

Mathematics Challenge

GRADE 4 FINAL ROUND
12 OCTOBER 2004

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 FINALE RONDE
12 OKTOBER 2004

LET OP:

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

Umceli-mngeni Ngezibalo

GRADE 4 UMJIKELO WOKUGQIBELA
12 OKTHOBHA 2004

QAPHELA:

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

1. One of these digital clocks is not working properly. Which one?



2. A watch gains 30 seconds every six hours. How many minutes will it gain in a week?

(A) 10

(B) 2

1. Een van hierdie digitale horlosies is stukkend. Watter een?

2. 'n Horlosie wen 30 sekondes elke ses uur. Hoeveel minute sal dit in 'n week wen?

(C) 7

(D) 14



1. Enye yeziwotshi zingezantzi ayisebenzi kakuhle. Yeyiphi?

2. Iwotshi ithi ibe phambili ngemizuzwana engama 30 rhoqa emva kweeyure ezi 6. Mingaphi imizuzu ezakubaphambili ngayo emva kweveki enye?

(E) 21

3. A movie on television is 2 hours 55 minutes long and ends at 16:45. At what time did it start?

(A) 14:50

(B) 14:10

3. 'n Film op televisie is 2 uur 55 minute lank en eindig om 16:45. Hoe laat het die film begin?

(C) 13:50

(D) 13:10

3. Umboniso bhanya-bhanya we Television uthatha iyure ezi 2 nemizuzu eyi-55 kwaye uphela ngentsimbi ye 16:45 . Ingaba uqale nini?

(E) 14:25



In cooperation with the
Western Cape Education Department
Gauteng Education Department

Nasou Via Afrika



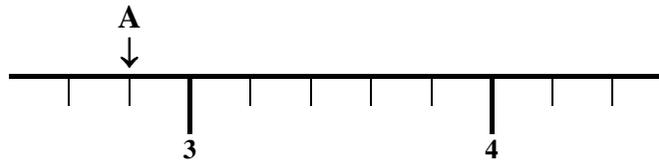
CASIO

RUMEUS

Research Unit for Mathematics Education
of the University of Stellenbosch

4. Brad and Sizwe caught a total of 15 fish. Brad caught one more than Sizwe. How many fish did Sizwe catch?
- (A) 7 (B) 8 (C) 16 (D) 15 (E) 14

5. What is the number indicated by A on the ruler?
5. Wat is die getal aangedui deur A op die liniaal?
5. Leliphi inani eliboniswa ngu A ?

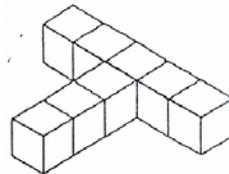


- (A) 2,9 (B) 2,8 (C) 2,95 (D) 2,6 (E) 2

6. Which of the statements is the correct one?
- (A) $\frac{3}{4}$ kg = 0,45 kg (B) $\frac{3}{4}$ kg = 0,55 kg (C) $\frac{3}{4}$ kg = 0,65 kg (D) $\frac{3}{4}$ kg = 0,75 kg (E) $\frac{3}{4}$ kg = 0,85 kg

7. Zinkle has 15 marbles less than Zuki. Together they have 95 marbles. How many marbles does Zuki have?
- (A) 80 (B) 40 (C) 55 (D) 50 (E) 110

8. 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?
8. 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?

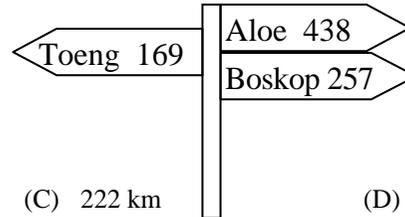


- (A) 2 (B) 3 (C) 4 (D) 5 (E) 6

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

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

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



(A) 607 km

(B) 181 km

(C) 222 km

(D) 269 km

(E) 665 km

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

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

10. Ngokombuzo ongentla: Mgakanani umgama ophakathi kwe Aloe ne Toeng?

(A) 607 km

(B) 181 km

(C) 222 km

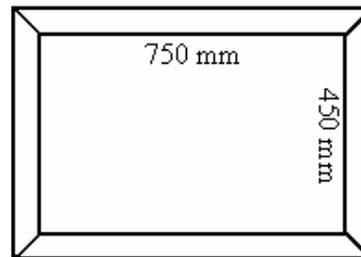
(D) 269 km

(E) 665 km

11. A man wants to build a frame around the picture as shown. The framing is 75 mm wide. What length of framing does he need?

