Mathematics Challenge

GRADE 5 FINAL ROUND
10 OCTOBER 2007

NOTE:

- Answer the questions according to the instructions on the answer sheet.
- You may use a calculator.
- The questions test insight. Complex calculations will therefore not be necessary.
- We hope you enjoy it!

Wiskunde-uitdaging

GRAAD 5 FINALE RONDE
10 OKTOBER 2007

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!

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1. Here are the times of the six athletes in the 100 metres final for boys. Who came third?

1. Hieronder is die tye van die ses atlete in die seuns 100 meter-finaal. Wie het derde gekom?

Ben Bailey:	11,9 s	Ivan Arends:	11,59 s
Garry Smith:	11,63 s	William Park:	11,23 s
Peter Davids:	11,4 s	John Mbeki:	11,32 s

(A) Ben Bailey (B) Ivan Arends (C) Peter Davids (D) John Mbeki (E) Garry Smith

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2. When Lucy’s mother was 40, Lucy was 16. Now her mother is twice as old as Lucy. How old is Lucy now?

2. Toe Lucy se ma 40 was, was Lucy 16. Nou is haar ma twee keer so oud soos Lucy. Hoe oud is Lucy nou?

(A) 24 (B) 32 (C) 48 (D) 16 (E) 20

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3. A cake is put in the oven at 07:20. If the cake takes three quarters of an hour to bake, at what time should it be taken out of the oven?

3. ’n Koek word om 07:20 in die oond gesit. As die koek ’n driekwart uur neem om te bak, hoe laat moet dit uit die oond gehaal word?

(A) 08:10 (B) 08:05 (C) 08:15 (D) 07:50 (E) 07:55

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4. 500 bottles of wine must be packed into cartons. Each carton holds 12 bottles. How many cartons are needed?

4. 500 Bottels wyn moet in kartonne verpak word. Elke karton hou 12 bottels. Hoeveel kartonne word benodig?

(A) 41 (B) 42 (C) $41\frac{2}{3}$ (D) 41,67 (E) 43

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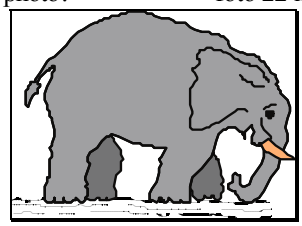
5. This photo of 120 mm × 90 mm is enlarged to 360 mm × 270 mm. The elephant’s tail in the smaller photo is 22 mm long. How long is its tail in the larger photo?

5. Hierdie foto van 120 mm × 90 mm word vergroot na 360 mm × 270 mm. As die olifant se stert in die klein foto 22 mm lank is, hoe lank is sy stert in die vergroting?



(A) 33 mm (B) 44 mm (C) 55 mm (D) 66 mm (E) 99 mm

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In cooperation with the
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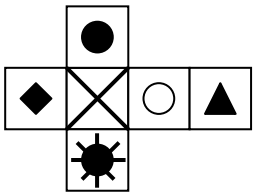
6. Hailey is reading a book. Chapter 7 begins on page 246 and ends on page 274. How many pages are there in chapter 7?

(A) 274 (B) 28 (C) 15 (D) 29 (E) 30

6. Hailey lees ’n boek. Hoofstuk 7 begin op bladsy 246 en eindig op bladsy 274. Hoeveel bladsye is daar in hoofstuk 7?

7. Which of these cubes *cannot* be folded from this net?



(A)  (B)  (C)  (D)  (E) 

7. Watter kubus kan *nie* gevou word uit hierdie net nie?

8. In a certain school there are 5 boys for every 6 girls. If there are 150 girls, how many boys are there in the school?

(A) 125 (B) 120 (C) 180 (D) 30 (E) 250

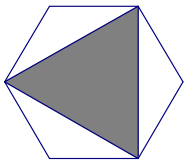
8. In ’n sekere skool is daar 5 seuns vir elke 6 meisies. As daar 150 meisies is, hoeveel seuns is daar in die skool?

9. When Mark arrives at the garage, his car’s petrol gauge shows that the petrol tank is $\frac{1}{8}$ full. After putting in 25 litres of petrol, the gauge reads $\frac{5}{8}$ full. How many litres does the petrol tank hold when full?

