi

3. $\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{3}$

4. tshia bungi tshimue tshia $\frac{1}{4}$ tshidi tshipita bukesa kudi $\frac{1}{2}$ et $\frac{1}{3}$.

5. $\frac{1}{4}$; $\frac{1}{3}$; $\frac{1}{2}$

Dibidija nkayebe

1. a) $\frac{1}{2}$ b) $\frac{1}{5}$ c) $\frac{1}{8}$ d) $\frac{1}{5}$ e) $\frac{1}{3}$ f) $\frac{1}{4}$ g) $\frac{1}{4}$

2. Kuangatsihla ku mazola a balongi pa bia bungi kampanda bidi bifita mekala

DIAMBULULA DIA TSHITUPA 3

1. Kumbaja :
 - a) Tshia bisatu tshia 90 m = 30 m = 3 dam
 - b) Tshia misangu inayi ya 15 m = 60 m = 6 dam

2. $20 - \frac{1}{2}$ de 20 = 10 litele

3. tshia bitanu tshimue tshifita dikala



$$\frac{1}{4}$$

5. Neikala munua $2 \times 2 \times 5 =$ tumuma tua buanga 20 mu matuku 5?
4. Longolola bintu bilondeshile difunta diabi, kumbukila ku didi ne bujitu bupite bukesee too nr ku didi ne bujitu bupita bunene
 - a) Dikalu
 - b) Ntukutuku
 - c) Mashinyi
 - d) Kawulu

Dikalu, Ntukutuku, Mashinyi, kawulu

1. Tentululula ne Kumbaja :
 - a) 20 dl = 2 l
 - c) 69 dl = 6 l + 9 dl
 - a) 50 dl = 5 l
 - c) 42 dl = 4 l + 2 dl

MUANDA 17 – TSHILONGELU TSHIANYI

1- Bipatshila bia ndongeshelu mu Muanda

Balongi badi balonga mua kujandula nshinga pa « tshia misangu ibidi ya » bintu ne ya nomba.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntuadijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :**

7. Kujandula nshinga mitekete.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba

3. Kubadika ku tusumbu tua 2, 3, 4, 5, ... nomba idi pankatshi pa 0 ne 100.

Bienzedi bia makumi

2. Kukeba tshipeta tshia disangisha, diumbushila, divudija ne diabanya kakuyi tshishadila.

3. Kuangata tshia misangu ibidi ya, tshia bibidi, tshia misangu isatu ya, tshia bisatu, tshia misangu inayi ya, tshia binayi tshia nomba muangata pankatshi pa 0 ne 100.

Nshinga

2. Nshinga pa:

- Tshia misangu ibidi ya nomba, ya bunene kampanda;
- Tshia bibidi tshia nomba wa kuabanya kudi 2 kakuyi tshishadila;
- Tshia bisatu tshia nomba, tshia bunene kampanda
- Tshia misangu inayi ya nomba, ya bunene kampanda

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda;
- Tubuikidiji.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda ;
- Abalekela bujitu bua kuandamuna ku nkonko. Abambuluisha amu padibo bapanga mua kutungunuka bua kubaludika ;
- Anemenena pa njila ya kulonda bua disangisha ne divudija;

5- Dibala bintu ne mudimu wa kuenza nabi

Pikalabi bikengedibua, mulongeshi akeba bintu bitu balongi bamona.

6-Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

Muanda mujima baujandula mu malongesha 3 a tusunsa 45 ku dilongesha ne «Dibidija nkayebe» mu malongesha makuabo 2 a tusunsa 45 ku dilongesha.

7-Mumvuija, didibingisha, mibelu anyi difila menji

- Kumvuija balongi mushindu kayi udibo mua kukudimuna divudija mu disangisha dikala ne nomba mifuanangane;
- Kulongesha balongi njila ya bikoso bua kusangisha, kumbushila, kuvudija nekuabanya nomba
- *

8- Dijandula dia Muanda

1. a) 5.
b) 10.
c) Kulonda mudi balongi bamba ne kulongolola bilema biabu pikalabi bikengedibua.

2. a) $10 \times 3 = 30$
b) $10 \times 4 = 40$
c) $10 \times 5 = 50$

3. a) $2 \times 30 = 60$
b) $2 \times 40 = 80$
c) $2 \times 50 = 100$

4. a) $2 \times 5 = 10$
b) $2 \times 10 = 20$

5. a) $5 \times 2 = 10$
b) $3 \times 2 = 6$
c) $10 \times 2 = 20$

6. a) $3 \times 2 = 6$
b) $3 \times 3 = 9$
c) $3 \times 5 = 15$

7. a) $4 \times 2 = 8$
b) $4 \times 3 = 12$
c) $4 \times 5 = 20$

Dibidija nkayebe

1- $2 \times 27 = 54$

2- $4 \times 15 = 60$

MUANDA 18 – MATUKU NE NGONDO

1- Bipatshila mu ndongeshelu pa Muanda

Muanda eu udi ne kipatshila ka kumanyisha balongi malu menza mu dituku, mu lumingu, mu ngondo, mu tshidimu ne udi kabidi ubaleja dikuatakaja didi pankatshi pa dituku, lumingu, ngondo ne tshidimu.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilongesha dia makumi mu tshidia tshia ntua dijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua:**

3. Kufuanyikija, kupima, kutshinka, kukeba bula, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga.

Bipatshila bia ndongamu

Bipatshilabia pa buabi

Manene mashilangane

4. Kuteka malu pa meba:

- Kuleja mua kuenza dikuatakaja pankatshi pa dituku, lumingu, ngondo ne tshidimu;
- Kumvuija dienzela dia meba a mu dituku, a mu lumingu

3- Bintu bia kuenzela nabi Muanda ne miaba ya kubipeta

- Mazola a pa muanda
- Tubeji tufunda matuku a lumingu ne a ngondo ya mu tshidimu
- Tubadilu tua matuku a ngondo tua bidimu bibidi bishilangane

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda eu ;
- Alekela balongi badiandamuina ku nkonko 1, 2 et 3. Dilongolola bilema dienzeka mu tshibungi
- Mulongeshi afikishe balongi ku dipeta dikudimuna dia lumingu mu matuku, ngondo mu lumingu, ngondo mu matuku, tshidimu mu ngondo, pashishe basuikakaja mikuabo nombu ;
- Balongi bashintulula ngenyi munkatshi muabo bua kufika ku dipatula dikuatakaja edi ;
- Mulongeshi abapesha mutantshi wa diba mukumbane bua benza mudimu mu tshibungi.

5- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda eu bawenza mu tusumbu tua 2, 3 anyi ku mulongi.
- b) Muanda mujima bawenza mu malongesha 3 a tusunsa 45 ku dilongesha.
- c) Tshitupa tshia mudimu batshenza ku mulongi.
- d) Dilongolola bilema badienza mu tshibungi

Dijandula dia Muanda

1-

- a) Mu lumingu mudi matuku 7.
- b) Dialumingu, dimue, dibidi, disatu, dinayi, ditanu ne disambombo.
- c) Mu ngondo mudi mbingu 4.

2-

- a) Tshidimu tshidi ne ngondo 12 :
 - 1) Tshiongo wa minanga (ngondo wa kumpala)
 - 2) Luishi (ngondo muibidi)
 - 3) Luabanya nkasu (Kamilonge) (ngondo muisatu)
 - 4) Tshisanga nkasu (ngondo muinayi)
 - 5) Lumungulu (Kalubi a bisala) (ngondo muitanu)
 - 6) Kabalashipu (Kashipu nkenza) (ngondo muisambombo)
 - 7) Kashipu mpumpumpu (Tshimungu mulume) (ngondo wa muandamutekete)
 - 8) Tshimungu wa Mashika (Tshimungu mukaji, Mudila-ntongolo) (ngondo muandamukulu)
 - 9) kabitende (Luoshia-matu) (ngondo wa tshitema)
 - 10) kasua mansense (Kasua-bilundu) (ngondo wa dikumi)
 - 11) Kasuabanga (Kamuanga bikunda) (ngondo wa dikumi ne umue)
 - 12) Tshisua munene (Tshiukuta mbua) (ngondo wa dikumi ne muibidi)

b) Ngondo idi ne matuku 30 : 1) Tshisanga nkasu 2) Kabalashipu 3) Kabitende 4) Kasuabanga.

c) Ngondo idi ne matuku 31 : 1) Tshiongo wa minanga 2) Luabanya nkasu 3) Lumungulu 4) Kashipu mpumpumpu 5) Tshimungu wa Mashika 6) Kasua Mansense 7) tshisua munene.

d) Ngondo wa matuku 28 anyi 29 : Luishi.

3-

- a) Mulongi yonso uyaya mu kalasa mu dimue, dibidi, disatu, dinayi, ditanu ne disambombo
- b) Dituku dia dikolesha mubidi ndishilangane ku tshilongelu ne ku kalasa.
- c) Dituku dia dikolesha mubidi didi kumpala kua mujalamu.
- d) Udi uya kulala butuku.
- e) Ngondo ya dikisha dinene idi 2 : Tshimungu Mulume ne Tshimungu wa Mashika
- f) Mulongi yonso udi uya mu kalasa ngondo 9.

Dibidija nkayebe

1. Mu dinda, kumpala kua mujalamu, diba dia misasa, mujalamu, kunyima kua mujalamu, dilolo, butuku.

2.

- a) Kabitende
- b) Tshisua munene ne Tshiongo wa Minanga.
- c) Tshimungu Mulume ne Tshimungu wa Mashika

3.

- a) Kabitende
- b) Mulongo wa 9

c)

Kabitende 2015						
Dimue	Dibidi	Mar di	Jeud i	Vendre di	Same di	Disambom bo
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

d) Dialumingu 4

MUANDA 19 – NTANKU WA KU TSHIMANA WA NDAYA

1- Bipatshila bia ndongeshilu mu Muanda

Balongi badi balonga mua kubala ntanku wa miketa

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

3. Kufuanyikija, kupima, kutshinka, kukeba mala, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga.

Bipatshila bia pa buabi

Manene mashilangane :

5. Kubala meba pa ntanku wa miketa.

Nshinga :

1. Kujandula mukana Nshinga mitekete, mizola anyi mileja mu mazaba ne mikala pa manene mashilangane

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda
- Ntanku wa ku tshimana.
- Mazola anyi Kanyingululu ka dibaya anyi mu kalato ne miketa.

