

Mathematics Challenge

GRADE 4 FINAL ROUND
14 OCTOBER 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. The sketch shows the speedometer of a car. At what speed is the car driving?

(A) 120 km/h

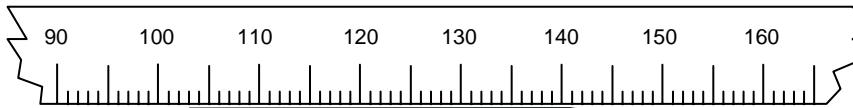
(B) 121 km/h

(C) 125 km/h

(D) 130 km/h

(E) 135 km/h

2. How long is the pencil?



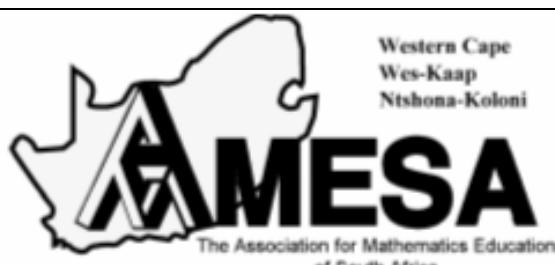
(A) 147 mm

(B) 154 mm

(C) 54 mm

(D) 44 mm

(E) 84 mm



In cooperation with the
Western Cape Education Department
Gauteng Education Department

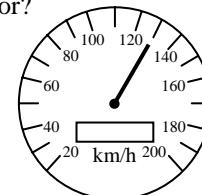
Wiskunde-uitdaging

GRAAD 4 FINALE RONDE
14 OKTOBER 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. Die skets wys die spoedmeter van 'n motor. Hoe vinnig ry die motor?



1. Lo mzobo ubonisa isixhobo sokubonisa isantya ebaleka ngaso imoto (speedometer). Ingaba lemoto iqhutywa ngesantya esingakanani?

Umceli-mnjeni Ngezibalo

GRADE 4 UMJIKELO WOKUGQIBELA
14 OKTHOBHA 2003

QAPHELA:

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

1. Hoe lank is die potlood?

2. Inde kangakanani le pensile?

Nasou Via Afrika



CASIO

RUMEUS

Research Unit for Mathematics Education
of the University of Stellenbosch

3. A chicken is placed in the oven at 09:15. If the chicken takes 1 hour 50 minutes to roast, when should it be taken out of the oven?

(A) 10:65

(B) 10:50

3. 'n Hoender word om 09:15 in die oond geplaas. As die hoender 1 uur 50 minute neem om gaar te braai, wanneer moet dit uit die oond gehaal word?

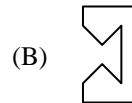
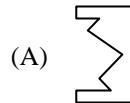
(C) 11:15

(D) 11:05

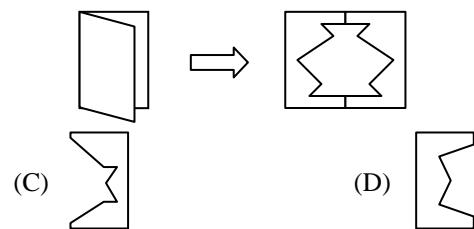
3. Inkuku ithe yafakwa kwindawo yokubhaka (oven)ngentsimbi yesi 09:30. Ukuba kuthabatha iyure e 1 nama 50 emizuzu ukubhaka inkuku, Kufuneka ikhutshwe nini kwi oven?

(E) 10:05

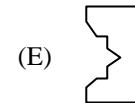
4. Suleiman made a picture by folding a piece of paper double and cutting out a shape on the folded edge. Which of these shapes did he cut out?



4. Suleiman het 'n prentjie gemaak deur 'n stuk papier dubbel te vou en 'n vorm op die gevoude kant uit te sny. Watter vorm het hy uitgesny?



4. U Suleiman wenza umfanekiso ngokuthi asonge iphepha kabini aze asike umzobo kweli cala lisongiwe ngendlela ebonisiwego. Ngowuphi kule mizobo awusikileyo?

