

Mathematics Challenge

GRADE 4 FIRST ROUND
SEPTEMBER 2003

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!

1. If you see this sign on any of the roads in our country, what does it mean?

You may not drive faster than

- (A) 120 mm per second
- (B) 120 m per minute
- (C) 120 m per hour
- (D) 120 km per hour
- (E) 120 km per minute

2. This clock has been reflected in a mirror. What is the time?

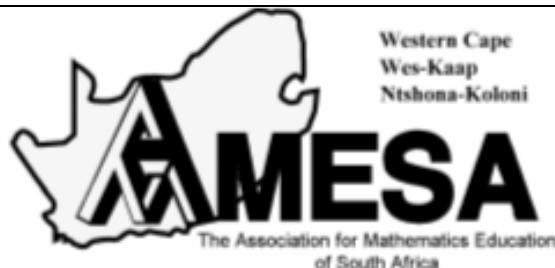
(A) 02:15

(B) 10:15

(C) 10:45

(D) 11:45

(E) 11:15



In cooperation with the
Western Cape Education Department
Gauteng Education Department

Wiskunde-uitdaging

GRAAD 4 EERSTE RONDE
SEPTEMBER 2003

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!

1. Wat beteken hierdie teken langs enige pad in ons land?

Jy mag nie vinniger ry nie as

- (A) 120 mm per sekonde
- (B) 120 m per minuut
- (C) 120 m per uur
- (D) 120 km per uur
- (E) 120 km per minuut



2. Hierdie horlosie is in 'n spieël gereflekteer. Hoe laat is dit?



1. Ukuba ubona olu phawu nakweyiphi na indlela kwilizwe lethu, luthetha ntoni?

Awunakuqhuba ngesantya esidlula

- (A) ama 120 mm ngo mzuzwana
- (B) ama 120 m ngo mzuzu
- (C) ama 120 m nge yure
- (D) ama 120 km nge yure
- (E) ama 120 km ngo mzuzu

2. Le wotsi ingumfuziselo we wotsi yokwenyani esipilini. Lingubani ixesha elililo?

Umceli-mngeni Ngezibalo

GRADE 4 UMJIKELO WOKUQALA
SEPTEMBHA 2003

QAPHELA:

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

Nasou Via Afrika



CASIO



RUMEUS

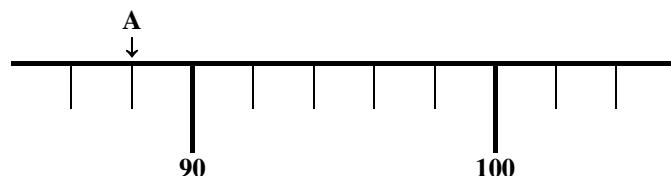
Research Unit for Mathematics Education
of the University of Stellenbosch

3. How many millimetres are there in a kilometre?
 (A) 1000 (B) 1000 000
3. Hoeveel millimeter is daar in 'n kilometer?
 (C) 100000 (D) 10000
3. Zingaphi ii millimetres ezifumaneka kwi kilometre?
 (E) 10000000
-

4. Which of the following is a good indication of how many millilitres there are in a full can of Coke?
 (A) 1000 (B) 80
4. Watter van die volgende is 'n goeie aanduiding van diehoeveelheid milliliter in 'n vol blikkie Coke?
 (C) 340 (D) 750
4. Yeyiphi kwezi zilandelayo ebonisa kakuhle ukuba zingaphi na i-millilitres kwitoti ezeleyo ye Coke?
 (E) 1250
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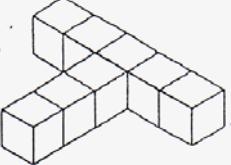
5. A secret code has the word BACON coded as CBDPO. What would be the code for EGGS?
 (A) SGGE (B) DFFR
5. In 'n geheime kode word BACON geskryf as CBDPO. Wat is die geheime kode vir EGGS?
 (C) FHHT (D) GIUU
5. I khodi eyimfihlakalo yenza ukuba igama BACON liguqulwe libe ngu CBDPO. Ikhodi ye gama EGGS iya kuba ngubani?
 (E) TUUZ
-

