

# SA Mathematics Challenge 2014

## GRADE 5 FIRST ROUND

# SA Wiskunde-uitdaging 2014

## 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. Calculate  $999 + 1001 + 998 + 1002$

- (A) 4999                      (B) 4000                      (C) 5002

1. Bereken  $999 + 1001 + 998 + 1002$

- (D) 500                      (E) 9000

2. What is the time three hours after 10:30?

- (A) 01:30                      (B) 03:30                      (C) 13:30

2. Hoe laat is dit drie uur na 10:30?

- (D) 13:00                      (E) 15:30

3. Calculate:

$$\frac{30 \times 30 \times 30}{299 + 1}$$

- (A) 3000                      (B) 270                      (C) 9000

3. Bereken:

$$\frac{30 \times 30 \times 30}{299 + 1}$$

- (D) 90                      (E) 900

4. Which of the following numbers is *not* a multiple of 3?

- (A) 603                      (B) 240                      (C) 300

4. Watter van die volgende getalle is *nie* 'n veelvoud van 3 nie?

- (D) 270                      (E) 230

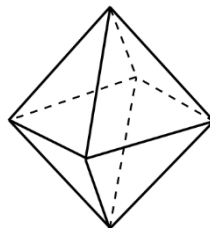
5. Lihle is 5 years older than her brother Musa. How old will Musa be when Lihle is 35 years old?

- (A) 25                      (B) 40                      (C) 20

5. Lihle is 5 jaar ouer as haar broer Musa. Hoe oud sal Musa wees wanneer Lihle 35 jaar oud is?

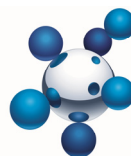
- (D) 30                      (E) 45

6. The faces of the 3-dimensional figure below are to be painted so that no faces which touch are painted the same colour. What is the smallest number of colours required?



6. Die sye van die 3-dimensionele figuur hieronder moet geverf word sodat geen twee sye wat aan mekaar raak dieselfde kleur het nie. Wat is die kleinste getal kleure wat nodig is?

- (A) 8                      (B) 6                      (C) 4                      (D) 3                      (E) 2



7. On a farm there are some ducks and sheep. Andile counted the legs of the animals and found a total of 140 legs. Which of these can be the number of ducks and sheep on the farm?

- (A) 60 ducks and 10 sheep  
 (B) 50 ducks and 15 sheep  
 (C) 40 ducks and 16 sheep  
 (D) 35 ducks and 18 sheep  
 (E) 30 ducks and 20 sheep

7. Op 'n plaas is daar 'n aantal eende en skape. Andile tel die bene van die diere en vind 'n totaal van 140 bene. Watter van hierdie kan die aantal eende en skape op die plaas wees?

- (A) 60 eende and 10 skape  
 (B) 50 eende and 15 skape  
 (C) 40 eende and 16 skape  
 (D) 35 eende and 18 skape  
 (E) 30 eende and 20 skape

8. Buses depart from Park station every 24 minutes, starting at 06:06. Anna arrives at the station at 06:40. How long will she have to wait for the next bus to depart?

- (A) 24 min (B) 30 min (C) 6 min

8. Busse vertrek elke 24 minute vanaf Park stasie, met die eerste bus om 06:06. Anna arriveer om 06:40 op die stasie. Hoe lank sal sy moet wag vir die volgende bus om te vertrek?

- (D) 14 min (E) 20 min

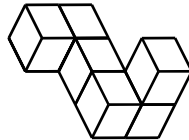
9. Zinzi adds three different two-digit numbers (e.g. 58). What is the highest possible total?

- (A) 294 (B) 297 (C) 267

9. Zinze tel drie verskillende twee-syfergetalle (bv. 58) op. Wat is die grootste moontlike totaal?

- (D) 579 (E) 299

10. This object is made by gluing together six wooden cubes. If you now paint the object, how many faces must you paint?



- (A) 30 (B) 27 (C) 26 (D) 25 (E) 24

10. Hierdie voorwerp word gemaak deur ses houtkubusse aan mekaar te lym. As jy nou die voorwerp verf, hoeveel sye moet jy verf?