4- Mudimu wa mulongeshi

- a) Mulongeshi aleja balongi muanda ne abavulujia mudimu wa miketa ya ntanku wa ku tshimana
- b) Abalekela bua bandamuna ku nkonko 1 ne 2 mu tusumbu tua 2 anyi 3;
- c) Afila diumvuija padibo kabayi bumvua bimpe to mu kasumbu
- d) Apinganununa pa dibala dia « tshia bibidi tshia diba » ne « tshia binayi tshia diba »;
- e) Midimu ya «Dibidija nkayebe» bayenza mu tshibungi.

5- Dileja bintu bia mudimu ne mua kuenza nabi

Mulongeshi udi ne tshia kuikala ne ntanku wa ku tshimana muenza bua kulongesha nenda ne bua kuleja balongi mudimu wa miketa

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda

Muanda mujima badi ne tshia kuujujulula mu malongesha 2 a tusunsa 45 ku dilongesha.

7- Mumvuija, didibingisha, mibelu anyi diba menji

Mulongeshi alomba balongi bua banyunguluja miketa bobu nkayabo; kadienzi kuniyunguluja eku yeye nkayende to.

8- Dijandula dia Muanda

1. Udi umbuka ku nzubu mu 7 h, ufika mu kalasa mu 7 h15, utuaduja malongesha mu 7 h30
2. Dikisha dikese didi dituadija mu 10 h. Muketa mule udi pa 10 ne muketa muipi udi pa 12.
3. Ndekelu wa dikisha dikese udi mu 10h30. Muketa mule udi pa 10 ne muipi udi pa 6.

MUANDA WA 20 – DITEMBANGANA DIA NDUNDU WA MAKASA MU TSHILONGELU

1- Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kumvuija balongi mushindu wa kukeba misangu ibidi ne tshia bibidi, kusangisha ne kumbushila, kuvudija ne kuabanya pa nomba mishadila ku 10. Udi wipatshila kabidi kushintulula manena ne kujadika bipapu ne bintu bilundamane

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntudijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua:**

- 2- Kusangisha ne kumbushila, kuvudija ne kuabanya nomba idi pankatshi pa 0 ne 100.
- 3- Kufuanyikija, kupima, kutshinka, kupima bula bua bintu, mafuka ne bipiminu.
- 5- Kubunya, kukosoloja mu tutupa, kuzola bipapu ne bintu bilundamane.
- 6- Kuela milongo ne tshanza anyi ne kkatshi kalulame .
- 7- Kujandula nshinga mitekete.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba :

4. Kusuikakaja ne kusulakaja nomba kumbukila ku 0 too ne ku 100.

Bienzedi bia Makumi:

- 1- Kukeba tshipeta tshia disangisha, tshipeta tshia diumbusha, tshipeta tshia divudija ne tshipeta tshia diabanya kakuyi tshishadila.
- 4- Kuangata misangu ibidi, tshia bibidi... tshia nomba idi pankatshi pa 0 ne 100
- 8- Kumbushila nomba ibidi ne disomba anyi kakuyi disomba.
- 9- Kupeta tshia kusakidila pa nomba bua kupeta 100.

Manene mashilangane:

- 2- Kupima manene mashilangane ne bipiminu bia tshipungidi.
- 6- Kuangata tshia misangu ibidi ya, tshia bibidi tshia, tshia bisatu tshia... bula, tshia difuka anyi tshia bungi.

Nshinga :

- 1- Kujandula nshinga mitekete mukana, mizola anyi mifila bu mazaba ne mikala ilonda dibadika, dibala ne difunda nomba, manene, makumi, bipapu ne bintu bilundamane.

6- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Kazola.
- Tshiata tshia bikuta ne bimue bia bipiminu bia bula.

7- Mudimu wa mulongeshi

- a) Mulongeshi aleja balongi muanda ne abalomba bua bambuluisha dileketele bua kuenzayi bisumbu 11 ya bazabi ne diambuluisha dia mabulu.
- b) Balongi badi bandamuna ku nkonko a - b - c.
- c) Alomba balongi bua bakudimuna bule bua TSHIBUABUA mu desimetele ne dikuatshisha dia tshiata tshia nkudimuinu wa mangi a bula.

8- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda newenjibua mu tusumbu tua 2 anyi 3
- b) Mulongeshi neafila molongesha 2 a tusunsa 45 ku dilongesha bua muanda eu.

9- Dijandula dia Muanda

1.

- a) 9
- b) 9
- c) Santimetele 12

2.

- a) Kulonda mikenji ya mu mukanda wa mulongi.
- b) Wa tshipapu tshia matumba 4 malulama
- c) Kulonda mikenji ya mu mukanda wa mulongi
- d) Mulongo udi upitshila pankatshi pa nseka mitangilangane ya tshipapu
- e) $20 + 10 + 20 + 10 = 60$
- f) Nsantimetele 60
- g) Bidia 10

3.

- a) $9 - 2 = 7$
- b) $7 \times 11 = 77$
- c) $100 - 77 = 23$

4. $2 \times 9 = 18 \text{ dm}$

Dibidija nkayebe

1.

- a) 10
- b) $7 \times 10 = 70$
- c) $100 - 70 = 30$
- d) Manaya 5 anyi bisumbu 2 ku dizaba

2. Kulonda mikenji idi mu mukanda wa mulongi.

MUANDA 21 – DIAMBULA BIBOMBI BIA LOSA

1- Bipatshila bia ndongeshelu

Muanda eu ne kipatshila ka kumvuija balongi mushindu wa kumbushila mangi mafila pa kusangisha ku tshikuta tshibandile.

Udi kabidi wipatshila bua kupeta nomba wa kusakidila bua kufika ku 100

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi :

Ku ndekelu wa dilonga dia makumi mu tshidia tshia kumpala, **mulongi neajandula kakuyi lutatu mianda** idi imulomba bua :

2. kusangisha, kumbushila, kuvudija ne kuabanya nomba idi pankatshi pa 0 ne 100;

7. Kujandula nshinga mitekete.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba :

4. Kusuikakaja ne kusulakaja nomba kumbukila ku 0 too ne ku 100.

Bienzedi bia Makumi:

2. Kukeba tshipeta tshia disangisha, tshipeta tshia diumbusha, tshipeta tshia divudija ne tshipeta tshia diabanya kakuyi tshishadila.

3. Kusuikakaja Kusulukaja mu disangisha ne mu divudija bintu ne nomba kumbukila ku 0 too ne ku 100.

8. Kumbushila nomba 2 ne disomba anyi kakuyi disomba.

9. Kupeta tshia kusakidila pa nomba bua kupeta 100 ne kumubandisha anyi kumupuekesha ku bikuta.

2- Bintu ne mamanya bia kufunda nabi Muanda.

- Mazola a muanda
- Tshiata tshia bikuta ne bimue bia nomba
- Tufinyiki anyi tusoka
- Nshinga wa mabulu

3- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda ne abalomba bua bambuluisha MUANZA apeta bungu bua bibombi bidi bimushadila bua kubueja mu mashinyi.
- Balongi bandamuna ku nkonko 3.
- Tshikondo tshia dilongolola bilema mu tshibungi, mulongeshi abalomba bua bumvuija makumi pa dienzela Tshiata tshia bikuta ne bimue bia nomba anyi nshinga wa mabulu.
- Pashishe, mulongeshi abaleja njila wa dipita tshikuta tshibandila pa dienzela mulongo mululame wa nomba.
- Enza nabo nshinga mikesa ($75 + \dots = 100$; $89 + \dots = 100$; $32 + \dots = 100$) kumpala kua kuleja makumi a Muanza.
- Alomba pashishe kudi balongi bua bandamuna ku nkonko.
- Badi mua kujadika mandamuna abo ne Tshiata tshia bikuta ne bimue bia nomba anyi nshinga wa mabulu.

- h) Dilongola dia bilema dienzeka mu tshibungi, mulongeshi alomba kudi balongi bua babala ne bumvuija ngenzelu (tshilejelu : $45 + \dots = 100$; diandamuna 55, $45 + 5 = 50$ ne $50 + 50 = 100$).
- i) Balongi badibidija ne bajadika mandamuna ne diambuluisha dia Tshia ta tshia bikuta ne bimue bia nomba anyi nshinga wa mabulu.
- j) Dilongola dia bilema dienzeka mu tshibungi, mulongeshi alomba balongi bua babala ne bumvuija ngenzelu.

5- Dibala bintu ne mudimu wa kuenza nabi padibio bikengedibua

Balongi badi ne lutatu badi mua kuenzela mulongo mululame wa nomba, bakuabo balonda mushindu wa Muanza.

6- Dilongolola na dienzela Muanda (diba, dilongolola dia kalasa , dienzela mu meba)

- a) Muanda eu bawenza mu tusumbu tua 2 anyi 3.
- b) Muanda mujima bawenza mu tusunsa 45.

7- Mumvuija, didibingisha, mibelu anyi difila menji

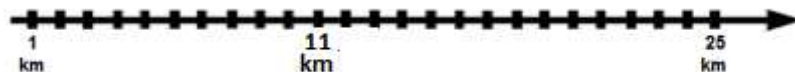
Muanda udi mua kuakanyina bua dienzela nomba mishilangana.

8- Dijandula dia Muanda

1. Bibombi bia losa 100
2. Bibombi bia losa 67
3. Bibombi bia losa 33

Dibidija nkayebe

1.
 - a) 89 km
 - b) 11 km
 - c)



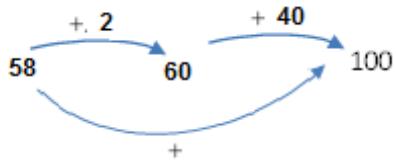
2.
 - a) 49
 - b) 67
 - c) 73
 - d) 58

DIAMBULULA DIA TSHITUPA 4

1. $6 \times 14 = 84$

2. $(45 - 1) : 11 = 44 : 11 = 4$

3.



4. Fila tshipeta :

$$27 + 73 = 100$$

$$42 + 58 = 100$$

5.

