

SA Mathematics Challenge 2017

GRADE 5 FIRST ROUND

SA Wiskunde-uitdaging 2017

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:

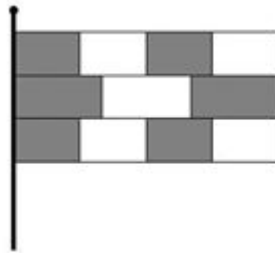
- Beantwoord die vrae volgens die instruksies op die antwoordblad.
- Jy mag 'n sakrekenaar gebruik.
- Die vrae toets insig. Omslagtige berekeninge is dus onnodig en tydrowend.
- Ons hoop jy geniet dit!

1. A number is a multiple of 5. The number is less than 50. When it is divided by 8, there is a remainder of 7. What is the number?

- A. 15 B. 16 C. 32 D. 35 E. 55

1. 'n Getal is 'n veelvoud van 5. Die getal is kleiner as 50. As die getal gedeel word deur 8 is die res 7. Wat is die getal?

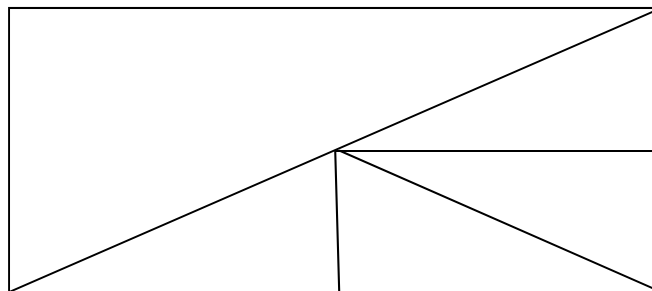
2. A flag is made up of three strips of equal width. Each strip is divided into equal parts with alternating dark and light colours, as shown. What fraction of the flag is dark in colour?



- A. $\frac{5}{8}$ B. $\frac{5}{9}$ C. $\frac{6}{11}$ D. $\frac{7}{11}$ E. $\frac{3}{5}$

2. 'n Vlag het drie strokke wat ewe wyd is. Elke strook is in ewe groot dele verdeel wat afwisselend donker en lig is, soos hieronder getoon. Watter breuk van hierdie vlag is donkerkleurig?

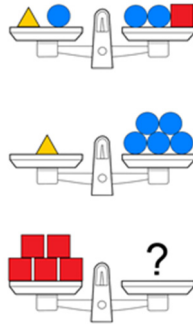
3. How many triangles of any size are in the picture?



- A. 5 B. 6 C. 7 D. 8 E. 9

3. Hoeveel driehoeke van enige grootte is daar in hierdie figuur?

4. The first two scales below are perfectly balanced. How many triangles must be in place of ? so that the third scale will balance?



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

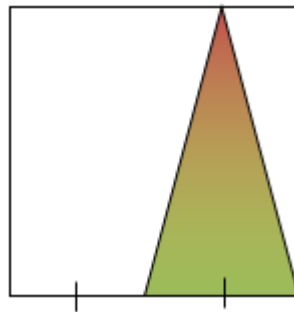
5. Mr Muthige celebrated his 75th birthday in 2005. In what year was he born?

5. Mnr Muthige het sy 75^{ste} verjaarsdag in 2005 gevier. In watter jaar is hy gebore?

- A. 1930 B. 1915 C. 2092 D. 1948 E. 2086

6. What fraction of the square is shaded?

6. Watter breuk van die vierkant is verdonker?



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

7. Trees are planted in the following manner:
The distance between the first and the second tree is 1 m. The distance between the second and third tree is 3 m. The distance between the third and fourth tree is 5 m. The pattern is continued. What is the distance between the second and the seventh tree?

7. Bome word op die volgende patroon geplant:
Die afstand tussen die eerste en die tweede boom is 1 m. Die afstand tussen die tweede en die derde boom is 3 m. Die afstand tussen die derde en die vierde boom is 5 m. Die patroon word voortgesit. Wat is die afstand tussen die tweede en die sewende bome?

- A. 50 m B. 35 m C. 36 m D. 49 m E. 48 m

8. Brad went to shop every third day. Sam went to the shop every second day. If they met each other in the shop on Monday, on which day of the week (a week has 7 days) would they meet each other again?

8. Brad besoek die winkel elke derde dag. Sam besoek die winkel elke tweede dag. As hulle Maandag saam in die winkel was, op watter dag van die week sal hulle weer saam in die winkel wees (?n week het 7 dae)?

- A. Wednesday B. Thursday C. Friday D. Saturday E. Sunday
Woensdag Donderdag Vrydag Saterdag Sondag

9. Mrs Govender finishes her house work at 15:15. Her house work takes her five hours. At what time did she start?

- A. 08:15 B. 10:15 C. 15:10

9. Mev Govender maak haar huiswerk om 15:15 klaar. Sy neem vyf uur om haar huiswerk te voltooi. Hoe laat het sy met haar huiswerk begin?

