

**Jet SA Mathematics Challenge**  
**GRADE 5 FINAL ROUND**  
**5 SEPTEMBER 2012**

**Jet SA Wiskunde-uitdaging**  
**GRAAD 5 FINALE RONDE**  
**5 SEPTEMBER 2012**

**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!

**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!

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

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

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

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

- (A) 24    (B) 32    (C) 48

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?

- (D) 16    (E) 20

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?

- (A) 08:10    (B) 08:05    (C) 08:15

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?

- (D) 07:50    (E) 07:55

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

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

- (D) 41,67    (E) 43

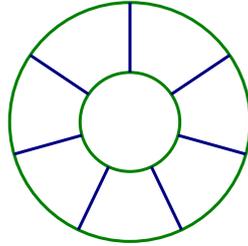
5. Mr Greengrocer piles grapefruit in a square pyramid with 1 grapefruit in the first layer, 4 in the second layer from the top, 9 in the third layer, 16 in the fourth layer, etc. How many grapefruit will there be in the 10<sup>th</sup> layer?



- (A) 100    (B) 81    (C) 20    (D) 144    (E) 121

6. A boxing match has twelve rounds of 3 minutes each and there is a minute break between each round. How long does the match last if it lasts the full 12 rounds?  
(A) 48 min      (B) 47 min      (C) 37 min      (D) 36 min      (E) 46 min

7. What is the least number of colours needed to paint this figure so that no two regions with a common border have the same colour?  
7. Wat is die minste aantal kleure wat benodig word om die figuur hieronder in te kleur sodat geen twee gebiede met 'n gemeenskaplike grens dieselfde kleur is nie?

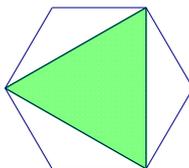


- (A) 2      (B) 3      (C) 4      (D) 5      (E) 6

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

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

10. What fraction of this regular hexagon is shaded?  
10. Watter breuk van hierdie reëlmatige seshoek is verdonker?



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

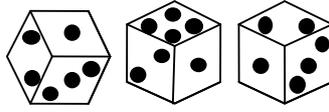
11. Samuel is doing a calculation on his calculator. He then makes a mistake by multiplying by 10 instead of dividing by 10. The calculator answer is 500. What is the correct answer to Samuel's calculation?  
(A) 50      (B) 50 000      (C) 5 000      (D) 5      (E) 0,5

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

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



21. Three six-faced dice are rolled and the scores are multiplied together. The product is 90. What is the sum of the three scores?



- (A) 90                      (B) 14                      (C) 16                      (D) 18                      (E) 8

21. Drie ses-vlakkige dobbelstene word gerol en die tellings word dan vermenigvuldig. Die produk is 90. Wat is die som van die drie tellings?

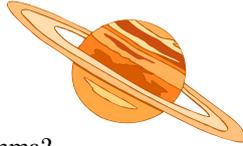
22. On the planet Gamma they have a different kind of arithmetic. Here are a few Gamma calculations:

$$4 \times 3 = 16$$

$$6 \times 3 = 24$$

$$7 \times 5 = 42$$

$$8 \times 7 = 64$$



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

- (A) 36                      (B) 64                      (C) 56

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

$$4 \times 3 = 16$$

$$6 \times 3 = 24$$

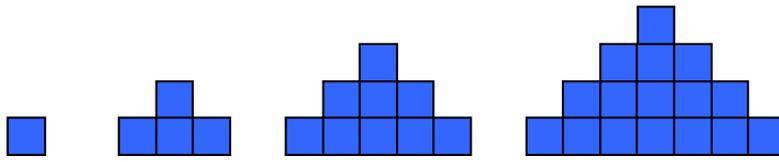
$$7 \times 5 = 42$$

$$8 \times 7 = 64$$

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

- (D) 49                      (E) 54

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



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

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

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

- (A) 99                      (B) 101                      (C) 102

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

- (D) 104                      (E) 100

25. In question 23, if Siphso build a pyramid with 1369 blocks, how many rows does the pyramid have?

- (A) 37                      (B) 23                      (C) 27

25. In vraag 23, as Siphso 'n piramide met 1369 blokke bou, hoeveel rye het die piramide?

- (D) 33                      (E) 47