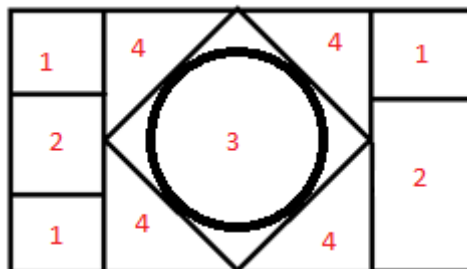


1 h 15



7 h 30

6.



MUANDA 22 – BIPAPU BIKUPULA

1- Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kulongesha balongi mua kuzola bipapu ne tshianza, kujingula ne kuamba manene abi. Udi kabidi ne kipatshila ka kubalongesha mua kumanya bimanyinu bia bipapu ebi.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntua dijilu, mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :

- 1- Kubunya, kukosoloja mu tutupa, kuzola bipapu ne bintu bilundamane;
- 2- Kuela milongo ne tshianza anyi ne katshi kalulame ;

Bipatshila bia pabuabi

Bipapu ne bintu bilundamana

1. Kujingulula, kumanya bipapu ne bintu bilundamana mu muaba udi balongi (tshipapu tshia matumba malulame ne nseka 4 ya momumue anyi wa tshipapu tshia matumba 4 malulame , tshipapu tshia matumba 4, tshipapu tshia tshijengu) ;
2. Kuzola ku tshianza bipapu ne bintu bilundamana bimona ;
3. Kujadika, Kuamba manene ne bimanyinu bia tshipapu tshionso.
6. Manene ne bimanyinu bia bipapu ne bintu bilundamana bimona
7. Dizola ne kaludikilu bipapu ne bintu bilundamana bilonga pa mabeji a tuzubu

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda.
- Kaludikilu kafunda makumi bua bipimu bia tshibidilu.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda ;
- Ashila balongi mpunga wa diba bua kuandamunabo ku nkonko yonso. Dilongolola bilema dienzeka mu tshibungi ;
- Mulongeshi idikijija nseka, ayifuanyikijija bua nkomenu milenga;
- Balongi bashintakaja ngenyi mu tshibungi bua kufika ku mena ne bimanyinu bia bipapu ;
- Mulongeshi apesha balongi diba dikumbana bua mudimu wa mu tusumbu ;
- Dilongolola bilema dienzeka mu tshibungi.

5- Dilongolola pa meba ne dienza bidi biumvuija Muanda (diba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda eu bausulakaja mu tusumbu tua 2 anyi 3 nansha ku muntu.
- b) Muanda mujima bausulakaja mu malongesha 4 a tusunsa 45 ku dilongesha.
- c) Tshitupa tshimue netshienjibue ku muntu
- d) Dilongolola bilema ne dienzeka mu tshibungi.

Dijandula dia Muanda

1. Luboya udi utuangaja matoba a tshipapu a
 - a) Udi upeta tshipapu tshia matumba 4 ne nseka 4 milulame, ne nsongo 4 ;
 - b) Katupa ka mulongo mululame konso kadi katuangaja nsongo kadi kabikidibua ne : luseka ;
 - c) Nseka yonso idi ya momumue ;
 - d) Tshipapu etshi tshidi ne matumba 4 ;
 - e) LUBOYA udi utuangaja nsongo mitangilangana ya tshipapu a ;
 - f) LUBOYA udi mua kuela tutupa 2 tua milongo milulame ;
 - g) Ki mulongo mutshiamakana wa munkatshi mua tshipapu tshia matumba 4 ne nseka 4 milulame.

2. a) LUBOYA udi utuangaja pashishe tshipapu tshibidi.
 - b) Tshipapu tshipeta tshidi tshipapu tshia matumba 4 malulame ;
 - c) Nseka 4, ibidi ibidi ya momumue ;
 - d) Bula ;
 - e) Butshiamama;
 - f) LUBOYA udi mua kuela tutupa 2 tua milongo milulame ;
 - g) ibidi
 - h) Ki mulongo mutshiamakana wa munkatshi mua tshipapu tshia matumba 4 malulame.

3. a) LUBOYA udi utuangaja matoba a tshipapu c.
 - b) Tshipapu etshi tshidi tshipapu tshia matumba 3, tshidi ne nsongo 3 ;
 - c) Nsongo 3
 - d) Nseka 3.

4.
 - a) Kutangila ku tshimfuanyi tshia mulongi.
 - b) Luseka 0.
 - c) Tshipapu tshia tshijengu

5. a) Leja ne munu nyunguluilu wa tshipapu tshionso.
 - b) Bula bua nyunguluilu eu budi nyunguluilu wa tshipapu.
 - c) Kusangisha bula bua nseka bua kukeba nyunguluilu tshipapu tshia matumba 4 ne nseka 4 milulame, wa tshipapu tshia matumba 4 malulame ne wa tshidi tshipapu tshia matumba 3 ne nsongo 3.

Dibidija nkayebe

1. Kutangila ku tshimfuanyi tshia mulongi.
2. Tshipapu tshia matumba 4 malulame ne tshikala ne butshiamama $l = 5$ cm ne bula $L = 10$ cm.
3. Kutangila ku tshimfuanyi tshia mulongi.
Milongo mitshiamakana ya munkatshi mua tshipapu tshia matumba 4 ne nseka 4 milulame idi momumue ne idi idikosa munkatshi muayi.
4. Kutangila ku tshimfuanyi tshia mulongi.
5. Kutangila ku mumvuija a balongi, patupu, kubunya dibeji mu bitupa 2 pa kuambakaja matumba pa luseka lumue. Kubianza mu mishindu 2 mishilangane ne kupeta mibunyi 2 idi ileja milongo mikuatakaji nseka mitangilangana 2 ya tshipapu.
6. Kulonda njila wa momumue bua tshipapu tshia matumba 4 malulame.

MUANDA 23 – NDEKELU WA DIKISHA DIKESA

1. Bipatshila bia ndongeshelu mu Muanda

Muanda ewu udi ne kipatshila ka kulongesha balongi mua kusulakaja ne kujandula nshinga. Udi kabidi ne kipatshila ka kuenza nshinga mukana ne miaku mipepela miangatshila ku bidi bileja mu makumi anyi bizola.

1- Bipatshila bia ndongamu

Bipatshila bia pankatshi

7. Kujandula nshinga mitekete

Bipatshila bia pa buabi

Nshinga

1. Kusuikakaja nshinga pa nomba mishadila ku 100 ne kuyijandula

2- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mazola a muanda

3- Mudimu wa mulongeshi

- Alondela bana muanda ;
- Alekela balongi bandamuna ku nkonko A-B ne C mu kasumbu. Akula bua kuludika padiku lutatu;
- Akunguja mandamuna pamue bangabanga ne kupesha balongi nkonko 1 ne 2 ya « Dibidija nkayebe » ;
- Madibidija abidi a Dibidija nkayebe neenjibua kabidi mu kasumbu. Dialeja Patoka didine tshia kuambuluisha tusumbu tuvule bua kulejatu midimu yatu mikala milondela kudi dishintakaja ngenyi ne mapangadika.

4- Dibala bintu ne mudimu wa kuenza nabi

5- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

Muanda mujima udi ne tshia kuenjibua mu malongesha 3 a tusunsa 45 ku dilongesha. Dilongesha dia tusunsa 45 bua muanda ne malongesha 2 a tusunsa 45 bua « Dibidija nkayebe ».

5- Mumvuija, didibingisha, mibelu anyi difila menji

Muanda eu udi mua kuangatshibua bua kulongesha nau balongi mua kuenza makumi mu mulongo wa dikunji (ngenzelu wa makumi).

8- Dijandula dia Muanda

- Bungu busanga bua balongi ba tulasa 2 budi 96
- Balongi 35 batshidi mu lubanza lua tshilongelu
- Tshilejelu bungu busanga bua balongi badi babuela munda mua tulasa :
 $96 - 35 = 61$. Mbuena kuamba ne mu kalasa mudi balongi 61.
- $35 = 96 - \dots\dots$
- $96 - \dots\dots = 61$
- $35 + \dots\dots = 96$

Dibidija nkayebe

1. a) Ba balume badi bungu munyi? $45 - 23 =$ nsongalume 22 anyi $45 = 23 + \dots$
b) $45 \times 2 =$ balongi 90, ba bakaji misangu ibidi : $23 \times 2 = 46$,
ba balume misangu ibidi $22 \times 2 = 44$
2. Kudi kushala kabidi bua kupana : $52 - 40 =$ tubeji12

Bienzedi bia Makumi:

- Bungu bua miaba : 52
- Tubeji tupana : 40
- Tubeji tushala : 12

MUANDA 24 – DIBUNYA

1- Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kuleja balongi mua kubunya dibeki bua kuenza bipapu ne bintu bilundamana ne kufikila ku dipatula Milongu mitshiamakana ya munkatshi mua tshipapu tshia matumba 4 ne nseka 4 ya momumue ne milongo mikuatakaji nseka mitangilangana 2 ya tshipapu.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu kua dilonga dia makumi mu tshidia tshia ntuadijilu, **mulongi ne ajandula kakuyi lutatu mianda idi imulomba bua :**

3. Kufuanyikija, kupima, kutshinka, kukeba male, mafuka ne bipiminu, kubala meba ne kuenzela mfualanga ya ditunga ;
5. Kubunya, kukosoloja mu tutupa, kuzola bipapu ne bintu bilundamane.

Bipatshila bia pa buabi

Manene mashilangane:

2. Kuleja manene mashilangane ne bipiminu bia tshipungidi

Bipapu ne bintu bilundamana :

6. Manene ne bimanyinu bia bipapu ne bintu bilundamana bimona
8. Kuibaka ku dibunya Milongu mitshiamakana ya munkatshi mua tshipapu tshia matumba 4 ne nseka 4 ya momumue ne milongu mikuatakaji nseka mitangilangana 2 ya tshipapu tshia matumba 4 malulame

Nshinga:

1. Kujandula nshinga mitekete mukana, mizola anyi mileja bu mazaba pa dibadika, dibala ne difunda nomba , manene, makumi ne bipapu ne bintu bilundamana.

3- Bintu bia dijandula nabi Muanda ne mua kubipeta

- Mabeji a mukanda,
- Keleyo,
- Kaludiki (lata).