6. What is the number indicated by A on the measuring tape?
 (A) 89 (B) 80
6. Wat is die getal aangedui deur A op die maatband?
 (C) 92 (D) 88
6. Leliphi inani eliboniswa ngu A kule ntambo yokulinganisa?
 (E) 85
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7. On which date is the hundredth day of the year 2003?
 (A) 10 May (B) 11 April
7. Op watter datum is die honderdste dag van die jaar 2003?
 (C) 9 April (D) 8 April
7. Ngowuphi umhla ozakuba lusuku lwe 100 kunyaka wama 2003?
 (E) None of these
 (F) Nie een hiervan nie
 (G) Awukho kule
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8. 102 marbles are divided among 7 boys. How many more marbles are still needed so that each boy will receive the same number of marbles and there are none left over?
 (A) 1 (B) 2
8. 102 albasters word tussen 7 seuns verdeel. Hoeveel albasters is nog nodig sodat elke seun dieselfde getal albasters sal hê en daar niks sal oorbly nie?
 (C) 3 (D) 4
8. Amabhastile ali 102 ahlulewe amakhwenkwe asi 7.. Mangaphi amabhastile afunekayo ngaphezulu kweli nani ukuze inkwenkwe nganye izuze amabhastile alinganayo kungabikho asalayo?
 (E) 5
-

-
- | | | |
|---|--|---|
| <p>9. Zinkle has 15 marbles less than Zuki. Together they have 95 marbles. How many marbles does Zuki have?</p> <p>(A) 80 (B) 40</p> | <p>9. Zinkle het 15 albasters minder as Zuki. Saam het hulle 95 albasters. Hoeveel albasters het Zuki?</p> <p>(C) 50 (D) 110</p> | <p>9. U Zinkle unamapetyu angama 15 ukodlula u Zuki. Bebobabini banamapetyu angama 95. Mangaphi amapetyu kaZuki?</p> <p>(E) 55</p> |
| <p>10. 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> make with the coins?</p> <p>(A) 82c (B) 32c</p> | <p>10. Ek het die volgende munstukke in my sak: een 50c-stuk, een 20c-stuk, een 10c-stuk en een 2c-stuk. Watter van die volgende bedrae kan ek <i>nie</i> met die munte vorm nie?</p> <p>(C) 62c (D) 52c</p> | <p>10. Ndinezinkozo zemali epokothweni yam: ukhozo olunye lwama 50c, ukhozo olunye lwama 20c, ukhozo olunye lwesi 10c kunye nokhozo olunye lwesi 2c. Kwezi mali zidweliswe ngezantsi yeypifi endinokuphisa ngayo kungabikho ntsalela?</p> <p>(E) 42c</p> |
| <p>11. Eight cubes are put together to build this T-shaped figure. The outside of the figure is completely painted. The eight cubes are then separated again. How many of the cubes now have exactly 4 painted faces?</p> <p>(A) 2 (B) 3</p> | <p>11. Agt blokkies word gebruik om hierdie T-vorm te bou. Die buitekant van die vorm word daarna geverf. Die agt blokkies word dan weer losgemaak. Hoeveel van die blokkies het nou presies 4 geverfde kante?</p>  <p>(C) 4 (D) 5</p> | <p>11. Ityubhu ezsibhozo zibekwe zonke ukukwa lomfanekiso wonobumba u T. Umphandle wesi sajkhwi uwonke wathi waqatywa ngepeyinti. Zaphindwa zohlulwa kwakhona ezi tyhubhu zisisibhozo. Zingaphi kwezityhubhu ezinamacala amane obuso apeyintiweyo?</p> <p>(E) 6</p> |
| <p>12. A greengrocer charges 75c for a bunch of carrots, but at the market they cost R2 for 3 bunches. Your mother needs 6 bunches of carrots. How much would she save if she bought them at the market rather than at the greengrocer?</p> <p>(A) 25c (B) 48c</p> | <p>12. 'n Kafee vra 75c vir 'n bossie wortels, maar by die mark kos dit R2 vir 3 bossies. Jou ma het 6 bossies wortels nodig. Hoeveel sal sy spaar as sy dit by die mark in plaas van by die kafee koop?</p> <p>(C) 50c (D) 60c</p> | <p>12. Ivenkile yemifuno ibiza 75c ngexesha leminqathe kodwa emarikeni kuthengiswa izixa ezi 3 nge R2. Umama wakho ufuna izixa ez 6 ukulungiselela itheko. Yimalini enokumbuyela ngokuthenga iminqathe emarikeni anganokuyithenga kwivenkile yemifuno?</p> <p>(E) 75c</p> |
| <p>13. A man bought 5 boxes of apples at the market. Each box contains 63 apples. If he packs 9 apples in a plastic bag, how many bags will he fill?</p> <p>(A) 30 (B) 35</p> | <p>13. 'n Man het 5 dose appels by die mark gekoop. Elke doos bevat 63 appels. As hy 9 appels in 'n plastiese sakkie pak, hoeveel sakkies kan hy volmaak?</p> <p>(C) 40 (D) 45</p> | <p>13. Usomashishini weziqhamo uthenge ibhokisi ezi 5 zama apile emarikeni. Ibhokisi nganye inama apile ayi 63. Ukuba uthi afake ama apile asithoba kwisingxotyana, zingaphi izingxotyana anokuzizalise?</p> <p>(E) 50</p> |
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14. 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?