11. 'n Man wil 'n houtraam vir 'n prent maak soos getoon. Die raam is 75 mm wyd. Watter lengte raamhout het hy nodig?

11. Indoda ifuna ukufakela kule feyimu kulomfanekiso. Freyimu 75 mm ububanzi. Bungakanani ubude abufunayo?



(A) 1,500 m

(B) 2 m

(C) 2,500 m

(D) 3 m

(E) 3,500 m

12. In question 11, what is the cost of the framing at R45,65 per metre?

12. In vraag 11, wat kos die raamhout teen R45,65 per meter?

12. Kumbuzo 11, liyimalini ixabiso le freyimu xa iyi R45,65 imitha?

(A) R125,40

(B) R134,75

(C) R145,95

(D) R136,95

(E) R155,65

13. What is the next number in this pattern?
1,7; 3,4; 6,8; ...

13. Wat is die volgende getal in hierdie getalpatroon?
1,7; 3,4; 6,8;

13. Leliphi inani elilandela lamanani kolu luhlu lwamani?
1,7; 3,4; 6,8; ...

(A) 10,6

(B) 12,6

(C) 11,6

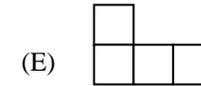
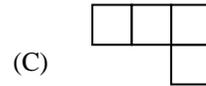
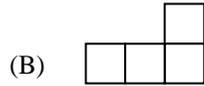
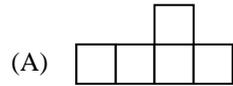
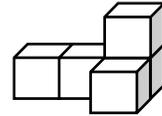
(D) 9,6

(E) 13,6

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

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

14. Ungabona ntoni ukuba unokusijongela ngqo ngasemva esi sakiwo sebloko?



15. The sketch shows how houses are numbered in Albury Street.

15. Die skets toon hoe huise in Alburystraat genommer word.

15. Lena yindlela ezifakwa ngayo inombolo zezindlu zase Albury Street.

Caroline lives at number 36
Con lives at number 37
Luke lives at number 38
Maria lives at number 39
Angelo lives at number 40
Marc lives at number 42

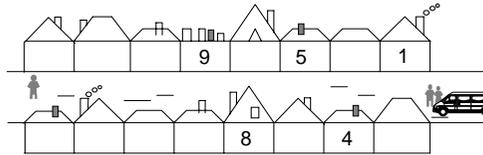
Caroline woon in nommer 36
Con woon in nommer 37
Luke woon in nommer 38
Maria woon in nommer 39
Angelo woon in nommer 40
Marc woon in nommer 42

UCaroline uhlala kwinombolo 36
UCon uhlala kwinombolo 37
ULuke uhlala kwinombolo 38
UMaria uhlala kwinombolo 39
UAngelo uhlala kwinombolo 40
UMark uhlala kwinombolo 42

Who lives opposite Luke?

Wie woon direk oorkant Luke?

Ngubani ohlala phambi ko Luke ?



(A) Caroline

(B) Con

(C) Maria

(D) Angelo

(E) Marc

16. Delia has 24 marbles more than Bingo and Thandi has 24 less than Bingo. If Bingo has 71 marbles, how many do they have altogether?

16. Delia het 24 albasters meer as Bingo en Thandi het 24 minder as Bingo. As Bingo 71 albasters het, hoeveel het hulle altesaam?

16. UDelia unamabhasitile angama-24 ngaphezu kunaka Bingo yena uThandi unama-24 ngaphantsi kunaka Bingo. Ukuba uBingo unama-71 amabhasitile, mangaphi ewonke amabhasitile abanawo?

(A) 211

(B) 213

(C) 215

(D) 217

(E) 219

17. 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?

17. 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?