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi Muanda.
- Abambila bua benza mazuwa ne dibeki dia kaye.
- Abapesha tshipese tshia dibeki bua benza mazuwa.
- Pashishe, abela kayanda ka kuenzabo tshipapu tshia matumba 4 ne nseka 4 ya momumue.
- Abapesha tshipesa tshia dibeki tshikala tshia matumba 4 malulame ne balongi badi ne tshia kuenza tshipapu tshia matumba 4 ne nseka 4 ya bula bumue.
- Enzeja dishintakaja ngenyi.
- Balongi baditua ku mudimu wa muanda ne bashintakaja ngenyi pashishe mu tusumbu ne mu tshibungi.
- Mulongeshi abebeja ngenzeli yabo ne bidibo bajoja.
- Enza bia momumue ne tshipapu tshia matumba 4 malulame.

- Asonsolola dishintakaja ngenyi pa Milongo 2 mitshiamakana ya munkatshi mua tshipapu tshia matumba 4 ne nseka 4 ya bula bumue ne milongo 2 mikuatakaji ya nkatshi ya nseka 2 mitangilangana ya tshipapu tshia matumba 4 malulame : bamue balongi badi bapeta Milongo 2 mitshiamakana, bakuabo bapeta milongo 2 mikuatakaji ya nkatshi ya nseka 2 mitangilangana.
- Ajadika bua se balongi mbamanya mua kuela ne kujingulula Milongo mitshiamakana ya munkatshi mua tshipapu tshia matumba 4 ne nseka 4 ya bula bumue ne milongo mikuatakaji ya nkatshi ya nseka 2 mitangilangana ya tshipapu tshia matumba 4 malulame .
- Alomba balongi bua kudibidija.
- Abambuluisha bua kuenzelabo bimpe kaludiki mu dizola tshipapu tshia matumba 4 ne nseka 4 ya bula bumue ne milongo mikuatakaji ya nseka mitangilangana 2 ya tshipapu tshia matumba 4 malulame.
- Dilongolola dia mu tshibungi dikala tshishiminu bua kujadikaye ne balongi mbamanya kujingulula Mulongo mutshiamakana wa munkatshi mua tshipapu tshia matumba 4 ne nseka 4 ya bula bumue ne mulongo mikuatakaji wa nkatshi ya nseka 2 mitangilangana ya tshipapu tshia matumba 4 malulama idi 2 mu tshimue ne tshimue tshia bipapu bilonga.

5- Dibala bintu ne mudimu wa kuenza nabi

Kudi mushindu wa kufila tshia bibidi tshia dibeki ku mulongi bua kuenza mazuwa, tshia binayi tshia dibeki bua kuenza tshipapu tshia matumba 4 ne nseka 4 malulame et ne tshia binayi tshikuabo bua kuenza tshipapu tshia matumba 4 malulame. Bidi bipita bulenga kupesha balongi mabeji mushindu wa tshipapu tshia matumba 4 malulame.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (dilongolola dia kalasa, temps, dienzela mu meba)

- a) Muanda eu wikala ne tshia kuenjibua mu tusumbu tua balongi 2 anyi 3.
- b) Muanda mujima wikala ne tshia kuenjibua mu malongesha 4 a tusunsa 45.
- c) Dilongesha dia kumpala dia tusunsa 45 bua mazuwa, dilongesha dibidi dia tusunsa 45 bua tshipapu tshia matumba anayi ne nseka inayi ya momumue, dilongesha disatu dia tusunsa 45 bua tshipapu tshia matumba anayi malulama ne panyima dilongesha dia tusunsa 45 bua didibidija nkayebe.

7- Mumvuija, didibingisha, mibelu anyi difila menji

Bidi bikengela kupesha balongi diba dia kudikoselabo dibeki. Ebi bidi bilomba nzanzu, ke bidi mua kukolela bakuabo. Bela menji ne kabafidi mandamuna tshifilafila to. Mbimpe kubalekela mutantshi wa diba mukumbana.

Bua kubunya tshipapu tshia matumba 4 malulame mu bipapu 2 bia matumba 3, bidi bikengela kubunya nsongo mitangilangana mu bitupa 2.

Balongi nebapeta milongo 2 mikuatakaji ya nkatshi ya nseka mitangilangana 2 ya tshipapu tshia matumba 4 malulame.

Mbimpe kubaleja mishindu 2 ya kubunya dibeki ne kupeta milongo mikuatakaji nsongo mitangilangana 2 ya tshipapu. Kabiena bikengela amu kuamba ne “tshipapu tshia matumba 3 ne ditumba dimue dilulame to” badi mua kushikidila pa kuamba amu
 ““tshipapu tshia matumba 3”

8- Dijandula dia Muanda

Bitupa 2 bia momumue. Tshitupa tshionso tshidi tshikumbanangana ne tshia bibidi tshia tshipapu tshia matumba 4 ne nseka 4 ya bula bumue.

Tshitupa tshionso tshidi tshikumbanangana ne tshia binayi tshia tshipapu tshia matumba 4 ne nseka 4 milulame.

Tutupa 2 tua milongo milulame tuela tuda tubikidibua ne milongo mikuatakaji ya nkatshi ya nseka 2 mitangilangana ya tshipapu

Mu tshipapu tshia matumba 4 ne nseka 4 ya momumue mudi milongo 2 mikuatakaji ya nkatshi ya nseka 2 mitangilangana

Kudi mushindu wa kupeta milongo mikuatakaji nsongo mitangilangana 2. Badi bapeta bipapu 4 bia nseka 3, bitangilangana ku nsongo ne bikala bia momumue:

Tshipapu (1) tshia nseka 3 ne Tshipapu (2) tshia nseka 3 bidi mumua

Tshipapu tshia nseka 3 ne Tshipapu tshia nseka 4 bidi mumua

Dibidija nkayebe

Kutangila ku midimu mianza kudi balongi.

9-Didibidija mu dishintakaja ngenyi

Keba milongo mitshiamakana ya munkatshi mua tshipapu mikuatakaji ya nsongo 2 ne milongo mikuatakaji ya nkatshi ya nseka 2 mitangilangana ya bintu bia kalasa : tshibasa tshia kufundila, tshibasa tshia mulongi...

Balongi babileja ne tshianza.

MUANDA 25 – TSHIKUMBI TSHIA MUFUTA

1- Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kuleja balongi mua kubumbushila mangi musangu umue anyi ne disomba mu difunda nomba pa kabeji.

1- Bipatshila bia mu ndongamu

Bipatshila bia pankatshi

Ku ndekelu wa dilongesha dia makumi mu tshidia tshia kumpala tshia tulasu, mulongi **neajandula kakuyi lutatu mianda idi imulomba bua :**

2. Kusangisha, kubumbushila, kuvudija, kuabanya nomba idi munkatshi mua 0 too ne 100.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba :

2. Kubala ne kufunda mangi ku 0 too ne ku 100 ;
5. Kumanyinuna bungi bua makuta anyi bua bimue bidi mu nomba.
4. Kusuikakaja ne kusulakaja nomba idi munkatshi mua 0 ne 100.

Bienzedi bia Makumi :

1. Kufuanyikija, kulongolola, kuteka, kulonga bintu, nomba ku 0 too ne ku 100;
2. Kumbushila nomba 2 kakuyi disomba anyi kuikala disomba

Nshinga:

1. Kujandula nshinga mipepele mikala itangila dibala, difunda nomba ne kufila tshipeta

2- Bintu bia mudimu ne bia kujingulula nabi Muanda

- Mazola a Muanda ;
- Tshibasa tshia nomba ;
- Mabulu a kubadika nau
- Tumatshi anyi tubuikidiji.

3- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda;
- Balongi bajandula Muanda onso mu tusumbu tua 2 anyi 3
- Mu nsangishilu wa mamanya abu bonso banemenena pa mushindu wa kuenza makumi udi bisumbu bionso mua kulonda.
- Mulongeshi abaleja mua kuenzela tshibasa tshia nomba mu dienza dia makumi.
- Dilongolola dia midimu ya balongi badienza mu tshibungi.

5- Dileja bintu bia mudimu ne mua kuenza nabi

Mulongeshi enzela bintu bidi bilongolola bua kulongesha nabi, ne alekela balongi bua babienzela pabu ne babilenga.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

Bandamuna ku nkonko yonso mu tusumbu tua 2 anyi 3 mu tusunsa 20, nkonko ya « Dibibija nkayebe » mu tusunsa 25.

- a) Nkonko yonso idibu bela bayandamuna mu tusunsa 45.
- b) Muanda mujima baujandula mu malongesha 5 a tusunsa 45 ku dilongesha. Dilongesha dia ndekelu ne dikala bua kuandamuna ku nkonko miela mu tshitupa tshia « Dibidija nkayebe » ne tshia « Nkonko misakidila ».

7- Diumvuija, didibingisha, mibelu anyi difila menji

Mulongeshi enzela bintu bia dilongesha nabi , alekele balongi babilenga ne benza nabi midimu.

8- Dijandula dia Muanda

- 2. $68 = 6D + 8U$;
- 3. $68 - 8 = 6D + 8U - 8U = 6D$; Kuashadi mbuji 60 mu tshikumbi
- 4. $68 - 15 = 53$;
- 5. $68 - 21 = 47$; Kuashadi mbuji 47 mu tshikumbi
- 6. $68 = 6D + 8U$. $68 - 8 = 6D + 8U - 8U$; Kuashadi mbuji 60 mu tshikumbi.
- 7. $68 - 15 = 6D + 8U - 1D - 5U = 5D + 3U = 53$
 $68 - 21 = 6D + 8U - 2D - 1U = 4D + 7U = 47$
- 8. Kuashadi metele 61 a tshilamba.

