

Mathematics Challenge

GRADE 4 FIRST ROUND

SEPTEMBER 2005

NOTE:

- Answer the questions according to the instructions on the answer sheet.
- You may use a calculator.
- The questions test insight. Complex calculations are therefore unnecessary and time consuming.
- We hope you enjoy it!

Wiskunde-uitdaging

GRAAD 4 EERSTE RONDE

SEPTEMBER 2005

LET OP:

- Beantwoord die vrae volgens die instruksies op die antwoordblad.
- Jy mag 'n sakrekenaar gebruik.
- Die vrae toets insig. Omslagtige berekening is dus onnodig en tydrowend.
- Ons hoop jy geniet dit!

Umceli-mnjeni Ngezibalo

GRADE 4 UMJIKELO WOKUQALA

SEPTEMBHA 2005

QAPHELA:

- Phendula imibuzo ngokwemigaqo ekwiphepha olinikiweyo.
- Ungayisebenzisa I-Calculator.
- Imibuzo ivavanya ukuqonda kwakho. Izibalo ezide, ezixhakaxhaka aziyomfuneko.
- Siyathemba uyakulonwabela!

1. Which number is exactly halfway between 64 and 96?

(A) 79

(B) 81

1. Leliphi inani elilelona liphakathi kwama 64 nama 96?

(E) 78

2. What mass is indicated on the scale?

1. Watter getal is presies halfpad tussen 64 en 96?

(C) 82

(D) 80

2. Ingaba bungakanani ubunzima ngee kilogram obukhoniswa kwesi sikali?

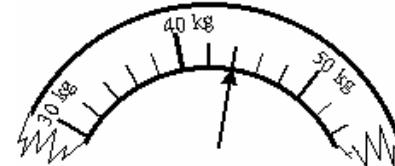
(A) 42 kg

(B) 40,2 kg

(C) 44 kg

(D) 40,4 kg

(E) 47 kg



Western Cape
Wes-Kaap
Ntshona-Koloni

In cooperation with the
Western Cape Education Department
Gauteng Education Department

Nasou Via Afrika



CASIO

RUMEUS

Research Unit for Mathematics Education
of the University of Stellenbosch

3. What number in the place of ∇ will make the following sentence true?

$$8 - 3 = \nabla - 8$$

- (A) 3 (B) 5

3. Watter getal in die plek van ∇ sal die volgende sin waar maak?

$$8 - 3 = \nabla - 8$$

- (C) 13 (D) 11

3. Leliphi inani elinokubekwa endaweni ka ∇ elinokuthi lenze esi sivakalisi samananani sibe yinyani?

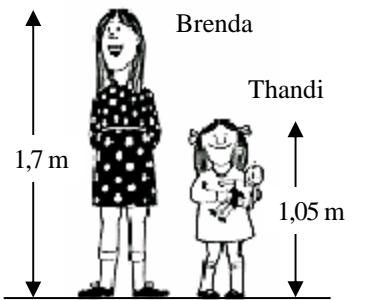
$$8 - 3 = \nabla - 8$$

- (E) 12

4. How much taller is Brenda than Thandi?

4. Hoeveel is Brenda langer as Thandi?

4. Ingaba u Brenda mde kangskanani kuno Thandi?



- (A) 65 m (B) 65 cm

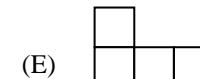
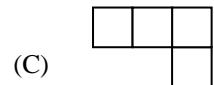
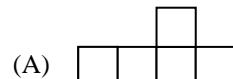
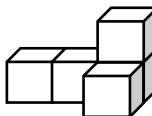
- (C) 65 mm (D) 1,8 m

- (E) 1,65 m

5. What will you see if you look at this block building directly from behind?

5. Wat sal jy sien as jy *presies* van agter na hierdie blokgebou kyk?

5. Ungabona ntoni ukuba unokusijongela ngqo ngasemva esi sakhiwo sebloko?



6. Mary has to be at school by 08:00. It takes her 15 minutes to get dressed, 20 minutes to eat and 35 minutes to walk to school. What is the latest that she should get up?