(A) 40 (B) 45 (C) 50 (D) 60 (E) 100

9. Toe Mark by die garage stilhou, lees sy motor se petrolmeter dat die tenk $\frac{1}{8}$ vol is. Nadat hy 25 liter petrol ingegooi het, lees die meter dat die tenk $\frac{5}{8}$ vol is. Hoeveel liter petrol hou die tenk?

10. What fraction of this regular hexagon is shaded?



(A) $\frac{1}{2}$ (B) $\frac{1}{4}$ (C) $\frac{1}{3}$ (D) $\frac{1}{6}$ (E) $\frac{3}{8}$

10. Watter breuk van hierdie reëlmatige seshoek is verdonker?

11. Samual is doing a calculation on his calculator. He then makes a mistake by multiplying by 10 instead of dividing by 10. The calculator answer is 500. What is the correct answer to Samual’s calculation?

(A) 50 (B) 50 000 (C) 5 000 (D) 5 (E) 0,5

11. Samual is besig met ’n berekening op sy sakrekenaar. Hy vermenigvuldig toe per ongeluk met 10 toe hy moes deel deur 10. Die sakrekenaarantwoord is 500. Wat is die korrekte antwoord vir Samual se berekening?

12. How many 3-digit numbers are there in which the sum of the digits is 3?

(A) 6 (B) 5 (C) 4 (D) 7 (E) 8

12. Hoeveel driesyfer-getalle is daar sodat die som van die syfers 3 is?

13. Which one of the following numbers will appear in the sequence 5; 11; 17; 23; ...?

(A) 732 (B) 255 (C) 187 (D) 525 (E) 365

13. Watter een van die volgende getalle sal voorkom in die getalry 5; 11; 17; 23; ...?

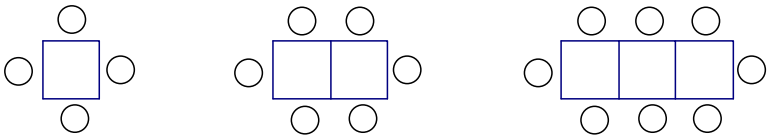
14. For his party, Justin bought a Super-Duper Pizza and cut it into 24 equal pieces. At the party, Mary ate $\frac{1}{6}$ of the pizza, Veronica ate $\frac{1}{4}$ of it, and Ron ate $\frac{1}{3}$ of it. Justin ate the rest. How many pieces did Justin eat?

(A) 4 (B) 10 (C) 8 (D) 9 (E) None of these / Nie een hiervan nie

14. Vir sy partytjie koop Justin ’n Super-Duper Pizza en sny dit in 24 ewe groot stukke. By die partytjie eet Mary $\frac{1}{6}$ van die pizza, Veronica eet $\frac{1}{4}$ en Ron eet $\frac{1}{3}$. Justin eet die res. Hoeveel stukke het Justin geëet?

15. To seat people at his party Justin makes one long table by joining a number of small tables as shown. Each small table can seat two persons, plus one at each end of the long table. How many people can be seated at 20 small tables?

15. Vir sitplek by sy partyjie maak Justin een lang tafel deur ’n aantal klein tafeltjies teen mekaar te stoot soos getoon. By elke klein tafeltjie kan twee persone sit, plus een aan elke kop van die lang tafel. Hoeveel mense kan by 20 klein tafeltjies sit?



(A) 80 (B) 40 (C) 42 (D) 44 (E) 43

16. In question 15: If Justin invites 58 people to his party, how many small tables does he need?

(A) 28 (B) 29 (C) 30 (D) 31 (E) 32

16. In vraag 15: As Justin 58 mense na sy partytjie nooi, hoeveel klein tafeltjies het hy nodig?

17. Mother baked some cookies for a children's party. She gave each child 6 cookies and she had 7 cookies left. So she gave one more cookie to each child, but was one cookie short. How many cookies did she bake?

(A) 41 (B) 46 (C) 47 (D) 56 (E) 55

17. Moeder het koekies vir ’n kinderpartytjie gebak. Sy het aan elke kind 6 koekies gegee en het toe 7 koekies oorgehad. Sy gee toe aan elke kind nog ’n koekie, maar het een koekie te min gehad. Hoeveel koekies het sy gebak?

18. Mary buys a gift and puts it into a pretty box which is 420 mm long, 230 mm wide and 270 mm high. She decides to strengthen the box by putting sticky tape all along the edges of the box. How much tape does Mary need?