Dibidija nkayebe

- 1. Kuamushadidi tuye $99 - 36 = 63$.
- 2. Kuashamudidi metele $96 - 70 = 26$ a kuenza.
- 3.

$$\begin{array}{r} 27 \quad 48 \quad 89 \\ -16 \quad -28 \quad -19 \\ \hline 11 \quad 20 \quad 70 \end{array}$$

MUANDA 26 – MUFIKILU WA DILEDIBUA DIA KALELA

1- Bipatshila bia ndongeshilu mu Muanda

Muanda eu udi ne kipatshila ka kuleja mulongi mua kusangisha ne kumbushila mu dikeba tshikuta tshia kulu anyi tshia kuinshi, kua nomba ya disangisha anyi kudisulakaja nomba eyi. Udi ulongesha kabidi mua kuenza makumi adi mu tuboko.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu wa dilongesha dia makumi mu tshidia tshia kumpala tshia tulasu, mulongi **neajandula kakuyi lutatu mianda idi !mulomba bua :**

2. Kusangisha, kubumbushila, kuvudija, kuabanya nomba idi munkatshi mua 0 too ne 100.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba :

4. Kusuikakaja ne kusulakaja nomba ku 0 too ne ku 100

Bienzedi bia Makumi :

6. Kusangisha nomba 2 kuikala disomba anyi kakuyi disomba.

10. Kuenza makumi a disangisha, a diumbushila ne a divudija mu tuboko.

Nshinga :

2. Kujandula nshinga mipepele miela pa dibadika, dibala, difunda nomba ne kuenza makumi.

3- Bintu bia mudimu ne bia kujingulula nabi Muanda

- Mazola a muanda ;
- Tubulu tua kubadika

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda;
- Asulakaja muanda ne balongi ne abela nkonko bu eyi :
 - o Mujinga udi ne mbombo inga ku mbangilu ?
 - o Mbabanya bungi munyi ?
 - o Ambulusha Mujinga bua apeta bungi bua mbombo idi mimushadila ;
 - o Fila bungi bua bombo idi Mualuka mumutuadila ;
 - o Ku ndekelu, Mujinga udi kabidi ne mbombo ...

5- Dileja bintu bia mudimu ne mua kuenza nabi

- Pikala tubulu tua kubadika katuyiku, ne benzele tubuikidiji anyi tumitshi.

6- Dilongolola pa meba ne dienza bidi biuvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Balongi bajandula muanda eu mu tusumbu tua 2 anyi 3.
- b) Muanda onso ne bajandula mu malongesha 4 a tusunsa 45 ku dilongesha.
- c) Kulongolola mandamuna ne kuenzeke mu tshibungi.

7- Diumvuija, didibingisha, mibelu ne difila meji

Mulongeshi aleja balongi mishindu mishilangana ya kusulukaja nomba mu dibela nkonko mijalama. Balongi bakosolola nomba mushindu udibu basue.

8- Dijandula dia Muanda

- Enzela njila udi mumanya :

a) $84 - 31 = (80 - 30) + (4 - 1) = 50 + 3 = 53$

b) $63 + 24 = (60 + 20) + (3 + 4) = 80 + 7 = 87.$

c) $38 - 15 = (30 - 10) + (8 - 5) = 20 + 3 = 23$

d) $63 + 24 = (63 + 7) + (24 - 7) = 70 + 17 = 87$

Dibidija nkayebe

a) $77 - 35 = 42$

b) $58 + 42 = 100$

c) $24 + 43 = 67$

d) $86 - 53 = 33$

e) $63 - 21 = 42$

DIAMBULULA DIA TSHITUPA 5

Bipeta

1.

- a) Balongi badi bapumbisha kalasa : $25 - 20 = 5$;
- b) Bana ba bakaji badi bapumbisha kalasa : $30 - 27 = 3$
- c) Balongi badi mu kalasa : $20 + 27 = 47$
- d) Balongi bonso badi bapumbisha kalasa : $5 + 3 = 8$
- e) Balongi bakaji : $30 - 27 = 3$
- f) Balongi : $55 - 8 = 47$

2.

- | | | |
|---|---|---|
| a) $\begin{array}{r} 47 \\ - 36 \\ \hline 11 \end{array}$ | b) $\begin{array}{r} 97 \\ - 27 \\ \hline 70 \end{array}$ | c) $\begin{array}{r} 87 \\ - 56 \\ \hline 31 \end{array}$ |
|---|---|---|

3.

- a) Tshipapu tshia matumba 4 malulame ne nseka 4 ya bula bumue 5 cm
- b) Tshipapu tshia matumba 4 malulame ne luseka lumue lua 4 cm ne lukuabo lua 2 cm, milongo yende idi ituangaja matumba adi matangilangana.

4.

- a) $95 - 38 = (100 - 5) - (40 - 2) = (100 - 40) - (5 - 2) = 60 - 3 = 57$
- b) $29 + 17 = (20 + 9) + (10 + 7) = (20 + 10) + (9 + 7) = 30 + 16 = 46$
- c) $88 - 69 = (90 - 2) - (70 - 1) = (90 - 70) - (2 - 1) = 20 - 1 = 19$
- d) $57 - 24 = (50 - 20) + (7 - 4) = 30 + 3 = 33$

MUANDA 27 – LUYA ANYI MASHIKA A MUBIDI WA BILOLO

1- Bipatshila mu ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kuleja balongi mua kujadika, kuenzela ne kufuanyikija, luya lua mubidi lutshinka anyi lulelela.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu wa dilongesha dia makumi mu tshidia tshia kumpala tshia tulasa, mulongi **neajandula kakuyi lutatu muanda udi umulomba bua :**

- 1- Kufuanyikija, kupima, kutshinka ne kubala bukola bua luya lua mubidi.

Bipatshila bia pa buabi

4. Kutshinka ne kubadika tshipimu tshia luya lua mubidi.

3- Bintu bia mudimu ne bia kujingulula nabi Muanda

- Mazola a Muanda.
- Tshimfuanyikiji tshia tshipiminu tshia luya lua mubidi.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda.
- Abalomba bua kuandamunabu ku nkonko 1, 2 ne 3.
- Diandamuna ne dienzeka mu tshibungi.
- Alekela balongi bajoja luya lua mubidi wa muntu kayi usama, ludi lua 36°C.
- Disama dia mubidi luya didi dibanga pa 37° C.
- Alomba balongi bua kubalabu ne kufundabu bukola bua luya lua mubidi luikalabu bapima.
- Abapesha tusunsa tukumbane bua midimu ya mu tusumbu tua 2 anyi 3

5- Dileja bintu bia mudimu ne mua kuenza nabi

Tshipimu tshia luya lua mubidi anyi dizola diatshi ne nomba mishilashilangane idi ileja bukola bua luya lua mubidi lupima. Pikala tshipiminu katshiyiku, mulongeshi aya ne balongi miaba idi biamu ebi : ku tshiondopelu tshidi pabuipi ne tulasa.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Balongi ne bajandula muanda eu mu tusumbu tua 2 anyi 3.
- b) Muanda onso bajandula mu malongesha 3 a tusunsa 45 ku dilongesha.
- c) Nkonko ndabu ne bayandamuna ku mulongi.
- d) Kulongolola mandamuna ne kuenzeka mu tshibungi.

7- Dijandula dia Muanda

1. a) Kulonda bidi bienzeka mu kalasa : bu luya lua mubidi wa balongi
b) Mulongeshi ne ashindamena difunda ne dibadika bukola bua luya pa tshifuanyikijilu tshia tshipiminu tshia luya tshizola ku tshibasa.
c) Kulonda mandamuna a balongi.
2. a) 40°C b) 38°C
3. Luya lua mubidi wa BILOLO ndubanda ne 2°C
4. Kulonda mazola a balongi ku tshibasa
5.
 - a) MUSUASUA udi ne luya lua mubidi lua 38°C
 - b) KAYOLA udi ne luya lua mubidi lua 40°C
 - c) KASONGA udi ne luya lua mubidi lua 41°C
 - d) KAPINGA udi ne luya lua mubidi lua 39°C
 - e) MUSUASUA udi ne luya lua mubidi lua 40°C – 38°C = 2°C mishadila ku ya KAYOLA
 - f) KASONGA udi luya lua mubidi lua 41– 39 = 2° mipitshila ya Kapinga
6. Mmipuekela ku luya lua mubidi wa muntu.
Bualu luya lua mubidi wa muntu kayi usama ludi lua 36° ; lolu muinshi mua 0°C too ne 30°C ndukese bikola.

Dibidija nkayebe

- 1-
 - a) Ne b) Kulonda mfundilu wa luya lua mubidi pa tshipiminu tshia luya lua mubidi kudi balongi ku tshibasa.
 - b) 38°C
 - c) 28°C
 - d) 32 – 28 = 4°C
- 2- Ku Bukavu, luya lua mubidi ludi lua 18°C
- 3- Kulonda mfundilu wa luya lua mubidi pa tshipiminu tshia luya lua mubidi kudi balongi ku tshibasa

MUANDA 28 – KUTENTULULA MAZOLA

1- Bipatshila mu ndongeshelu mu Muanda

Balongi badi balonga mua kujadika, kufuanyikija mazola ne kuazolulula pa kabeji ka kaye ku bianza nkayabi anyi ne bintu bia kuzola nabi.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu wa dilongesha dia makumi mu tshidia tshia kumpala tshia tulasa, mulongi neajandula kakuyi lutatu muanda udi umulomba bua :

5. Kuzola tulongo ne bianza nkayabi anyi ne ne kaludiki ka sentmetelete 30.

Bipatshila bia pa buabi

Bipapu ne bintu bilundamane :

5. Kuzola bipapu ne bianza nkayabi
9. Kuzolulula pa kabeji ka tuzubu.

3- Bintu bia mudimu ne bia kujingulula nabi Muanda

- Mazola a muanda.
- Mabeji a tuzubu, kaludiki ka sentimetelete 30, tubuidikiji tudi katuyi ne menu, keleyo, ndundu wa kukupula nende.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda.
- Alekela balongi bua bajoja ne bazolulula nkayabu anyi ku muntu ku muntu, mazola adi mu muanda emu.
- Enda ku tshibasa tshionso bua kulongolola mazola a mulongi ne mulongi.
- Midimu ya pa nkonko idi mu Didibija ne bayenze kudi mulongi ne mulongi. Mulongeshi atangile dibeji dia mulongi yonso bua kudilongolola.