6. Mary moet om 08:00 by die skool wees. Dit neem haar 15 minute om aan te trek, 20 minute om te eet en 35 minute om skool toe te loop. Wat is die laatste wat sy moet opstaan?

6. U Mary kufuneka esesikolweni ngentsimbi yesi 08:00. Kuthi kumthathe I 15 lemizuzu ukunxiba, kuphinde kumthathe ama 20 emizuzu ukutya kuze kumthathe ama 35 emizuzu ukuhamba ngenyawo esiya esikolweni. Kuxa evuke mva kanganani apho anokufika ngexesha esikolweni?

- (A) 07:00

- (B) 06:50

- (C) 07:10

- (D) 07:50

- (E) 07:25

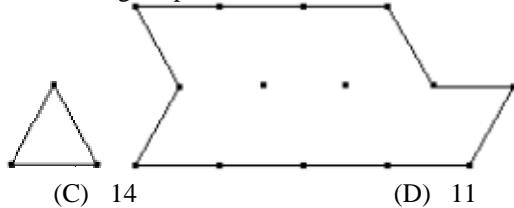
7. What fraction of the whole figure is shaded?
7. Watter breuk van die hele figuur hieronder is ingekleur?
7. Liqhezu elingakanani lalo mzobo elithe lenziwe mnyama?
- (A) $\frac{1}{2}$ (B) $\frac{10}{16}$ (C) $\frac{9}{16}$ (D) $\frac{7}{16}$ (E) $\frac{5}{32}$
-
8. Jason and Mary together have 96 stamps. If Jason has twice as many stamps as Mary, how many stamps does Mary have?
8. Jason en Mary het saam 96 seëls. As Jason tweeker soveel seëls as Mary het, hoeveel seëls het Mary?
8. U Jason no Mary bebocabini banezitampu ezingama 96. Ukuba izitampu zika Jason ziziphindaphinda kabini ezika Mary, zingaphi izi tampus zika Mary?
- (A) 48 (B) 46 (C) 32 (D) 16 (E) 44
-
9. Altogether, how many triangles are there in the figure below?
9. Hoeveel driehoekte is daar altesaam in die figuur hieronder?
9. Bebonke bangaphi oonxantathu abakulo mzobo ungezantsi?
- (A) 10 (B) 8 (C) 6 (D) 4 (E) 2
-
10. A carpet is thrown over a tile floor as shown below. How many tiles were used to tile the floor?
10. 'n Mat word oor 'n teëlvloer gegooi soos hieronder getoon. Hoeveel teëls is gebruik om die vloer te teël?
10. I methi iphoswe phezu komgangatho we tayile njengokuba kuboniswe ngezantsi. Zingaphi ii tayile ezasetyenziswa okugquma lomgangatho?
- (A) 28 (B) 180 (C) 90 (D) 200
- (E) One cannot say
Jy kan nie sê nie
Ubani akanakho ukuchaza
-

11. How many of the small triangle tiles are needed to cover the other figure exactly?

(A) 13

(B) 12

11. Hoeveel van die klein driehoekige teels is nodig om die ander figuur presies te bedek?



(C) 14

(D) 11

(E) 15

12. This road sign at a T-junction shows the distance, in kilometres, to three towns. What is the distance between Aloe and Boskop?

(A) 607 km

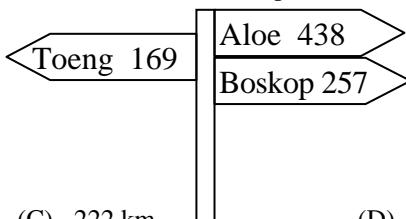
(B) 181 km

(C) 222 km

(D) 269 km

(E) 665 km

12. Hierdie padteken by 'n T-aansluiting gee die afstande, in kilometer, na drie dorpe. Wat is die afstand tussen Aloe en Boskop?