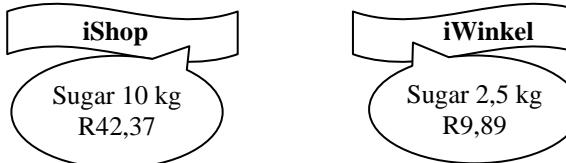


5. Mother needs to buy 10 kg of sugar. How much will she save if she buys the sugar at iWinkel instead of at iShop?

(A) R2,18

(B) R2,81

5. Ma moet 10 kg suiker koop. Hoeveel sal sy spaar as sy die suiker by iWinkel in plaas van by iShop koop?



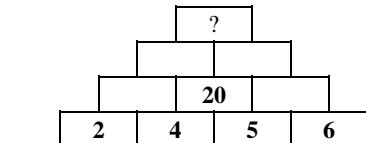
5. U mama kufuneka athenge i 10 kg yeswekile. Uyakuthi onge malini ukuba ute the wathenga iswekile kwisitolo sakwa Wenkil endaweni yesitolo sakwa Shop?

6. In this number wall you multiply the two numbers next to each other and write the answer in the brick directly above the two numbers, e.g. $4 \times 5 = 20$. Which number will be written in the top brick?

(A) 960

(B) 9 600

6. In hierdie getal-muur vermenigvuldig jy die twee getalle langs mekaar en skryf die antwoord in die blok direk bo die twee getalle, bv. $4 \times 5 = 20$. Watter getal sal in die boonste blok geskryf word?



(C) 960 000

(D) 96

(E) 96 000

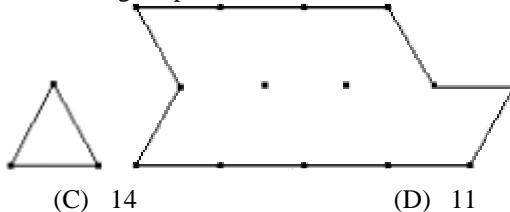
6. Kolu donga lwamanani inani ngalinye lisisiphumo sokuphindaphindwa kwamanani amabini angezantsi kwalo umz. $4 \times 5 = 20$. Lingubani inani elinobhalwa kwesona sitena singaphezulu?

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

(A) 13

(B) 12

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



(C) 14

(D) 11

(E) 15

8. Jim and Bongani are playing a game – the one with the highest total points wins. This table shows how many points they each scored. Who won, and by how many points?

- (A) Jim won by 25 points
 (B) Jim won by 100 points
 (C) Bongani won by 25 points
 (D) Bongani won by 175 points
 (E) None of these

8. Jim en Bongani speel 'n speletjie – die een met die hoogste totale punte wen. Die tabel wys die punte wat hulle gekry het. Wie het gewen en met hoeveel punte?

	Jim	Bongani
Round 1	125	100
Round 2	125	125
Round 3	150	100
Round 4	50	150

- (A) Jim wen met 25 punte
 (B) Jim wen met 100 punte
 (C) Bongani wen met 25 punte
 (D) Bongani wen met 175 punte
 (E) Nie een hiervan nie

9. Which number represents the shaded part of the figure?

(A) 2,8

(B) 0,5

9. Watter getal stel die verdonkerde deel van die figuur voor?



(C) 0,2

(D) 0,1

(E) 0,02

10. Ben and Hanlie took strawberries from a basket. Ben took $\frac{1}{3}$ of the strawberries and Hanlie took $\frac{1}{6}$. What fraction of the strawberries remains in the basket?

(A) $\frac{1}{2}$ (B) $\frac{1}{3}$

10. Ben en Hanlie vat aarbeie uit 'n mandjie. Ben vat $\frac{1}{3}$ van die aarbeie en Hanlie vat $\frac{1}{6}$. Watter breuk van die aarbeie bly oor in die mandjie?

(C) $\frac{1}{6}$ (D) $\frac{1}{18}$ (E) $\frac{1}{24}$

7. Zingaphi kwezi tayile zikanxantathu ezifunekayo ukogquma ngokupheleleyo lomzobo ubonisiwego?

8. U Jim no Bongani badlala umdlalo – othe wazuza amanqaku aphezulu nguye ophumelelayo. Le tafile ibonisa amanqaku abathe bawaphumelela ngabanye. Ngubani othe waphumelela, ephumelela ngamanqaku amangaphi?

- (A) U Jim uphumelele ngamanqaku angama 25
 (B) U Jim uphumelele ngamanqaku ali 100
 (C) U Bongani uphumelele ngamanqaku angama 25
 (D) U Bongani uphumelele ngamanqaku ali 175
 (E) Ayikho kwezi

9. Leliphi kula manani elimele indawo eyenziwe mnyama kwesi sakhiwo?

10. U Ben no Hanlie bakhupha amaqaunube kwisingxobo. U Ben wakhupha isi $\frac{1}{3}$ samaqaunube waza u Hanlie wakhupha isi $\frac{1}{6}$. Ingaba liqhezu elingakanani lalamaqaunube elithe lasala kwisingxobo?