- (A) 07:00 (B) 06:50

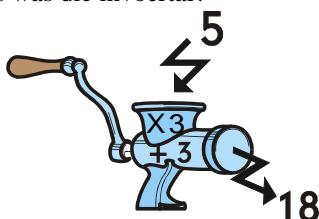
14. Mary moet om 08:00 by die skool wees. Dit neem haar 15 minute om aan te trek, 20 minute om te eet en 35 minute om skool toe te loop. Wat is die laatste wat sy moet opstaan?

- (C) 07:10 (D) 06:40

14. 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?

- (E) 06:25

15. If the number 5 is put into the number machine below, the output (answer) is 18. If the output is 36, what was the input?



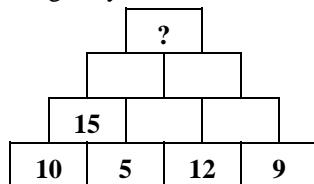
- (A) 10 (B) 23

- (C) 13 (D) 14

- (E) 11

16. 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?

16. 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?



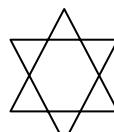
- (A) 70 (B) 68

- (C) 72 (D) 78

- (E) 80

17. Altogether, how many triangles are there in the figure below?

17. Hoeveel driehoeke is daar altesaam in die figuur hieronder?



- (A) 10 (B) 8

- (C) 6 (D) 4

17. Bebonke bangaphi oonxantathu abakulo mzobo ungezantsi?

- (E) 2

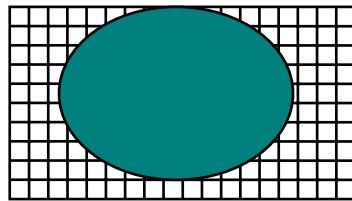
18. A carpet is thrown over a tiled floor as shown below. How many tiles were used to tile the floor?

(A) 28

(B) 180

(C) 90

(D) 200



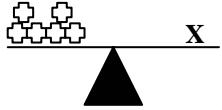
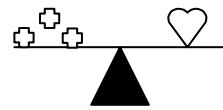
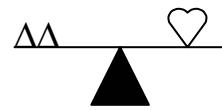
18. 'n Mat word oor 'n teëlvloer gegooi soos hieronder getoon. Hoeveel teëls is gebruik om die vloer te teël?