13. In the previous question: What is the distance between Aloe and Toeng?

(A) 607 km

(B) 181 km

13. In die vorige vraag: Wat is die afstand tussen Aloe en Toeng?

(C) 222 km

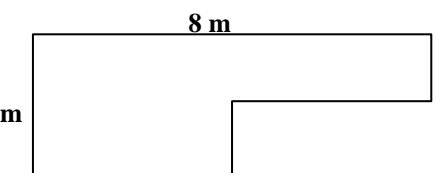
(D) 269 km

14. An ant walks once around the rectangular figure below, all along the lines. How far did the ant walk?

(A) 11 m

(B) 19 m

14. 'n Mier stap al op die lyne, een keer om hierdie reghoekige figuur. Hoe ver het die mier gestap?



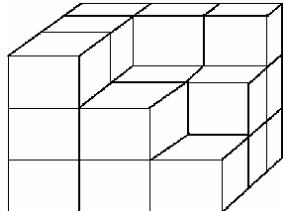
(C) 22 m

(D) 24 m

Not enough information
(E) Nie genoeg inligting nie
Ayonelanga inkcazelو

11. Zingaphi kwezi tayile zikanxantathu ezifunekayo ukogquma ngokupheleleyo lomzobo uboniseweyo?

12. Lo mfanekiso wendlela ofumaneka ekudibaneni kwemigaqo emibini efanisa nonobumba u T ibonisa imigama, ngokwe khilomitha, ukuya kwiidolophu ezintathu. Ingaba umgama ophakathi kwe Aloe ne Boskap mngakanani?

-
- | | | |
|--|---|--|
| <p>15. On which date is the hundredth day of the year 2005?</p> <p>(A) 11 April (B) 10 April</p> | <p>15. Op watter datum is die honderdste dag van die jaar 2005?</p> <p>(C) 9 April (D) 8 April</p> | <p>15. Ngowuphi umhla ozakuba lusuku lwe 100 kunyaka wama 2005?</p> <p>(E) 7 April</p> |
| <p>16. I have the following coins in my pocket: one 50c coin, one 20c coin, one 10c coin and one 2c coin. Which of the following amounts can I <i>not</i> give someone without making change?</p> <p>(A) 80c (B) 32c (C) 62c (D) 52c (E) 42c</p> | | |
| <p>17. How many small cubes were used to build this solid figure?</p> <p>(A) 27 (B) 22 (C) 17 (D) 9 (E) 21</p> | | |
|  | | |
| <p>18. At school A a bell rings every half hour and at school B a bell rings every 35 minutes. If the two bells ring together at 08:00, when will they ring together again?</p> <p>(A) 10:30 (B) 10:55 (C) 11:30 (D) 12:00 (E) 12:05</p> | | |
| <p>18. By skool A lui 'n klok elke half uur en by skool B lui 'n klok elke 35 minute. As die twee klokke gelyktydig om 08:00 lui, wanneer sal hulle weer gelyktydig lui?</p> | | |
| <p>19. Thabo drove 10 km east, then 5 km north, then 3 km east, then 11 km south, then 13 km west. How far is he now from his starting place?</p> <p>(A) 11 km (B) 6 km (C) 3 km (D) 5 km (E) 10 km</p> | | |
| <p>19. Thabo reis 10 km oos, toe 5 km noord, toe 3 km oos, toe 11 km suid en daarna 13 km wes. Hoe ver is hy nou van waar hy begin het?</p> | | |
| <p>19. U Thabo © 10 km ukuya empuma, waze waqhuba © 5 km ukuya emantla, waze waqhuba © 3 km ukuya empuma, waze waqhuba © 11 km ukuya emazantsi, waze waqhuba © 13 km ukuya entshona. Ingaba ukude kangakanani ngoku ukusukela apho aqale khona?</p> | | |
-

20. Jackie has four cards (see below). How many different two-digit numbers can she make with these cards?

(A) 9

(B) 12

(C) 16

(D) 4

(E) 24



21. In this number wall you add the two numbers next to each other and write the sum in the brick directly above the two numbers, e.g. $10 + 5 = 15$. Which number will be written in the top brick?

