

# Mathematics Challenge

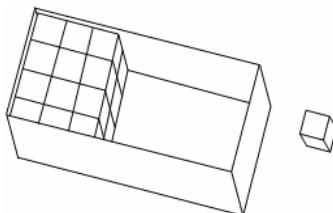
## GRADE 5 FINAL ROUND

### 11 OCTOBER 2006

#### 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!

1. This open box is 8 cm long, 4 cm wide and 2 cm high. How many of the small 1 cm by 1 cm by 1 cm blocks can be packed into the box?



(A) 32

(B) 14

(C) 24

(D) 64

(E) 48

2. In question 1: After all the blocks are packed into the box, how many blocks will be touching the box?

(A) 64

(B) 32

(C) 40

(D) 52

(E) 56

3. A Train departs from Bellville station at 09:47 and arrives in Cape Town at 10:18. Another train on the same route leaves Bellville at 12:30. At what time does it arrive in Cape Town?

(A) 13:18

(B) 13:01

(C) 01:01

(D) 13:12

(E) 12:51

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

(A) 41

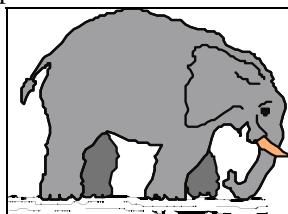
(B) 42

(C)  $41\frac{2}{3}$

(D) 41,67

(E) 43

5. This photo of  $120 \text{ mm} \times 90 \text{ mm}$  is enlarged to  $360 \text{ mm} \times 270 \text{ mm}$ . The elephant's tail in the smaller photo is 22 mm long. How long is its tail in the larger photo?



(A) 33 mm

(B) 44 mm

(C) 55 mm

(D) 66 mm

(E) 99 mm

# Wiskunde-uitdaging

## GRAAD 5 FINALE RONDE

### 11 OKTOBER 2006

#### 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. Hierdie oop boks is 8 cm lank, 4 cm breed en 2 cm hoog. Hoeveel van die klein 1 cm by 1 cm by 1 cm blokkies kan in die boks inpas?

2. In vraag 1: Nadat al die blokkies ingepas is, hoeveel blokkies sal aan die boks raak?

(D) 52

3. 'n Trein vertrek om 09:47 van Bellville-stasie en kom om 10:18 in Kaapstad aan. 'n Ander trein op dieselfde roete vertrek om 12:30 van Bellville. Hoe laat kom dit in Kaapstad aan?

(D) 13:12

(E) 12:51

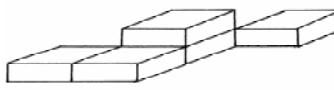
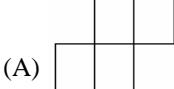
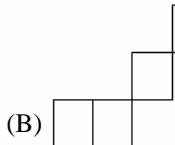
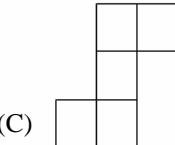
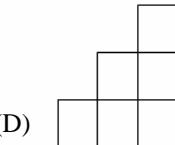
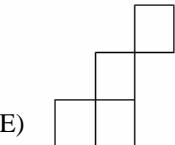
4. 500 Bottels wyn moet in kartonne verpak word. Elke karton hou 12 bottels. Hoeveel kartonne word benodig?

(D) 41,67

(E) 43

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



6. In an election 39 218 votes were cast for two candidates. The winner had 1 002 votes more than the loser. How many votes did the winner receive?
- (A) 19 108      (B) 20 182      (C) 38 216      (D) 20 110      (E) 19 609
7. Which one of the following numbers will appear in the sequence  
6; 12; 18; 24; ...?
- (A) 3733      (B) 4526      (C) 5186      (D) 6526      (E) 7356
8. You and your friend have the same amount of money. How much should you give her so that she has R10 more than you?
- (A) R15      (B) R10      (C) R20      (D) R5      (E) None of these  
Nie een hiervan nie
9. 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
10. What will you see if you look at this block building directly from above?
- 
- (A) 
- (B) 
- (C) 
- (D) 
- (E) 
11. Thomas forgot to take off his shoes when he got onto the scale to weigh himself. The scale showed 41 kg. He then weighed his two shoes and found that they had a mass of 725 g. What was his mass without his shoes?
- (A) 40,175 g      (B) 40,725 kg      (C) 39,275 kg      (D) 41,725 kg      (E) 40,275 kg
12. Peter, Paul and David worked in the garden. Peter worked for 3 hours, Paul worked 2 hours and David worked 1 hour. They are paid R48 for their work altogether. How much should Peter get?
- (A) R8      (B) R16      (C) R12      (D) R36      (E) R24
13. Ashley 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 600. What is the correct answer to Ashley's calculation?
- (A) 60      (B) 60 000      (C) 6 000      (D) 6      (E) 0,6
6. In 'n verkiesing is 39 218 stemme uitgebring vir twee kandidate. Die wenner het 1 002 stemme meer as die verloorder gekry. Hoeveel stemme het die wenner gekry?



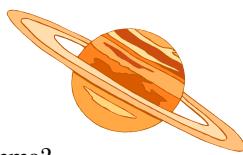
21. On the planet Gamma they have a different kind of arithmetic. Here are a few Gamma calculations:

$$4 \times 3 = 15$$

$$6 \times 3 = 21$$

$$7 \times 5 = 40$$

$$8 \times 7 = 63$$



What is the answer of  $6 \times 8$  on Gamma?

- (A) 36      (B) 64      (C) 56

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

$$4 \times 3 = 15$$

$$6 \times 3 = 21$$

$$7 \times 5 = 40$$

$$8 \times 7 = 63$$

Wat is die antwoord van  $6 \times 8$  op Gamma?

- (D) 49      (E) 54

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

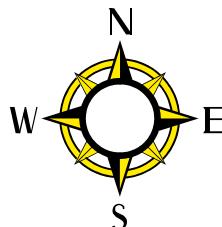
D is 30 km East of F

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

22. 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?

- (D) 40 km      (E) 50 km

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



- (A) 8      (B) 12      (C) 16      (D) 18      (E) 24

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

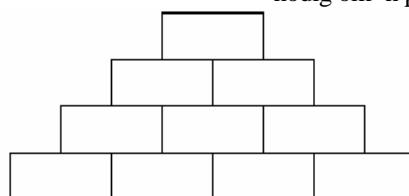
24. In 10 year's time the combined age of 3 sisters will be 100. What is their combined age now?

- (A) 90      (B) 80      (C) 70

24. Oor 10 jaar sal die gesamentlike ouderdom van 3 susters 100 wees. Wat is hul gesamentlike ouderdom nou?

- (D) 60      (E) 50

25. Sipho builds "pyramids" with blocks as shown in the sketch below. To build this pyramid 4 blocks high he needs 10 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

25. Sipho bou "piramides" met blokke soos in die skets getoon. Om soos hier 'n piramide 4 blokke hoog te bou, het hy 10 blokke nodig. Hoeveel blokke het hy altesaam nodig om 'n piramide 50 blokke hoog te bou?