One cannot say
(E) Mens kan nie sê nie
Umuntu akanakutsho

19. The scales shown below are balanced. How many ΔS must be in the place of X?

(A) 3

(B) 4



19. Die skale wat hier onder gewys word, is in balans. Hoeveel Δe moet in die plek van X kom?

(C) 5

(D) 6

(E) 7

20. Siva is shorter than Temba. Eby is taller than Ram and Temba. Siva is also shorter than Ram but taller than Oscar. Who is the shortest of them all?

(A) Oscar

(B) Siva

(C) Temba

(D) Ram

(E) Eby

21. A shop makes sandwiches. You can choose from the following kinds of bread: white, brown and rye and from the following fillings: egg, polony, cheese, jam, fishpaste and peanut butter. How many different single-filling sandwiches are there for you to choose from?

(A) 9

(B) 3

(C) 18

(D) 6

20. Siva is korter as Temba. Eby is langer as Ram en Temba. Siva is ook korter as Ram, maar langer as Oscar. Wie is die kortste van almal?

20. U Siva mfutshane kuno Themba. U Eby yena mde kuno Themba kwakunye no Ram. U Siva mfutshane kuno Ram kodwa emde kuno Oscar. Ngowuphi ongoyena mfutshane kubo bonke?

21. Ivenkile ithengisa izonka eziqatiwego zahlohlwa. Ungakhetha: esimhlophe, esimdaka nesengqolowa: zihlohlwe iqanda, i-poloni, itshizi, i-jam, intlanzi netumata. Zingaphi iizonka ezahlukeneyo, ezihlohlwe into nganye onokuzikhetha kwezi?

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

22. Arnold 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?

(A) 6 km

(B) 11 km

(C) 3 km

(D) 5 km

(E) 10 km

23. You roll two dice and add the two scores, e.g. in the sketch the sum is 6. How many different answers are possible?

(A) 10

(B) 11

(C) 12

(D) 13

(E) 36

24. You roll two dice exactly 1000 times. Each time you find the sum of the two top numbers. Which sum can you expect to occur most often?

(A) 5

(B) 6

(C) 7

(D) 8

One cannot say
(E) Mens kan nie sê nie
Umntu akanakutsho

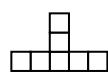
25. If the pattern below is continued, how many squares will Picture 100 have?



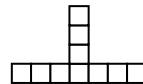
Picture 1
Prent 1
Umfanekiso 1



Picture 2
Prent 2
Umfanekiso 2



Picture 3
Prent 3
Umfanekiso 3



Picture 4
Prent 4
Umfanekiso 4

(A) 301

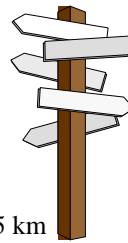
(B) 302

(C) 300

(D) 298

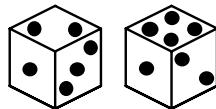
None of these
(E) Nie een hiervan nie
Asikho kwezi

22. Arnold 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?



22. UArnold uqhube i 10km ukuya empuma,waze waqhuba i 5 km ukuya emantla,waze waqhuba i 3 km ukuya empuma, waze waqhuba i 11 km ukuya emazantsi, waze waqhuba i 13 km ukuya entshona. Ingaba ukude kangakanani ngoku ukusukela apho aqale khona?

23. Jy rol twee dobbelstene en tel die twee getalle op, bv. in die skets is die som 6. Hoeveel verskillende antwoorde is moontlik?



23. Ukuba udovola amadayisi uze izikoro zozibini uzidibanise zingangaphi iziphumo zokokudibanisa kwakho onokuzifumana?

24. Jy gooi twee dobbelstene presies 1000 keer. Jy bepaal elke keer die som van die boonste twee getalle. Watter som kan jy verwag sal die meeste voorkom?

24. Uqengqe amadayisi amabini izihlandlo ezingama 1000. Ngalo lonke ixesha ufumana isiphuma sokudibanisa amanani angaphezulu. Sesiphi isiphumo ongalindela ukuba siya kuvela amaxesha amaninzi?