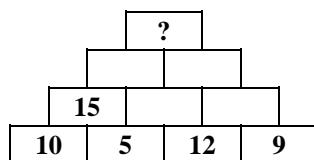
(A) 68

(B) 70

(C) 72

(D) 74

(E) 80



22. 5; 9; 13; 17; 21; ...

If the pattern is continued, which of these numbers will appear?

(A) 6126

(B) 6127

(C) 6128

(D) 6129

None of these
(E) Nie een hiervan nie
Asikho kwezi

23. Five children play tennis. Each child plays each of the others once. How many matches are played?

(A) 20

(B) 12

(C) 6

(D) 10

(E) 15

20. Jackie het vier kaarte (sien hieronder). Hoeveel verskillende tweesyfer getalle kan sy met hierdie kaarte maak?

20. U Jackie unamakhasi okudlala amane(bona ngesantsi). Mangaphi amanani anemivo emibini awahlukileyo anokuwenza ngala makhasi?

21. In hierdie getal-muur tel jy die twee getalle langs mekaar op en skryf die som in die blok direk bo die twee getalle, bv. $10 + 5 = 15$. Watter getal sal in die boonste blok geskryf word?

21. Kolu donga lwamanani inani ngalinye lisisiphumo sokudityaniswa kwamanani amabini angezantsi kwalo umz. $10 + 5 = 15$. Leliphi inani elinokufakwa kwesona sitena singaphezulu?

22. 5; 9; 13; 17; 21; ...

Watter van hierdie getalle sal voorkom as die patroon voortgesit word?

22. 5; 9; 13; 17; 21; ...

Ukuba olu luhlu longeziwe, ngeliphi elinye inani elinokuvela?

23. Vyf kinders speel tennis. Elke kind speel een keer teen elkeen van die ander. Hoeveel wedstryde word gespeel?

23. Abantwana abahlanu badlala intenetya. Umntwana ngamnye udlala nomnye kanye. Mingaphi imidlalo edlaliweyo?

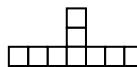
24. If the pattern below is continued, how many squares will Picture 53 have?



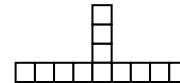
Picture 1
Prent 1
Umfanekiso 1



Picture 2
Prent 2
Umfanekiso 2



Picture 3
Prent 3
Umfanekiso 3



Picture 4
Prent 4
Umfanekiso 4

(A) 150

(B) 153

(C) 156

(D) 159

Not one of these
(E) Nie een hiervan nie
Asikho kwezi

25. If the pattern below is continued, how many squares will Picture 53 have?



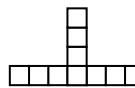
Picture 1
Prent 1
Umfanekiso 1



Picture 2
Prent 2
Umfanekiso 2



Picture 3
Prent 3
Umfanekiso 3



Picture 4
Prent 4
Umfanekiso 4

(A) 151

(B) 153

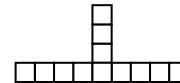
(C) 155

(D) 157

None of these
(E) Nie een hiervan nie
Ayikho kwezi

24. As die patroon hieronder voortgaan, hoeveel vierkantjies sal in Prent 53 wees?

24. Ukuba kuhanjwa ngoluhlobo lubonisiweyo ngezantsi umfanekiso wama 53 uyakuba unezikwere ezingaphi?

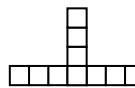


Picture 4
Prent 4
Umfanekiso 4

Not one of these
(E) Nie een hiervan nie
Asikho kwezi

25. As die patroon hieronder voortgaan, hoeveel vierkantjies sal in Prent 53 wees?

25. Ukuba kuhanjwa ngoluhlobo lubonisiweyo ngezantsi umfanekiso wama 53 uyakuba unezikwere ezingaphi?



Picture 4
Prent 4
Umfanekiso 4

None of these
(E) Nie een hiervan nie
Ayikho kwezi