11. Eight cubes are put together to build this U-shaped figure. The outside of the figure is then painted. The eight cubes are then separated again. How many of the cubes now have exactly four painted faces?

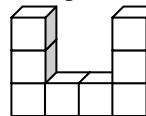
(A) 4

(B) 5

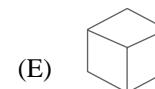
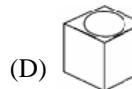
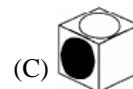
(C) 6

(D) 7

(E) 8



12. Which of the cubes can be folded from this net?



13. 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?

(A) 10:30

(B) 10:55

(C) 11:30

(D) 12:00

(E) 12:05

14. A grocer packed oranges from a crate into five boxes in the following way: First he put 100 oranges in each box. Then he put 10 oranges into each box and then another 10 in each box. After he had put four more oranges in each box, there were no more oranges left. How many oranges were in the crate?

(A) 124

(B) 620

(C) 560

(D) 720

(E) 240

15. How many different ways can you make an amount of 50c using only 5c, 10c and 20c coins?

(A) 9

(B) 11

(C) 14

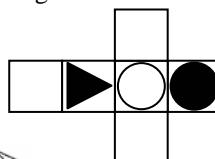
(D) 12

(E) 10

11. Agt blokkies word gebruik om hierdie U-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 vier geverfde kante?

11. Iityubhu ezsibhoho zibekwe zonke ukwakha lomfanekiso wonobumba uU. Umphandle wesis sakhiwo wathi waqatywa ngepeyinti. Zaphindwa zohlulwa kwakhona ezi tyhubhu zisisibhoho. Zingaphi kwezityhubhu ezinamacala amane obuso apeyintiweyo?

12. Watter kubus kan gevou word uit hierdie net?



12. Yeyiphi kwezi tyhubhu enokwakhiwa ngokuthi isongwe kusetyenziswa le nethi?

13. 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?

13. Kwisikolo U A intsimbini ikhala rhoqo emva kwesiqingatha seyure. Kwiskolo B intsimbini ikhala emva kwemizuzu engama 35. Ukuba zithe ezintsimbini zimbini zakhala kunye ngentsimbini yesi 08:00, ziyakukhala nini kwakhona ngaxeshanye?

14. 'n Winkelier pak lemoene uit 'n krat in vyf bokse op die volgende manier. Eers pak hy 100 lemoene in elke boks, daarna pak hy 10 lemoene in elke boks en daarna nog tien lemoene in elke boks. Nadat hy nog vier lemoene in elke boks gepak het, is daar geen lemoene oor nie. Hoeveel lemoene was daar in die krat?

14. Umthengisi uthe wapakisha ama orenji ewakhuphela kwibhokisana ezintlanu ngolu hlobo: Okokuqala ufake i 100 lama orenji kwibhokisi nganye kwezi zi 5. Waza wafaka i 10 kwibhokisi nganye wakugqiba wafaka kwakhona elinye i 10 kwibhokisi nganye. Emva kokuba efake ama orenji amane kwibhokisi nganye, athi aphela ama orenji. Aye mangaphi lama orenji ewonke?

15. Op hoeveel verskillende maniere kan 'n mens 'n bedrag van 50c maak deur net 5c, 10c en 20c munte te gebruik?

15. Zingaphi indlela ezahlukeneyo ongakhupha ngazo ama 50c usebenzisa kuphela iinkozo ze 5c, 10c okanye ezama 20c?

16. A two-digit number is less than 50. The sum of the two digits is 12 and the difference between the digits is 4. What is the number?

(A) 37

(B) 84

17. The diagram shows the positions of six towns on an island. Circles, 50 km apart, have been drawn to show the distance of the towns from Ross. How far is Elgib from Ross?

(A) 50 km

(B) 75 km

(C) 100 km

(D) 150 km

(E) 200 km

18. Refer to question 17. Which town lies North-West of Ross?

(A) Troy

(B) Kesso

19. Refer to question 17. Which two towns are the same distance from Ross?

(A) Troy & Elgib

(B) Kesso & Cowl

20. John had R15. His mom gave him another R6,75. He now has $\frac{3}{4}$ of the money he needs to buy a book. How much does the book cost?