(A) 3,140 m (B) 3,680 m (C) 1,840 m (D) 3,220 m (E) 3,480 m

18. Mary koop 'n geskenk en plaas dit in 'n doos wat 420 mm lank, 230 mm wyd en 270 mm hoog is. Sy besluit om die doos te versterk deur kleeflint al om die rande van die doos te plak. Hoeveel lint het Mary nodig?

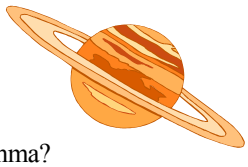
19. In question 18: Mary now ties up the box with yellow ribbon as shown. If 40 cm of ribbon is used to tie the knot and the bow, what length of ribbon does she use altogether?

19. In vraag 18: Mary bind nou die doos met 'n geel lint toe, soos getoon. Hoeveel lint gebruik sy altesaam indien 40 cm gebruik word vir die knoop en strik?

(A) 3,680 m (B) 2,680 m (C) 2,420 m (D) 2,780 m (E) 2,380 m

20. On the planet Gamma they have a different kind of arithmetic. Here are a few Gamma calculations:

$4 \times 3 = 16$
$6 \times 3 = 24$
$7 \times 5 = 42$
$8 \times 7 = 64$



What is the answer of 6×8 on Gamma?

(A) 36 (B) 64 (C) 56 (D) 49 (E) 54

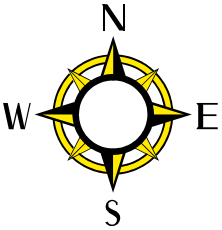
20. Op die planeet Gamma doen hulle 'n ander soort rekenkunde. Hier is 'n paar Gamma-berekeninge:

$4 \times 3 = 16$
$6 \times 3 = 24$
$7 \times 5 = 42$
$8 \times 7 = 64$

Wat is die antwoord van 6×8 op Gamma?

21. A, B, C, D, E and F are six towns situated as follows:

D is 30 km East of F
B is 20 km West of C
A is 10 km West of E
F is 10 km South of A
D is 20 km North of C



How far is B from E?

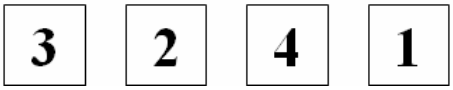
(A) 30 km (B) 20 km (C) 10 km (D) 40 km (E) 50 km

21. Ses dorpe A, B, C, D, E en F is soos volg geleë:

D is 30 km Oos van F
B is 20 km Wes van C
A is 10 km Wes van E
F is 10 km Suid van A
D is 20 km Noord van C

Hoe ver is B van E?

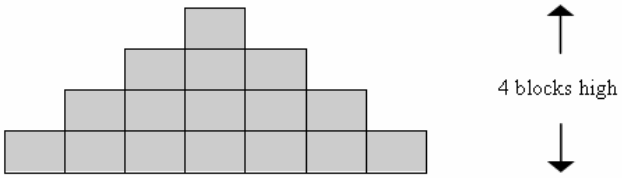
22. Jackie has four cards (see below). How many different four-digit numbers can she make with these cards?



(A) 24 (B) 12 (C) 16 (D) 18 (E) 6

22. Jackie het vier kaarte (sien hieronder). Hoeveel verskillende viersyfer-getalle kan sy met hierdie kaarte maak?

23. Sipho builds "pyramids" with blocks as shown in the sketch. To build this pyramid 4 blocks high he needs 16 blocks. How many blocks does he need in total to build a pyramid 50 blocks high?



(A) 2500 (B) 1275 (C) 2401 (D) 2550 (E) 2601

23. Sipho bou "piramides" met blokke soos in die skets getoon. Om soos hier 'n piramide 4 blokke hoog te bou, het hy 16 blokke nodig. Hoeveel blokke het hy altesaam nodig om 'n piramide 50 blokke hoog te bou?

24. In question 23, in a pyramid that is 50 blocks high, how many blocks are there in the bottom row?

(A) 99 (B) 101 (C) 102 (D) 104 (E) 100

24. In vraag 23, in 'n piramide wat 50 blokke hoog is, hoeveel blokke is daar in die onderste ry?

25. In question 23, if Sipho build a pyramid with 1369 blocks, how many blocks high is the pyramid?

(A) 37 (B) 23 (C) 27 (D) 33 (E) 47

25. In vraag 23, as Sipho 'n piramide met 1369 blokke bou, hoeveel blokke hoog is die piramide?