11. A coin and a die are tossed simultaneously. What is the probability of getting a tail and a six?



- (A)  $\frac{1}{8}$  (B)  $\frac{1}{2}$  (C)  $\frac{1}{4}$  (D)  $\frac{1}{12}$  (E)  $\frac{1}{6}$

11. 'n Muntstuk en 'n dobbessteen word gelyktydig gegooi. Wat is die waarskynlikheid dat hulle op munt ("stert") en ses sal val?

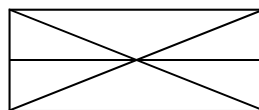
12. How many odd dates are there in January? (An *odd date* is any odd day of the month, e.g. 5 or 23, while the 12<sup>th</sup> is an *even date*.)

- (A) 30 (B) 16 (C) 14

12. Hoeveel onewe datums is daar in Januarie? ('n *Onewe datum* is enige onewe dag van die maand, bv. 5 of 23, terwyl die 12<sup>de</sup> 'n *ewe datum* is.)

- (D) 15 (E) 31

13. How many triangles are there all together in this figure?



- (A) 8 (B) 10 (C) 12 (D) 14 (E) 16

13. Hoeveel driehoeke is daar altesaam in hierdie figuur?

14. A farmer makes a fence around his square garden. When it is completed there are 10 poles on each side. How many poles did he use altogether?

- (A) 40                      (B) 38                      (C) 36

14. 'n Boer maak 'n heining om sy vierkantige tuin. Na voltooiing is daar 10 heining-pale aan elke kant. Hoeveel pale het hy altesaam gebruik?

- (D) 34                      (E) 20

15. Philip has these three number cards. He puts them next to each other to make 2-digit numbers, e.g. 42 and 27. How many different 2-digit numbers can he make with these cards?



- (A) 3                      (B) 6                      (C) 9                      (D) 2                      (E) 5

15. Philip het hierdie drie kaarte. Hy plaas hulle langs mekaar om 2-syfer getalle te maak, byvoorbeeld 42 en 27. Hoeveel verskillende 2-syfer getalle kan hy met hierdie kaarte maak?

16. Cool drinks are sold in packs of 6 and packs of 12. If you want to buy 36 cool drinks, in how many different ways can you buy the packs? (One way is  $12 + 12 + 12 = 36$ )

- (A) 6                      (B) 3                      (C) 5

16. Koeldranke word verkoop in pakke van 6 en pakke van 12. As jy 36 koeldranke wil koop, op hoeveel verskillende maniere kan jy die pakke koop? (Een manier is  $12 + 12 + 12 = 36$ )

- (D) 4                      (E) 2

17. A driver notices that the mileage on his car's odometer, 42324 km, is a palindrome, i.e. a number that reads the same forwards and backwards. How many kilometres must he drive until the reading is again a palindrome?

- (A) 1010                      (B) 1100                      (C) 2020

17. 'n Bestuurder merk op dat die lesing op sy motor se afstandmeter 42324 km is, en dat dit 'n palindroom is, dit is 'n getal wat dieselfde lees van links en van regs. Hoeveel kilometer moet hy ry voor die afstandmeter weer 'n palindroom wys?

- (D) 10001                      (E) 1001

18. A palindrome is a whole number that reads the same forwards or backwards (e.g. 474). How many palindromes are there between 100 and 1000?

- (A) 45                      (B) 85                      (C) 80

18. 'n Palindroom is 'n getal wat dieselfde lees van links en van regs (bv. 474). Hoeveel palindrome is daar tussen 100 en 1000?

- (D) 100                      (E) 90

19. Study the following pattern. What is  $P_{20}$ ?



$P_1 = 5$



$P_2 = 9$



$P_3 = 13$

- (A) 77                      (B) 79                      (C) 80                      (D) 81                      (E) 83

19. Bestudeer die volgende patroon. Wat is  $P_{20}$ ?

20. In how many different ways can the four people be arranged in a line next to each other for a photograph?



- (A) 4                      (B) 24                      (C) 12                      (D) 16                      (E) 8

20. Op hoeveel verskillende maniere kan die vier mense in 'n lyn langs mekaar gerangskik word vir 'n foto?