5- Dileja bintu bia mudimu ne mua kuenza nabi

Mulongeshi afuikakaja dizola dia mashinyi ikala balongi ne bua kuzololola pa mabeji a tuzubu pamue ne bipapu bishilangnana.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- a) Muanda onso ne baujandula mu tusumbu tua 2 anyi 3 ne mu malongesha 3 a tusonsa 45 ku dilongesha.
 - a) Muanda wa kumpala ne baujandula mu tusumbu tua 2 anyi 3 bua balongi kubatetabu kuleja bilema bidi bienza pa ditentula tshimfuanyi tshia mashinyi, Nebauzololola bua kulengeja bilema bikalabo bapeta

7. Diumvuija, didibingisha, mibelu ou difila meji

Mulongeshi ashindemena bua mulongi ikala ne keleyo ya makala mashilashilangana ne mabeji a tuzubu. Ne ambuluishe balongi ne mibelu bua kulongabu mua kuzola ku muntu anyi mu tusumbu tua 2 anyi 3.

6- Dijandula dia Muanda

- Kulonda mushindu udi mulongi yonso muzola.

MUANDA 29 – DILONDA NJILA MUKODIAKANA

1- Bipatshila bia ndongeshelu mu Muanda

- Muanda eu udi ne kipatshila ka kuleja balongi mua kuzola milongo, kuendela anyi kuendesha tshintu mu njila mukodiakana, anyi pa dibeji dia tuzubu bilondeshila njila mufile anyi wa kulondeshila.
- Kuendela mu njila mikodiakana bilondeshila tumanyinu ani tuvulukilu kampanda.
- Mulongeshi abalongesha mua kusungula palukasa njila wa kuendela muaba mukodiakana bua kufika lukasa muaba mufila.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu wa dilongesha dia makumi mu tshidia tshia kumpala tshia tulasa,
mulongi neajandula kakuyi lutatu muanda udi umulomba bua :

1. Kuditeka pa muaba anyi kushindika muaba udi tshintu mu tshibuashi bilondeshela bimanyinu bifila

Bipatshila bia pa buabi

Bipapu ne bintu bilundamane :

10. kuendela mu njila mikodiakana anyi pa tuzubu tua dibeji bilondeshila bimanyinu anyi tuvulukilu tufila.

3- Bintu bia mudimu ne bia kujingulula nabi Muanda

- Mazola a muanda.
- Mabeji a tuzubu, miketa.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda eu.
- Ashintakaja nabo ngenyi bua kushindikabo bimanyinu.
- Abela nkonko bua bajadika ne bumvua bimpe tshidibu ne tshia kuenza.
- Balongi bandamuna ku nkonko mu dishintakaja ngenyi munkatshi muabo ku tusumbu tua 2 anyi 3 ku bulombodi bua mulongeshi.

5- Dileja bintu bia mudimu ne mua kuenza nabi

- Ne benzele mabeji a tuzubu bua kuzola njila bilondeshela bimanyinu bifila kudi mulongeshi.

6- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

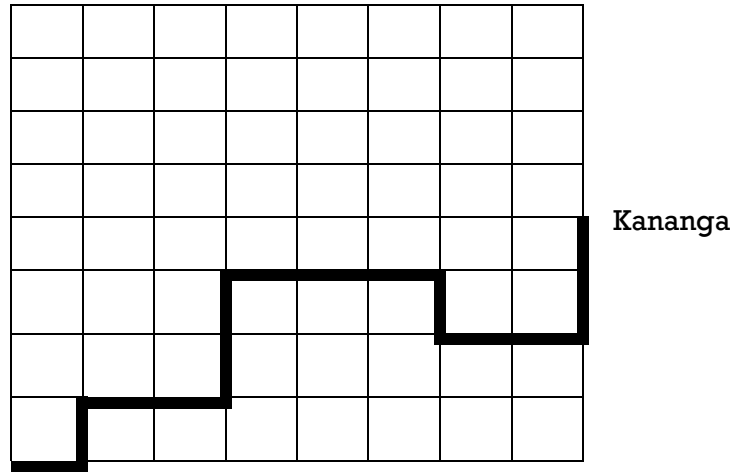
- a) Muanda eu baujandula mu tusumbu tua 2 anyi 3.
- b) Muanda onso baujandula mu malongesha 3 a tusonsa 45 ku dilongesha.

7- Diumvuija, didibingisha, mibelu ou difila menji

Muanda eu baulongesha munda mua kalasa, bauzola ku tshibasa anyi pa dibeji dia tuzubu. Ne bakeba njila bilondeshila bimanyinu.

8- Dijandula dia Muanda

a.



2.

- a) c
- b) a
- c) b

Dibidija nkayebe

1. Kulonda mandamuna a balongi.

MUANDA 30 – MPWE YA YOMBO YA MU KALASA

1- Bipatshila bia ndongeshelu mu Muanda

Balongi ne balonga mua kusangisha, kumushila ne kuvudija mu kukunguja imua nomba.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Bienzedi bia Makumi

2. Kusangisha, kumbushila, kuvudija ne kuabanya nomba idi munkatshi mua 0 ne 100

Bipatshila bia pa buabi

10. Kuenza makumi a disangisha, a diumbushila ne a divudija mu tuboko.

3- Bintu bia mudimu ne bia kujingulula nabi Muanda

- Mazola a Muanda

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi Muanda.
- Abela nkonko bua kujadika ne mbunvua muanda eu bimpe.
- Balongi bajandula muanda ku bulombodi bua mulongeshi.
- Ababanya mu tusumbu bilondeshela nkonko idibo mua kuandamuna
- Mulongeshi alonga mandamuna a balongi bua kubaleja bidi bishilangana mu ngenzelu wabwa wa makumi.

5- Dilongolola pa meba ne dienza bidi biumvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

- Muanda eu baujandula mu tusumbu tua balongi 3 anyi 4
- Bawenza mu malongesha 2 a tusonsa 45 ki dilongesha, dilongesha dimue dia tusunsa 45 bua kuandamuna ku nkonko miela mu muanda mene, ne tusunsa 45 bua muanda ne dilongesha dikuabo 1 bua kuandamuna ku nkonko ya « Dibidija nkayebe »

7- Dijandula dia Muanda

1.

a) $(6+4) + (5+5) + 2 + 3 = 25$

b) $(18+2) + (7+13) + (6+14) + 5 = 65$

c) $(13+7) + (9+1) + 2 + 5 = 37$

d) $(13+7) + (3+17) + (9+11) + 1 = 61$

Dibidija nkayebe

1.

- a) $1 + 10 + 20 = 31$
- b) $20 - 3 - 1 = 16$
- c) $20 - 8 + 50 = 62$
- d) $1 \times 10 - 9 = 1$

2.

- a) $5 + (2+8) = 5 + 10 = 15$
- b) $1 + (11+9) = 1 + 20 = 21$
- c) $(4+6) + 3 = 10 + 3 = 13$
- d) $3 + (12 + 8) = 3 + 20 = 23$

3.

- a) $13 - (3 + 5) = 13 - 8 = 5$
- b) $45 - (5 + 6) = 45 - 11 = 34$
- c) $50 - (10 + 9) = 50 - 19 = 31$

4.

- a) $12 - 10 = 2$
- b) $4 \times 3 = 12$
- c) $40 + 20 = 60$
- d) $35 + 15 = 50$
- e) $100 \times 1 = 100$

MUANDA 31 – MU DIFESTO DIA MAMBUYI

1- Bipatshila bia ndongeshelu mu Muanda

Muanda eu udi ne kipatshila ka kulongesha balongi mua kukosolola tshintu anyi nomba mu bitupa ne kuangata bitupa bidi bikengedibua.

Udi wipatshila kabidi bua kuleja balongi mua kupeta « tshia misangu ibidi ya », ne « tshia misangu inayi ya » nomba anyi mangi.

2- Bipatshila bia ndongamu

Bipatshila bia pankatshi

Ku ndekelu wa dilongesha dia makumi mu tshidia tshia kumpala tshia tulasa, **mulongi neajandula kakuyi lutatu mianda idi imulomba bua :**

7. kusulakaja nshinga mipepele.

Bipatshila bia pa buabi

Dibadika, dibala ne difunda nomba :

7. Kujadika, kuleja, kubala ne kufunda tshia tshimua tshia.

Bienzedi bia Makumi :

4. Kupeta tshintu misangu 2, tshia bibidi tshia, tshia misangu inayi ya, tshia binayi tshia tshia bisatu tshia nomba udi munkatshi mua 0 ne 100.

Nshinga :

2. Kujandula nshinga mipepele pa « tshia misangu ibidi ya », tshia bibidi tshia, « tshia misangu inayi ya », tshia binayi tshia tshia bisatu tshia nomba muikala munkatshi mua 0 ne 100 anyi tshia tshintu kampanda.

3- Bintu bia mudimu ne bia kujingulula nabi Muanda

- Pamutu pa olanji ne mangeya, badi mua kuangata tubuikidiji anyi tumabue.

4- Mudimu wa mulongeshi

- Mulongeshi aleja balongi muanda
- Abateka mu tusumbu tua 2 anyi 3 bua kuandamunabu ku nkonko. Balongi bazola ne bianza biabo anyi benzela bintu.
- Abumvuija pikalabi bikengedibua.
- Ashindamena pa dienzela dia makumi a mua kupeta tshia bisatu tshia 36.
- Ela balongi nkonko bua kubambuluisha bua bumvua bimpe.
- Benzela makumi a kupeta « tshia bisatu tshimue tshia » mu tusumbu tua 2 anyi 3.
- Ashindamena kabidi pa dikeba tshipeta tshia misangu 3 ya litele 2 idi ifila 2 x 3.

5- Bintu bia dijandula nabi Muanda ne mua kubipeta

Kuenza bisumbu bia tumabue anyi tubuikidiji bua kuleja mua kupeta « tshia bisatu tshimue tshia » bungi bua bimuma bidi Mbuyamba mupola.

8- Dilongolola pa meba ne dienza bidi biuvuija Muanda (meba, dilongolola dia kalasa, dienzela mu meba)

Muanda eu baujandula mu malongesha 3 a tusonsa 45 ku dilongesha.

6- Diumvuija, didibingisha, mibelu ou difila meji

Mulongeshi ne enzela tumabue, tubuikidiji anyi tumitshi bua kulongesha malongesha aa.

