

# SA Mathematics Challenge 2013

## GRADE 5 FIRST ROUND

# SA Wiskunde-uitdaging 2013

## Graad 5 Eerste Ronde

### 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!

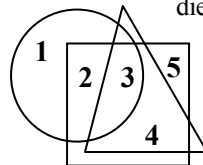
1. A rectangular bathroom wall measures 3 m by 2 m. It is covered with square tiles measuring 20 cm by 20 cm. How many tiles are there altogether?

- (A) 300                      (B) 30                      (C) 150

1. 'n Reghoekige kamermuur se mates is 3 m by 2 m. Dit word bedek met vierkantige teëls met mates 20 cm by 20 cm. Hoeveel teëls is op die muur?

- (D) 200                      (E) 400

2. Which number is in the square and the circle but is not in the triangle?



- (A) 1                      (B) 2                      (C) 3                      (D) 4                      (E) 5

2. Watter getal is in die vierkant en die sirkel, maar nie in die driehoek nie?

3. What is the only whole number between one and ten which does not divide exactly into 360?

- (A) 4                      (B) 6                      (C) 7

3. Wat is die enigste heelgetal tussen een en tien wat nie presies in 360 indeel nie?

- (D) 8                      (E) 9

4. Which square is the same as the one below?



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

4. Watter vierkant is dieselfde as die een hieronder?

5. In a string of beads there are 2 red beads for every 5 green beads and 3 purple beads for every 10 green beads. How many purple beads are there in a string with 12 red beads?

- (A) 50                      (B) 10                      (C) 9

5. In 'n string krale is daar 2 rooi krale vir elke 5 groenes en 3 pers krale vir elke 10 groenes. Hoeveel pers krale is daar in 'n string met 12 rooi krale?

- (D) 15                      (E) 18



6. 1st row:                   •  
 2nd row:           • • •  
 3rd row:         • • • • •  
 4th row:     • • • • • • •

How many dots would be in the 7th row?

- (A) 7                   (B) 10                   (C) 11

6. 1ste ry:                   •  
 2de ry:           • • •  
 3de ry:         • • • • •  
 4de ry:     • • • • • • •

Hoeveel kolletjies sal daar in die 7de ry wees?

- (D) 13                   (E) 15

7. In question 6, how many dots would be in the 70th row?  
 (A) 137                   (B) 139                   (C) 140

7. In vraag 6, hoeveel kolletjies sal daar in die 70ste ry wees?  
 (D) 141                   (E) 130

8. If my watch now shows 10:00, what will the time be 100 hours from now?  
 (A) 10:00                   (B) 11:00                   (C) 12:00

8. As my horlosie nou 10:00 wys, hoe laat sal dit wees 100 ure van nou af?  
 (D) 13:00                   (E) 14:00

9. Sara buys a tree when it is 12 cm high. Every day, she writes down its height in the table below. If the tree continues to grow the same amount every day, how high will it be after 30 days?

Days/Dae	0	1	2	3
Height/Hoogte (cm)	12	13,5	15	16,5

9. Sara koop 'n boom as dit 12 cm hoog is. Sy skryf elke dag die boom se hoogte in die tabel hieronder neer. As die boom aanhou om elke dag dieselfde hoeveelheid te groei, hoe hoog sal dit na 30 dae wees?

- (A) 165 cm                   (B) 57 cm                   (C) 36 cm                   (D) 150 cm                   (E) 155 cm

10. In question 9: After how many days was the tree 1,5 m high?  
 (A) 100                   (B) 95                   (C) 93

10. In vraag 9: Na hoeveel dae was die boom 1,5 m hoog?  
 (D) 92                   (E) 105

11. Which one of the following numbers will appear in this pattern:

7; 13; 19; 25; ... ?

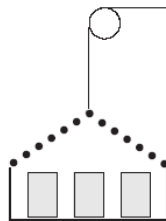
- (A) 2 734                   (B) 3 526                   (C) 3129

11. Watter een van die volgende getalle sal voorkom in hierdie ry:

7; 13; 19; 25; ... ?

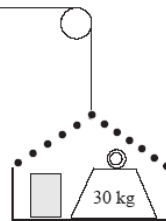
- (D) 4 183                   (E) 5 345

12. On the scale below, three sacks balance one sack and 30 kg. If each sack weighs the same, what do the three sacks weigh?



- (A) 15 kg                   (B) 60 kg                   (C) 90 kg

12. Op die skaal hieronder word drie sakke gebalanseer deur een sak en 30 kg. As elke sak dieselfde weeg, wat weeg die drie sakke saam?



- (D) 30 kg                   (E) 45 kg

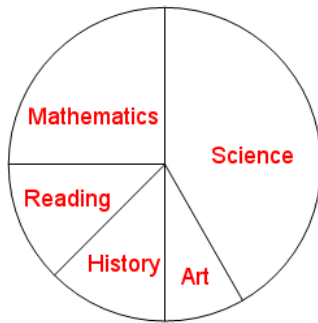
13. The sketch shows the first three patterns in the sequence that John is building with coins. How many coins will he need for the fiftieth pattern in the sequence?



- (A) 140                   (B) 150                   (C) 153                   (D) 155                   (E) 160

13. Die skets toon die eerste drie patrone in die ry wat John met muntstukke uitpak. Hoeveel muntstukke het hy nodig vir die vyftigste patroon in die ry?

14. The pie chart below shows the portion of time Zin spent on homework in each subject last week. If he spent 2 hours on mathematics, about how many hours did he spend on homework altogether?



