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CASIO



The 2002 Living Maths Olympiad Grade: 7

It's about the stuff in maths and the maths in stuff.

PLEASE NOTE:

- Answer the questions according to the instructions on the answer sheet.
- You may NOT use a calculator.
- We hope you enjoy it!

LET OP ASSEBLIEF:

- Beantwoord die vrae volgens die instruksies op die antwoordblad.
- Jy mag nie 'n sakrekenaar gebruik nie.
- Ons hoop jy geniet dit!

1. 4; 8; 12; 16; 20;...

Which number below will also appear in the sequence above?

- (A) 502 (B) 552 (C) 661 (D) 309 (E) 402

1. 4; 8; 12; 16; 20;...

Watter getal hieronder sal ook in die ry hierbo, voorkom?

2. The symbol @ represents a number. What value of @ makes the sentence below, true?

$$\frac{@}{2} = \frac{32}{@}$$

- (A) 16 (B) 4 (C) 8 (D) 12 (E) 2

2. Die simbool @ stel 'n getal voor. Watter waarde van @ maak die getallesin hieronder, waar?

$$\frac{@}{2} = \frac{32}{@}$$

3. The average mark of five children for a maths test was 8 out of 10. If Siphon got 10, Moosa got 5, Belinda got 7 and Sandy got 7, how much did Robert get?

- (A) 12 (B) 11 (C) 9 (D) 7 (E) 6

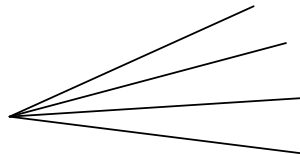
3. Die gemiddelde punte van vyf kinders vir 'n wiskunde toets was 8 uit 10. As Siphon 10 gekry het, Moosa 5, Belinda 7 en Sandy 7, hoeveel het Brian gekry?

4. Which of the following is not a prime number?

- (A) 41 (B) 61 (C) 71 (D) 91 (E) 101

4. Watter een van die volgende is nie 'n priemgetal nie?

5. How many acute angles are there in the figure below?



- (A) 4 (B) 5 (C) 6 (D) 7 (E) 8

5. Hoeveel skerp hoeke is daar in die skets hieronder?

6. Three consecutive even numbers add up to 78. Find the biggest number of the three.

(A) 78

(B) 28

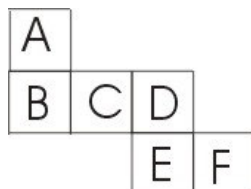
(C) 26

(D) 24

(E) 27

6. Drie opeenvolgende ewe getalle bymekaargetel is 78. Vind die grootste getal van die drie.

7. A piece of paper consisting of six joined squares labelled as shown is folded along the edges to form a cube. The label of the face opposite the face labelled F is



(A) A

(B) B

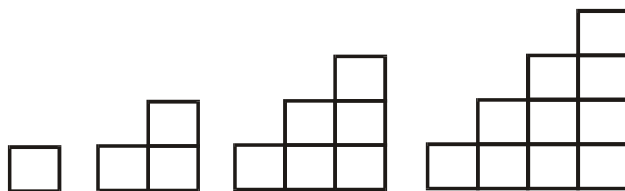
(C) C

(D) D

(E) E

7. 'n Stuk papier wat bestaan uit ses vierkante wat aan mekaar verbind is en gemerk is, soos getoon, word langs die sye af gevou om 'n kubus te vorm. Die sykant wat oorkant sykant F is, is gemerk

8. Aaron and Daniel are building a staircase out of blocks using the pattern below. How many blocks will they need to build a staircase that is 15 blocks high?



(A) 15

(B) 115

(C) 225

(D) 120

(E) 85

8. Aaron en Daniel gebruik blokkies om trappe te bou soos hieronder getoon. Hoeveel blokkies het hulle nodig vir 'n stel trappe wat 15 blokkies hoog is ?

9. Refer to the previous question. If Aaron has just built a staircase using 66 blocks, how high in blocks is the staircase?

(A) 10

(B) 11

(C) 12

(D) 13

(E) 14

9. Verwys na die vorige vraag. Indien Aaron 66 blokkies gebruik het vir 'n stel trappe, hoe hoog (in blokkies) is die trap ?

10. The number of oranges in a container doubles every minute. After an hour the container is full. After how many minutes was the container half full?

(A) 50

(B) 30

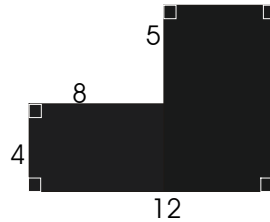
(C) 29

(D) 59

(E) 31

10. Die aantal lemoene in 'n houer verdubbel elke minuut. Na 'n uur is die houer vol. Na hoeveel minute was die houer half ?

11. In the diagram, the lengths of the sides are as shown. The perimeter of the figure is:



- (A) 34 (B) 38 (C) 42 (D) 48 (E) 54

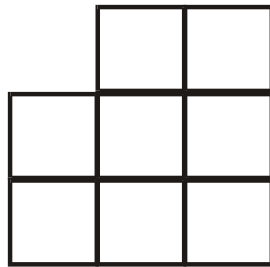
11. In die figuur hieronder is die lengtes van die sye soos aangetoon. Die omtrek van die figuur is:

12. A room has 12 people. If every person shakes hands with every other person, how many handshakes take place ?

12. 'n Kamer het 12 mense. As elke persoon een keer hand skud met elke ander persoon, hoeveel handrukke word gegee?