7- Dijandula dia Muanda

1. a) Bungi bua bana babalume : $1/3$ de 36 = $36 : 3 = 12$,
b) Bungi bua bana babakaji: $36 - 12 = 24$,
c) Kuteleja balongi ne kulongolola mandamuna abu.
2. Mu kazubu konso, kufunda 12 bua kupeta $1/3$ wa 36 = $36 : 3 = 12$.
3. Mu kazubu konso, kufunda 18 bua kupeta a $1/2$ de 36 = $36 : 2 = 18$.
4. a) MBUYAMBA mmupola olanji 22 misangu 3, mbuena kuamba ne $22 \times 2 = 44$
b) Kuteleja balongi ne kulongolola mandamuna abu.

Dibidija nkayebe

1. Udi ne keleyo $15 \times 3 = 45$, pananku kudi balongi 45.
2. Tatuenda wa KASONGA udi ne bidimu : $20 \times 3 = 60$.
3. Dionga udi ne kadito : $12 \times 3 = 36$, mbuena kuamba ne udi ne mikata : $12 \times 3 = 36$
4. Bula bua njila wa ILUNGA budi $1/3$ wa 90 km = $90 : 3 = 30$ km ; nkumushadila : $90 - 30 = 60$ km.
5. Muana yonso neapeta bisikita: $1/3$ de 75 = $75 : 3 = 25$.
KASONGO neapeta bisikita : tubuki 25 tua bisikita.
KAPINGA neapeta bisikita : tubuki 25 tua bisikita
MBUYAMBA neapeta bisikita: tubuki 25 tua bisikita

9- Didibija disakidila

$66 : 3 =$ $99 : 3 =$ $16 \times 3 =$ $28 \times 3 =$

DIAMBULULA DIA TSHITUPA 6

1. Zolulula anu mudibi.
2. 1) a) 45 b) 70
2) a) $27 - (7 + 3) = 17$ b) $(11 + 39) + 20$ c) $(20 - 10) + 7 = 17$
3. $100 - 60 = 40$ km
4. Mitsi ya mikanda idi : $3 \times 15 = 45$

TSHIATA TSHIA MALONGESHA NE MUA KUAPETA MU MIANDA

MALONGESHA	Mianda
Malongesha a pa nomba : Nomba ku 0 too ne ku 100	
1. Dibala ku nomba mukese 0 to ne ku nomba munene 9	M 0, M 1, M 11
2. Kubala ne kufunda nomba ku 0 to ne ku 20	M 0, M 1, M 4, M 6, M 8, M 11
3. Dibala dia nomba ku 0 to ne ku 100 miabanya mu tusumbu tua 2, 3, 4, 5, ...	M 0, M 1, M 11, M 17
4. Disangisha ne diumbushila dia nomba mishadila anyi ya bunene bumue ne 100	M3, M8, M9, M11, M20, M21, M26
5. Malongesha a pa nomba ku bisumbu bia 10. Bimue ne bia dikumi.	M8
6. Dilondakaja dia nom pa mulongomululama anyi wa tshijiengu.	M 0, M 1, M 2,
7. Tsha bibidi tshimue tshia, tshia bisatu tshimue tshia, tsha binayi tshimue tshia, tshia nomba anyi bunene bua tshintu	M 16, M 31
Bienzedi bienzeidi bia makumi	
1. Difuanyikija, dilondakaja, dienza tusumbu tua bintu, tua bantu, tua nomba : ku 0 to ne ku 100. - Dienzela bimanyinu : =, <, > ne mulongu wa nomba - Dilonga nomba kubangila ku mikesa anyi ku minene	M 0, M 1, M 2, M 7, M 8
2. Disangisha, diumbushila, divudija, diabanya mu tutupa kakuyi tshishadila	M 0, M 1, M 8, M 10, M 12, M 15, M 17, M 20, M 21
- 3. Disuikakaja ne disulakaja dia nomba mu diyisangisha any mu diyivudija	M 9, M 10, M 17, M 21
5. Mbangilu wa divudija anyi diabanya : bibidi, tsha bibidi, bisatu, tsha masatu, binayi, tsha manayi, tsha nomba anyi bunene bua tshintu	M 13, M 15, M 20, M 31
5. Bienzedi bia disangisha nomba : kushintulula miaba ya nomba mu disangisha	M 9, M 11, M 21
6. Disangisha muikala anyi kuyi upitshila ku dikumi	M 26
7. Kuenza bibasa bia disangishila anyi divudija	M 17
8. Diumbushila nomba ku mukuabo kakuyi anyi kuikala disomba	M 20, M 21, M 25
9. Dikeba nomba wa kusakidila ku mukuabo bua kukumbaja 100; Kusakidila nomba ku mukuabo bua kupeta 10, 20, 30, 40, ... 100	M 15, M 20, M 21
- 10. Dienza Disangisha, diumbushila, divudija anyi diabanya dikala ne imue nomba mu tuboko : dienza tusumbu tua nomba bua kupeta 10, 20, 30, 40, ...	M 26, M 30
Manene	
<i>Bula, bungi, bunene, diba et bombu</i>	
1. Difuanyikija dia bula, bunene, bungi bua bienguluke Dilondangana dia bintu bia bula bushilangana, bipanza bia bunene bushilangana, bintu bilundamana bia bunene bushilangana.	M 2, M 6, M 7, M 13, M 14, M 15,
2. Bipiminu bia : bula (m, dm, cm, dam), bungi (l, 1/2l et dl), manene (kg)	M 6, M 7, M 10, M 13, M 14, M 15, M 20, M 24
3. Bombu ya Kongo wa mungalata : mfualanga	M 10
4. Mianda ya kuenza mu dituku, mu lumingu, mu ngondo, mu tshidimu. - Difuanyikija : dituku, lumingu, ngondo ne tshidimu - Dilongolola dia meba a midimu ya kuenza ku dituku ne mu	M 18

lumingu	
5. Dibala diba pa ntanku wa miketa : : meba, tsha bibidi ne tsha binayi tsha diba dimue	M 19
6 : Bibidi, tshia bibidi, bisatu, tshia masatu, binayi, tshia manayi, tshia nomba anyi bunene bua tshintu	M 13, M 15, M 16, M 20
7. Tshipimilu tshia luya anyi mashika: Dibala dia nomba wa tshipeta tshipima tshia mashika anyi luya	M 27

Bipapu ne bilundamana

- 1. Dizola dia milongo milulame, dia tutupa tua mulongo mululame, dia milongo mikobama, dia milongo milulame mikosa mu tutupa ne nsongo miunzulula anyi mikuatakana	M 4, M 22
2. Dikebulula mena a bipapu bidi mua kupimibua : matumba anayi ne nseka bifuanangana, matumba ne nseka bifuanangana bibidi bibidi, matuma ne nseka bisatu, tshijengu	M 4, M 5, M 22
3. Kubunya, kukosa, kufita mekala, kulamika, kukudimuka, kutentakaja bipapu bidi bilonga (kale, leketangala, tiliyangala, tshipapu tshia tshijengu	M 4, M 22
4. Dizola pa dibeji ne tshianza nkayatshi bipapu bia matumba anayi ne nseka bifuanangana ; matumba ne nseka bifuanangana bibidi bibidi ; matumba ne nseka bisatu ; tshijengu ...	M 5
5. Dizola pa dibeji ne tshianza nkayatshi bipapu bia matumba anayi ne nseka bifuanangana ; matumba ne nseka bifuanangana bibidi bibidi ; matumba ne nseka bisatu ; tshijengu ...	M 22, M 28
6. Bunene ne dishilangana dia mishindu ya bipapu bilonga	M 22, M 24
7. Dizola pa dibeji ne katshi kalulame ka tshipiminu bipapu bia matumba anayi ne nseka bifuanangana ; matumba ne nseka bifuanangana bibidi bibidi ; matumba ne nseka isatu ; tshijengu ...	M 22, M 28
8. Kufunda milongo anyi kuyenza ne dibunya dia tshipapu ne kutuangaka matumba anyi nseka ya bipapu bia matumba anayi ne nseka bifuanangana ; matumba ne nseka bifuanangana bibidi bibidi	M 24
9. Kuzolulula pa mabeji dia tuzubu	M 28
10. Kuenda mu dilonda njila mukonyangala anyi mu bdilonda tuzubu tua dibeji dia kuzolela bipapu	M 29

Nshinga

1. Nshinga pa dibala dia nomba mu tusumbu ne tulongo ku dikumi-dikumi ne disangisha anyi diumbushila	M 8, M 16, M 20, M 23
2. Nshinga pa : bibidi, tsha bibidi, bisatu, tsha masatu, binayi, tsha manayi, tsha nomba anyi bunene bua tshintu	M 13, M 19, M 24, M 31
3. Kufuka, kufuikakaja nshinga mipepele pa nomba mifunda anyi pa bungu bua bintu bizola bikala munshi mua 100 ne ku ijandula	M9

Wamanya : M= Muanda

DIUNVUIJA DIA IMUE MIAKU YA MAKUMI

Tshiluba	Français
Alitimetiki	Arithmétique
Bia nseka mikumbanangana	Symétrie
Biambakanangana menemene	Superposition
Biamomume	Egalité
Bienguluke, luayiyi	Liquide (s)
Bienzedi bia makumi	Opération arithmétique
-bifuanangana	Semblable
-bikumbanangana	Equivalent
Bipapu ne bilundamane	Géométrie
Bitupa bikumbanangana	Part égale
Bitupa bishilangana	Part inégale
Bobu bumue	Autant
Bu bibidi	Pair
Buabanyi	Divisibilité
Buena	Appartenance
Bujitu	Lourd
Bule bua tshiala ne munu wa bukulu	Empans
Bumue, tshidikijilu	Unité
Bunene	Grandeur
Bunene bua munda,	Contenance
Bunene bua tshipapu	Superficie
Bungi bua kuabanyina	Dividende
Bungi kayi ?	Combien ?
Bungi, mangi	Quantité
butshiana	Largeur
Butumbuke	Hauteur
Dekakalame	Décagramme
Dekalitele	Décalitre
Dekametele	Décamètre
Dekele	Degré
Desilitele	Décilitre
Desimetele	Décimètre
Diabanya	Division
Diabanyina	Partage
Diabanyina mu bitupa biamomume	Partage égal
Diabanyina mu bitupa bishilangana	Partage inégal
Diabulula	Distribution
Diabulula	Partition
Diabulula, dikosolola, disulakaja	Décomposition
diakanangana, diunvuangana	Equivalence
Dialumingu	Dimanche
Diambulula	Bilan
Diametele	Diamètre
Diba	Heure
Dibidi	Mardi
Dibulungu	Boule
Didiundisha, divulangana didiunda,	Augmentation
Dienzela meba	Horaire