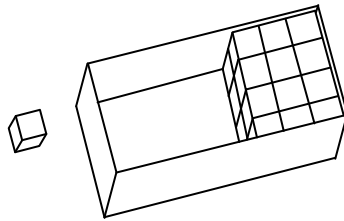
- (A) 4                      (B) 8                      (C) 12

14. Die sirkeldiagram hieronder toon die gedeelte tyd wat Zin verlede week aan huiswerk vir elke vak bestee het. As hy 2 uur wiskunde gedoen het, omtrent hoeveel uur het hy altesaam aan huiswerk bestee?



- (D) 15                      (E) 16

15. 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

15. 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?

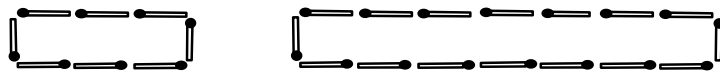
16. In question 15: After all the blocks are packed into the box, how many blocks will be touching the box?

- (A) 64                      (B) 32                      (C) 40

16. In vraag 15: Nadat al die blokkies ingepas is, hoeveel blokkies sal aan die boks raak?

- (D) 52                      (E) 56

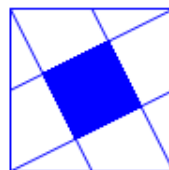
17. John builds rectangles as shown. When the length of the rectangle is 3, there are 8 matches. When the length of the rectangle is 7, there are 16 matches. How many matches does he need to make a rectangle with length 20?



- (A) 48                      (B) 42                      (C) 80                      (D) 46                      (E) 44

17. John bou reghoeke soos getoon. As die lengte van die reghoek 3 is, gebruik hy 8 vuurhoutjies en as die lengte 7 is, gebruik hy 16 vuurhoutjies. Hoeveel vuurhoutjies het hy nodig om 'n reghoek met lengte 20 te bou?

18. The corners of a square are connected to the midpoints of the opposite sides. What fraction of the big square is shaded?



- (A)  $\frac{1}{2}$                       (B)  $\frac{1}{3}$                       (C)  $\frac{1}{4}$                       (D)  $\frac{1}{5}$                       (E)  $\frac{1}{9}$

18. Die hoekpunte van 'n vierkant word verbind met die middelpunte van die teenoorstaande sye. Watter breuk van die groot vierkant is verdonker?

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| <p>19. Every week Thembo saves R1,50 of his pocket money, while Siphon is able to save <math>1\frac{1}{2}</math> times that amount. How much more would Siphon have saved than Thembo after 12 weeks?</p> <p>(A) R9,00            (B) R18,00            (C) R27,00</p> | <p>19. Thembo spaar elke week R1,50 van sy sakgeld. terwyl Siphon <math>1\frac{1}{2}</math> keer soveel spaar. Hoeveel meer sal Siphon as Thembo gespaar hê na 12 weke?</p> <p>(D) R16,00            (E) R10,00</p> |
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| <p>20. How many even dates are there in any calendar year? (An <i>even</i> date is any even day of any month, e.g. 12 January, 12 May, 26 August. The 23rd of any month is an <i>odd</i> date.)</p> <p>(A) 182            (B) 183            (C) 179</p> | <p>20. Hoeveel ewe datums is daar in enige kalenderjaar? ('n <i>ewe</i> datum is enige ewe dag van enige maand, bv. 12 Januarie, 12 Mei, 26 Augustus. Die 23ste van enige maand is 'n <i>onewe</i> datum.)</p> <p>(D) 180            (E) 184</p> |
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| <p>21. Some numbers read the same forwards and backwards, like 353 and 262. How many such "mirror numbers" are there between 100 and 200?</p> <p>(A) 7            (B) 8            (C) 9</p> | <p>21. Sommige getalle lees dieselfde van voor en van agter, soos 353 en 262. Hoeveel sulke "spieëlgetalle" is daar tussen 100 en 200?</p> <p>(D) 10            (E) 11</p> |
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| <p>22. To make apricot yoghurt you need 5 parts of yoghurt to 1 part of apricots. How many litres of yoghurt are needed to make 30 litres of apricot yoghurt?</p> <p>(A) 6            (B) 5            (C) 25</p> | <p>22. Om appelkoosjogurt te maak is 5 dele jogurt nodig vir 1 deel appelkose. Hoeveel liter jogurt is nodig om 30 liter appelkoosjogurt te maak?</p> <p>(D) 24            (E) 35</p> |
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| <p>23. What is the remainder when <math>7492 \times 5776 \times 9812 \times 1999</math> is divided by 5?</p> <p>(A) 0            (B) 1            (C) 2</p> | <p>23. Wat is die res as <math>7492 \times 5776 \times 9812 \times 1999</math> deur 5 gedeel word?</p> <p>(D) 3            (E) 4</p> |
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| <p>24. How many four-digit numbers are there in which the sum of the digits is 4?</p> <p>(A) 17            (B) 16            (C) 18</p> | <p>24. Hoeveel viersyfer-getalle is daar sodat die som van die syfers 4 is?</p> <p>(D) 19            (E) 20</p> |
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| <p>25. At <i>Pizza Inn</i> two small pizzas and one large pizza costs the same as five small pizzas. If a small pizza costs R11,50, what does a large pizza cost?</p> <p>(A) R28,75            (B) R23            (C) R27,50</p> | <p>25. By <i>Pizza Inn</i> kos twee klein pizzas en een groot pizza net soveel soos vyf klein pizzas. As 'n klein pizza R11,50 kos, wat kos 'n groot pizza?</p> <p>(D) R34,50            (E) R21,50</p> |
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