- (A) 66 (B) 24 (C) 144 (D) 132 (E) 12

13. How many squares are there altogether in this diagram?



13. Hoeveel vierkante is daar altesaam in hierdie figuur?

- (A) 13 (B) 12 (C) 11 (D) 10 (E) 9

14. The sum of two numbers is 12. If one number is three times the other then their product is

14. Die som van twee getalle is 12. As een getal drie maal die ander is, dan is hul produk

- (A) 35 (B) 20 (C) 36 (D) 24 (E) 27

15. The area of a square is 64 cm^2 . What is the perimeter?

15. Die oppervlakte van 'n vierkant is 64 cm^2 . Wat is die omtrek van die vierkant?

- (A) 8cm (B) 16cm (C) 4cm (D) 32cm (E) 48cm

<p>16. In the multiplication shown, F and G are different digits between 1 and 9. The value of $F + G$ is</p> $\begin{array}{r} F6 \\ X \ 2G \\ \hline 2150 \end{array}$	<p>16. In die vermenigvuldiging getoon is F en G verskillende syfers tussen 1 en 9. Die waarde van $F + G$ is dus</p> $\begin{array}{r} F6 \\ X \ 2G \\ \hline 2150 \end{array}$
<p>17. There are 15 pigs in a sty with enough food for 20 days. How many days would the food last if there were only 12 pigs in the sty?</p>	<p>17. Daar is 15 varke op 'n plaas met genoeg kos vir 20 dae. Hoeveel dae sal die kos hou as daar net 12 varke was?</p>
<p>18. Thandi has a 1c, a 2c, a 5c and a 10c coin. What is the total number of non-zero amounts of money which can be obtained from some or all of these coins?</p>	<p>18. Thandi het 'n 1 sent, 'n 2 sent, 'n 5 sent en 'n 10 sent muntstuk. Wat is die totale aantal nie-nul bedrae geld wat uit een of meer van hierdie munstukke verkry kan word ?</p>
<p>19. In a normal set of dominoes, each domino has two numbers between 0 and 6 on it. Each pair of numbers occurs only once in the set. If I have a set of super dominoes, which uses the number 0-9, how many dominoes are there in my full set?</p>	<p>19. In 'n gewone stel domino's is daar twee getalle tussen 0 en 6 op elke domino. Elke paar getalle kom net eenmaal voor in die stel. As ek 'n stel superdomino's wat die getalle 0 tot 9 gebruik het, hoeveel domino's is daar in my volledige stel?</p>
<p>(A) 60 (B) 40 (C) 35 (D) 45 (E) 55</p>	<p>(A) 16 (B) 25 (C) 30 (D) 36 (E) 40</p>
<p>20. Three coins are tossed at the same time. What is the probability of two tails and one head showing?</p>	<p>20. Drie muntstukke word terselfdertyd opgeskiet. Wat is die waarskynlikheid dat twee van hulle munt en een kruis val?</p>
<p>(A) $\frac{1}{4}$ (B) $\frac{1}{3}$ (C) $\frac{3}{8}$ (D) $\frac{1}{8}$ (E) $\frac{1}{2}$</p>	<p>(A) 12 (B) 7 (C) $10\frac{3}{4}$ (D) $14\frac{1}{2}$ (E) $8\frac{1}{4}$</p>
<p>21. A number Y is doubled and then increased by 5. When this new quantity is doubled, the result is 38. The value of Y is</p>	<p>21. 'n Getal Y word verdubbel en dan met 5 vermeerder. As die getal wat so verkry word weer verdubbel word, is die resultaat 38. Die waarde van Y is</p>

22. Wilhelm gets the following marks at school for his last three tests: 80%, 73% and 60%. What would he need to get for his next test if he wanted to achieve an overall average of 75% ?

- (A) 87% (B) 75% (C) 65% (D) 90% (E) 60%

22. Wilhelm kry die volgende resultate vir sy laaste drie toetse: 80%, 73% and 60%. Hoeveel moet hy vir sy volgende toets kry as hy 'n gemiddeld van 75% wil hê?

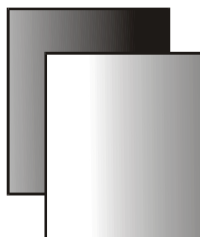
23. Refer to the previous question. Wilhelm is lazy and decides not to learn for his fourth test. A failure is anything less than 50% overall for all his tests. What is the lowest mark he can get for the fourth test to ensure that he does not fail overall?

- (A) 2% (B) 13% (C) 20% (D) 23% (E) He cannot fail

23. Verwys na die vorige vraag. Wilhelm is lui en besluit om nie te leer vir sy volgende toets nie. Om te druij moet hy enigiets minder as 50% gemiddeld kry vir al sy toetse. Wat is die laagste punt wat hy kan behaal vir die vierde toets sonder om te druij?

24. A Perspex plate reduces the intensity of light shining through it by 20%. By how much will the light intensity be reduced if two Perspex plates are placed on top of each other?

24. 'n Perspexplaat verminder die intensiteit van lig wat daardeur skyn met 20%. Wat sal die vermindering in ligintensiteit wees wanneer twee sulke plate op mekaar geplaas is?



- (A) 20% (B) 40% (C) 48% (D) 36% (E) 64%

25. 5 cats eat 5 mice in 5 minutes. How many minutes will it take 7 cats to eat 7 mice?

25. 5 katte eet 5 muise in 5 minute. Hoeveel minute sal dit 7 katte neem om 7 muise te eet?



- (A) 7 (B) 5 (C) 3,5 (D) 7/5 (E) 5/7

Papers set by Steve Sherman and translated by Wilhelm Jonker