- D. 20:15 E. 22:15

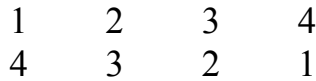
10. A piece of ribbon 4 m long is used to make bows requiring 15 cm of ribbon for each. What is the maximum number of bows that can be made?

- A. 24 B. 25 C. 26

10. 'n Stuk materiaal 4 m lank word gebruik om strikkies te maak wat elkeen 15 cm benodig. Wat is die maksimum getal strikkies wat met die materiaal gemaak kan word?

- D. 27 E. 28

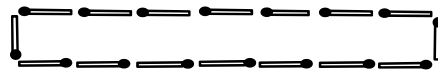
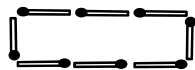
11. In a dance competition 8 dancers stand opposite each other as shown in a diagram below (number 4 opposite number 1, etc.). If there are 40 dancers arranged in the same way in two rows, what is the number of the dancer opposite dancer number 15?



- A. 5 B. 6 C. 15 D. 16 E. 26

11. In 'n danskompetisie staan 8 dansers regoor mekaar soos hieronder getoon (nommer 4 regoor nommer 1, ens.). As daar 40 dansers is en hulle staan op dieselfde manier in twee rye, wat is die nommer van die danser regoor danser nommer 15?

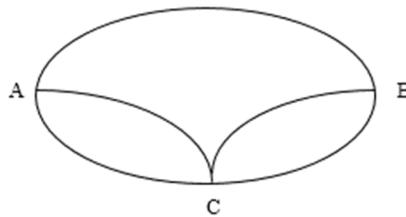
12. John builds rectangles as shown. When the length of the rectangle is 3, there are 8 matches. When the length of the rectangle is 7, there are 16 matches. How many matches does he need to make a rectangle with length 20?



- A. 48 B. 42 C. 80 D. 46 E. 44

12. 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?

13. Amy has to visit towns B and C in any order from her town A. The diagram shows the roads connecting the three towns. How many different routes can she take if she starts and ends at A, going through both B and C (but not more than once through each) and not travelling any road twice on the same trip?



- A. 10 B. 8 C. 6 D. 4 E. 2

13. Amy moet dorpe B en C vanaf haar tuisdorp A besoek, in enige volgorde. Die diagram toon die paaie wat die drie dorpe verbind. Hoeveel verskillende roetes kan sy volg, as sy by A begin en eindig, slegs een keer deur beide B en C ry sonder om dieselfde pad twee keer te ry?

14. Mbali has these three number cards. She puts them next to each other to make 3-digit numbers, e.g. 247. How many different 3-digit numbers can she make with these cards?



- A. 3 B. 4 C. 6 D. 12 E. 7

14. Mbali het hierdie drie kaarte. Sy plaas hulle langs mekaar om 3-syfer getalle te maak, byvoorbeeld 247. Hoeveel verskillende 3-syfer getalle kan sy met hierdie kaarte maak?

15. Which one of these numbers is greater than $\frac{1}{2}$?

$$\frac{2}{5}, \frac{4}{7}, \frac{4}{9}, \frac{5}{11}, \frac{6}{13}$$

A. $\frac{1}{7}$

B. $\frac{4}{7}$

C. $\frac{4}{9}$

D. $\frac{5}{11}$

E. $\frac{6}{13}$

15. Watter een van hierdie getalle is groter as $\frac{1}{2}$?

$$\frac{2}{5}, \frac{4}{7}, \frac{4}{9}, \frac{5}{11}, \frac{6}{13}$$

D. $\frac{5}{11}$

E. $\frac{6}{13}$

16. Bule is five years older than her friend Phiwe. How old will Phiwe be when Bule is 35 years old?

A. 30

B. 25

C. 35

D. 20

E. 40

16. Bule is vyf jaar ouer as haar vriend Phiwe. Hoe oud sal Phiwe wees wanneer Bule 35 jaar oud is?

D. 20

E. 40

17. $M + M = M \times M$

How many numbers have this property?

A. 0

B. 1

C. 2

17. $M + M = M \times M$

Hoeveel getalle het hierdie eienskap?

D. 3

E. 4

18. What is the sum of 2017 digits for the following pattern?

101011010110101

A. 403

B. 404

C. 1209

D. 1210

E. 2017

18. Wat is die som van 2017 syfers vir hierdie patroon?

19. A tin of beef costs twice as much as a tin of beans. Three tins of beef and three tins of beans together cost R72. What will one tin of beef and two tins of beans cost?

A. 48

B. 44

C. 40

19. 'n Blikkie vleis kos twee keer soveel as 'n blikkie bone. Drie blikkies vleis en drie blikkies bone kos saam R72. Wat sal een blikkie vleis en twee blikkies bone kos?

D. 36

E. 32

20. Study the grid below. In which row will the number 65 be?

Row 1	1	2	3	4
Row 2	5	6	7	8
Row 3	9	10	11	12
Row 4	13	14	15	16
Row 5	17	18	19	20

A. 14

B. 15

C. 16

D. 17

E. 18

20. Bestudeer hierdie rangskikking van getalle. In watter ry sal 65 wees?