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

(A) Oscar

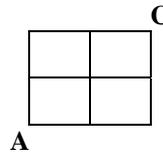
(B) Siva

(C) Temba

(D) Ram

(E) Eby

18. A shop sells potatoes in big bags with 40 potatoes for R35,60. If they want to sell smaller bags of 15 potatoes for the same price, what should the price of the smaller bag be?
- (A) R10,68 (B) R13,35 (C) R17,80 (D) R16,40
-
18. 'n Winkel verkoop groot sakke met 40 aartappels vir R35,60. As hulle kleiner sakkies met 15 aartappels teen dieselfde prys wil verkoop, wat moet die prys van die kleiner sakkie wees?
- (A) R10,68 (B) R13,35 (C) R17,80 (D) R16,40
18. Ivenkile ithengise iitapile ngezingxobo ezinkulu ezifakwe iitapile ezingama 40 kwisingxobo ngasinye ngama R35,60. Ukuba bafuna ukuthengisa izingxotyana ezincinci ezinetapile ezili 15 ngexabiso elifanayo, isingxotyana ngasinye esincinane siya kuxabisa malini?
- (E) R15,65
-
19. If you begin with a one-digit number, multiply it by 3, then add 8, then divide by 2 and then subtract 6, you will get the original number back. What is the number?
- (A) 2 (B) 8 (C) 6 (D) 5
19. As jy begin met 'n eensyfergetal, dit vermeningvuldig met 3, dan 8 bytel, dan deel deur 2 en dan 6 aftrek, sal jy die oorspronklike getal kry. Wat is die getal?
- (A) 2 (B) 8 (C) 6 (D) 5
19. Ukuba uqalela ngenani elinedijiti enye, liphindaphinde nge 3, uze udibanise isi 8, wandule ukohlula ngesi 2 emva koko uthabathe isithandathu uyakuthi ufumane isiphumo esifana kwanelanani obuqale ngalo. Ingaba lingubani eli nani?
- (E) 4
-
20. Belinda uses $\frac{3}{4}$ of a metre of material to make a skirt. If she has 5 m of material, how many skirts can she make?
- (A) 7 (B) 6 (C) $6\frac{2}{3}$ (D) $3\frac{3}{4}$ (E) 8
20. Belinda gebruik 'n $\frac{3}{4}$ meter materiaal om 'n rok te maak. As sy 5 m materiaal het, hoeveel rokke kan sy maak?
- (A) 7 (B) 6 (C) $6\frac{2}{3}$ (D) $3\frac{3}{4}$ (E) 8
20. U Belinda usebenzisa isi $\frac{3}{4}$ semitha selaphu ukuthunga isiketi. Ukuba unelaphu elizimitha ezi 5, zingaphi iziketi anokuzithunga?
- (E) 8
-
21. The figure below is built with 4 squares, each with a side length of 1 cm. If I follow the lines, the shortest distance from A to C is 4 cm. How many different 4 cm routes are there from A to C?
- (A) 1 (B) 4 (C) 5 (D) 6 (E) 3
21. Die figuur hieronder bestaan uit 4 vierkante, elk met sylengte 1 cm. As ek die lyne volg, is die kortste pad van A na C 4 cm lank. Hoeveel verskillende 4 cm-roetes is daar van A na C?
- (A) 1 (B) 4 (C) 5 (D) 6 (E) 3

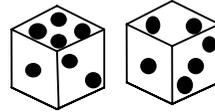


22. What is the smallest even number which *cannot* be obtained when the scores on top of two dice are multiplied together?

(A) 14

(B) 10

22. Wat is die kleinste ewe getal wat *nie* verkry kan word as die getalle bo-op twee dobbelstene vermenigvuldig word nie?



(C) 18

(D) 8

22. Leliphi elona nani lincinane elingengomnqakathi elingenakufunyanwa xa izikoro kumadayisi amabini zithe zaphindaphindwa?

(E) 16

23. If you roll two dice and add the two scores, how many different answers are possible?

(A) 10

(B) 11

23. As jy twee dobbelstene rol en jy tel die twee getalle op, hoeveel verskillende antwoorde is moontlik?

(C) 12

(D) 21

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

(E) 36

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

(A) 20

(B) 12

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

(C) 6

(D) 10

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

(E) 15

25. Thandi builds a pattern of cubes as shown. How many cubes will there be in *Pattern 20*?

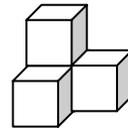
(A) 312

(B) 400

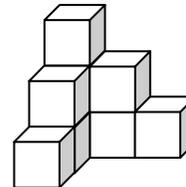
25. Thandi bou patrone met kubusse soos getoon. Hoeveel kubusse sal in *Patroon 20* wees?



Pattern 1



Pattern 2



Pattern 3

(C) 412

(D) 441

25. Uthathe wakha uluhlu lweetyubhu njengoba kubonisiwe. Ingaba zingaphi iityubhu ezingaku kuluhlu lwama 20?

(E) 402