(A) R29,00

(B) R21,75

(C) R31,50

(D) R16,32

(E) R34,25

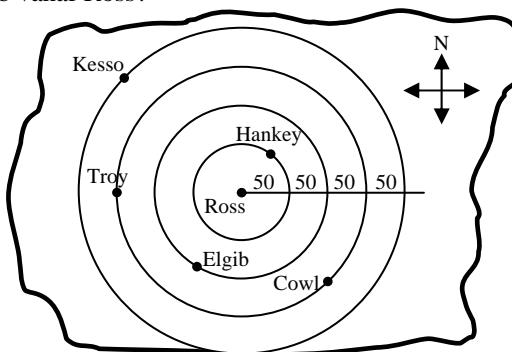
16. 'n Twee-syfer getal is minder as 50. Die som van die twee syfers is 12 en die verskil tussen die syfers is 4. Wat is die getal?

(C) 39

(D) 26

(E) 48

17. Die diagram wys die posisies van ses dorpe op 'n eiland. Sirkels, 50 km uitmekaar, is getrek om die afstand van die dorpe vanaf Ross te toon. Hoe ver is Elgib vanaf Ross?



18. Verwys na vraag 17. Watter dorp lê Noordwes van Ross?

(C) Hankey

(D) Elgib

18. Jonga umbuzo 17. Yeyiphi kwezidolphu ekumntla ntshona we Ross?

(E) Cowl

19. Verwys na vraag 17. Watter twee dorpe is ewe ver vanaf Ross?

(C) Hankey & Elgib

(D) Kesso & Troy

19. Jonga umbuzo 17. Zeziphi iidolphu ezihleli kumgama olinganayo ku Ross?

(E) Cowl & Troy

20. John het R15. Sy ma gee hom nog R6,75. Hy het nou $\frac{3}{4}$ van die geld wat hy benodig om 'n boek te koop. Wat kos die boek?

20. U John une R15. Umama wakhe wathi wamnika i R6,75 ngaphezulu. Ngoku unesi $\frac{3}{4}$ semali ayidingayo ukuze akwazi ukuthenga incwadi. Ingaba lencwadi ixabisa malini?

21. A box with 30 chocolates has a mass of 1,1 kg.
If 12 chocolates are taken out, it has a mass of 680 g.
What is the mass of the empty box?

(A) 420 g

(B) 35 g

22. In 5 year's time the combined age of 4 sisters will be 100 years. What is their combined age now?

(A) 80

(B) 95

23. Vuyo must number the 100 room doors in a new hotel with plastic digits, from room 1 to room 100. How many digit 1s does he need?

(A) 10

(B) 19

24. 5; 9; 13; 17; 21; ...

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

(A) 6126

(B) 6127

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

(A) 2000

(B) 2010

21. 'n Doos met 30 sjokolades het 'n massa van 1,1 kg. As 12 sjokolades uitgehaal word, het dit 'n massa van 680 g. Wat is die massa van die leë doos?

(C) 40 g

(D) 50 g

(E) 65 g

22. Oor 5 jaar sal die gesamentlike ouderdom van 4 susters 100 jaar wees. Wat is hul gesamentlike ouderdom nou?

(C) 75

(D) 60

(E) 90

23. Vuyo moet die 100 kamerdeure in 'n nuwe hotel met plastiekstellers nommer, van kamer 1 tot kamer 100. Hoeveel syfer 1s het hy nodig?

(C) 20

(D) 21

(E) 22

24. 5; 9; 13; 17; 21; ...

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

(C) 6128

(D) 6129

24. 5; 9; 13; 17; 21; ...

Ukuba olu luhlu longeziwe, ngeliphi elinye inani elinokuvela?

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

25. As die patroon hieronder voortgesit word, hoeveel vierkantjies sal in Prent 100 wees?



Picture 1
Prent 1
Umfanekiso 1



Picture 2
Prent 2
Umfanekiso 2



Picture 3
Prent 3
Umfanekiso 3



Picture 4
Prent 4
Umfanekiso 4

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

(C) 1300

(D) 5100

25. Ukuba kuhanjwa ngoluhlobo lubonisiwego ngezantsi umfanekiso wama 100 uyakuba unezikwere ezingaphi?