Difuanyikija	Comparaison
Difunda ne dibala mangi	Numération
Dijandula, Disonsola, dipangadika	Résolution (solution)
Dikosolola mu bitupa	Subdivision
Dikudimuna	Conversion
Dikumbanangana	Equilibre
Dikumi	Dix
Dikungija, Diteka mu bisumbu	Groupement
Dikuta,	Dizaine
Dilondangana kubangila ku mukese	Ordre croissant
Dilondangana kubangila ku munene	Ordre décroissant
Dilonga	Classement
Dilongesha, malongesha	Cours
Dilongolola	Rangement
Dimue	Lundi
Dinayi	Jeudi
Disambombo	samedi
Disangisha	Addition
Disangisha kakuyi bubombi	Addition sans report
Disangisha ne bubombi	Addition avec report
Disangisha pamue, disuikakaja	Composition
Disatu	Mercredi
Dishintakaja ngenyi	Echange des idées
Disumba	Achat
Disumbisha	Vente
Ditanu	Vendredi
Ditshinka	Estimation
Dituku	Jour
Diumbushila	Soustraction
Divudija	Multiplication
Dizola	Dessin
Iba mulolo	Après-midi
Kabala matuku	calendrier
Kabalashipu, kashipu nkenza	Juin
Kabitende, loshia matu kalame	Septembre
Kale, Tshipapu tshia matumba 4 malulame ne nseka 4 ya bula bumue	Gramme
Kaludiki	Règle
Kapapu	Bande
Kashipu mpumpumpu, tshimungu mulume	Juillet
Kasonsa ka diba	Minute
Kasua mansense, kasua bilundu	Octobre
Kasuabanga, kamuanga bikunda	Novembre
Katshinkatshi	Centre
Katupa ka mulongu mululame	Segment de droite
Kaye	Cahier
Keleyo, kiliyo	Crayon

Kilokalame	Kilogramme
Kilolitele	Kilolitre
Kilometele	Kilomètre
Kobunguluja	Arrondir
Kolonga	Classer
Kopa	Compas
Ku diabakaji dia	A gauche de
Ku diabalume dia	A droite de
Ku luseke lua	A côté de
Kuabanya	Diviser
Kuabulula	Distribuer
Kubala bungu	Compter
Kubalulula,	Dénombrer
Kuelekeja, kuidikija	Reproduire
Kuenza makumi	Calculer
Kuenza, kuasakaja	Effectuer
Kufuanyikija	Comparer
Kufunda (kuela) mushionyi	Tracer
Kuikala wa	Appartenir
Kujingulula, kushidinka	Identifier
Kukontonona	Corriger
Kukonyangaja	Courber
Kukudimuna	Convertir
Kulonga, kutapulula	Disposer
Kulongolola,	Ranger
Kumbushila	Soustraire
Kumpala	Devant
Kupandulula, kuabululakaja	Subdiviser
Kupanga, kupangila	Manquer
Kupima	Mesurer
Kupuekesha	Abaissier
Kusakidila, kudiundisha	Augmenter
Kusangisha	Additionner
Kushikuluja	Distinguer
Kusomba	Emprunter
Kuteka mu mulongo	Aligner
Kuteka mu mulongo	Ordonner
Kuteka munkatshi mua	Encadrer
Kutentekeja	Superposer
Kutshinka, kufuikakaja	Estimer
Kutshinka, Kutshintshika	Evaluer
Kutshintshikija	Equilibrer
Kutulakaja, kusulakaja,	Décomposer
Kuvudija	Multiplier
Kuvudija misangu ibidi	Doubler
Kuzola	Dessiner
Kuzola tshipapu	Construire une figure plane
Lekitangele, Tshipapu tshia matumba 4 malulame	Rectangle
Litele	Litre
Luabanya nkasu	Mars
Lubingu	Semaine
Luishi	Février
Lukama	Cent
Lumungulu, kalubi a bisala	Mai
Luseke	Côté
Lusongu, nsongu	Sommet

Makumi	Mathématiques
Mapita pa	Au moins
Mapita pa (ku)	Au plus
Mashadila pa	Au plus
Mashadila pa (ku)	Au moins
Mbangilu	Introduction
Metele a kutshibula	Mètre pliant
Mfulanga	Monnaie
Misangu ibidi ya	Double de
Misangu inayi ya	Quadruple de
Misangu isatu ya	Triple de
Mmabulungu a kubala nau mangi	Boulier compteur
Momume	Egal
Moyololo wa kupima bule	Chaîne d'arpenteur
Mpala wa muanda	Avant-propos
Muanda	Situation
Mujalamu wa diba	Midi
Mukandu, Mikandu	Consigne, consignes
Mukodiakana	labyrinthe
Mulongo	Trait, ligne
Mulongo mukonyangala	Ligne courbe
Mulongo mukuatakaji wa matumba abidi matangilangana	Diagonale
Mulongo mutshibuka	Ligne brisée
Mulongo wa bimue	Colonnes des unités
Mulongu muimane	Droite verticale
Mulongu mukuatakaji	Ligne fermée
Mulongu mululame	Ligne droite, droite
Mulongu munzuluke	Ligne ouverte
Mulongu musendame	Ligne oblique
Mulongu mutuangaji wa nkatshinkatshi	Médiane
Mulongu wa nomba	Droite numérique
Munangu	Recommandation
Munanu, dinengakana	Durée
Munda mua	A l'intérieur de
Munda munene, bungu bua bienguluke, Mpikilu	Capacité
Munshi mua	Au-dessous de
Mupite bujitu	Plus lourd
Musumba	Groupe
Mutamba kupepele ku	Plus léger que
Mutantshi	Distance
Mutshi	Arbre
Muvudiji	Multiplicateur
Nimelo	Numéro
Njanjanja	Exactement, avec justesse, précisément
Nshiki	Masse
Nshinga	Problème
Nyungulukilu	Rotation

Nzanzu, mbabi, ditabuluka	Habilité
Pa mutu pa	Au-dessus de
Pa nyima	Derrière
Pambelu	Dehors
Pambelu pa	A l'extérieur de
Pankatshi	Milieu
Panshi	En bas
Satilitile	Centilitre
Satimetele	Centimètre
Sekondi	Seconde
shiferi	Chiffre
Tshia (Bia) tshimue tshia (bia) ; Tshia bibidi tshia...	Fraction, sous- multiple ; la moitié de..., un demi de
Tshia bibidi	Moitié, Demi
Tshia binayi tshia	Quart
Tshia bisatu tshia	Tiers
-tshia ku tshidimu	Annuel
Tshia matuku onso	Quotidien
Tshia misangu kampanda ya ; Tshia misangu isatu ya...	Multiple de... ; le triple de...
Tshia nkatshinkatshi,	Moyenne,
Tshia pa tshiabanyinu	numérateur
Tshia tshijengu	Circulaire
Tshia tshimue tshia	Unité fractionnaire
Tshiabanyinu	Dénominateur
Tshiana, tshitupa	Élément
Tshiata tshia kuvudijila	Table de multiplication
Tshiata tshia nomba	Abaque
Tshiata tshia nomba	Tableau de numération
Tshibasa, tshiata	Tableau
tshibuashi	Espace
Tshidikijilu tshia bujitu	Unité de masse
Tshidikijilu tshia bule	Unité de longueur
Tshidikijilu tshia bunene bua bipapu	Unité de surface
Tshidikijilu tshia bungu bua bienguluke	Unité de capacité
Tshidikijilu tshia kutshifukilu	Unité naturelle
Tshidikijilu tshia tshipiminu	Unité de mesure
Tshidikijilu tshia tshipungidi	Unité conventionnelle
Tshidimu	Année
Tshiinyunguluka, binyunguluka	Rond
Tshijengu	Zéro
Tshikadilu :	propriété
-tshikese	Inférieur
Tshikondo tshia Ngondo isatu	Trimestre
Tshikumbajilu bua kupeta tshijinguluke	Complément d'un nombre

Tshikumbanangana	Complet
Tshilejelu, Tshimanyinu,	Symbole
- tshilelela, tshijalama	Exact
Tshilema	Erreur
Tshimanyinu, Tshilejelu	Signe
Tshimfuanyi tshia nomba	Schème
Tshimungu wa mashika, tshimungu mukaji, mudila	Août
-tshinene	Supérieur
Tshinyinguluke, Tshivungamane, tshitangu,	Arrondi
Tshiongo wa minanga	Janvier
Tshipapu	Région
Tshipapu	Surface
Tshipapu tshia matumba asatu Tiliyangela	Triangle
Tshipapu tshia mu luseke	Face
Tshipapu tshia tshijendu	Cercle
Tshipesa, tshitupa	Fraction
Tshipeta	Total
Tshipeta tshia diabanya	Quotient
Tshipeta tshia disangisha	Somme
Tshipeta tshia divudija	Produit
Tshipeta, diandamuna	Réponse
Tshipiminu	Instrument de mesure
Tshipiminu (Tshitempelu) tshia majitu,	Balance, bascule
Tshipiminu tshia bilundamane	Mesure de volume
Tshipiminu tshia bisumbu (bujitu)	Mesure de masse
Tshipiminu tshia bule	Mesure de longueur
Tshipiminu tshia bunene bua munda	Mesure de capacité
Tshipiminu tshia meba	Mesure de temps
Tshipita bunene ku	Plus grand que
Tshipita bunene ku	Plus gros que
Tshisanga nkasu	Avril
Tshishadila	Différence
Tshishadila	Reste
Tshishiminyinu	Prétexte
Tshisua munene, tshiukuta mbua	Décembre
Tshisumbu	Ensemble
Tshisumbu	Tas
Tshisungulujilu	Critère, caractère
Tshitupa tshia mulongo	Demi-droite
Tshitupa, tshipesa	Part
Tuboko	Parenthèse(s)
-wa kuabanya mu bitupa bikumbangana	Divisible
Wamanya bimpe	Notez bien