

Fakulteit Natuur- & Landbouwetenskappe
Faculty of Natural & Agricultural Sciences

Department of Mathematics and Applied
Mathematics
Departement Wiskunde en Toegepaste Wiskunde

MATHEMATICS COMPETITION

WISKUNDE KOMPETISIE

GRADES 6 AND 7

GRADE 6 EN 7

AUGUST 2015

AUGUSTUS 2015

TIME: 2 HOURS

TYD: 2 URE

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Denkleiers • Leading Minds • Dikgopolo tša Dihlalefi

Leading Minds

INSTRUCTIONS

- ◆ No calculators or other calculation aids are allowed.
- ◆ **Mark allocation**
Every question counts 1 mark.
Random guessing is not advisable, as the mark allocated to a question may be deducted for a wrong answer.
- ◆ Every question has five possible answers, (A) to (E).
Only **ONE** answer is correct.
Colour in the rectangle of the correct answer on the answer sheet.
Do not colour outside the rectangle.
Use a soft pencil.

Example:

Suppose Question 21 reads:
The smallest integer larger than 1 is

(A) 0 (B) -1 (C) 1 (D) 2 (E) 3

The correct answer is 2, which is answer (D).
On the answer sheet you must colour in the rectangle (D) against Question 21.

Question 21 / Vraag 21 (A) (B) (C) (D) (E)

INSTRUKSIES

- ◆ Geen sakrekenaars of ander rekenhulpmiddels word toegelaat nie.
- ◆ **Puntetoekenning**
Elke vraag tel 1 punt.
Raaiery word nie aanbeveel nie, aangesien die punt toegeken aan die vraag afgetrek mag word vir 'n verkeerde antwoord.
- ◆ Elke vraag het vyf moontlike antwoorde, (A) tot (E).
Slegs **EEN** antwoord is korrek.
Kleur die reghoek van die korrekte antwoord op die antwoordvel in.
Moenie buite die reghoek inkleur nie.
Gebruik 'n sagte potlood.

Voorbeeld:

Gestel Vraag 21 is:
Die kleinste heelgetal groter as 1 is

(A) 0 (B) -1 (C) 1 (D) 2 (E) 3

Die korrekte antwoord is 2, en dit is antwoord (D).
Op die antwoordvel moet jy die reghoek (D) inkleur teenoor Vraag 21.

Question 21 / Vraag 21 (A) (B) (C) (D) (E)

Question 1**Vraag 1**

$$12 - 34 + 56 =$$

- (A) 4 (B) 14 (C) 24 (D) 34 (E) 44
-

Question 2**Vraag 2**

Which fraction is the biggest?

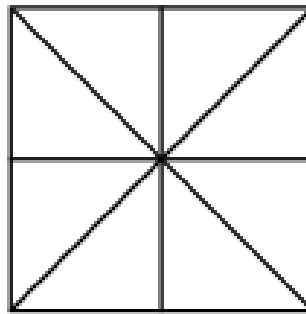
Watter breuk is die grootste?

- (A) $\frac{7}{16}$ (B) $\frac{7}{18}$ (C) $\frac{7}{20}$ (D) $\frac{7}{22}$ (E) $\frac{7}{24}$
-

Question 3**Vraag 3**

How many different triangles (of all sizes) are there in this figure?

Hoeveel verskillende driehoeke (van alle groottes) is daar in hierdie figuur?



- (A) 8 (B) 12 (C) 14 (D) 16 (E) 18
-

Question 4**Vraag 4**

The price of a chocolate is R6.80. If Letshego buys two chocolates with a R20 note, how much change should she get?

Die prys van 'n sjokolade is R6.80. As Letshego twee sjokolades koop met 'n R20 noot, hoeveel kleingeld moet sy kry?

- (A) R5.40 (B) R6.40 (C) R7.40 (D) R8.40 (E) R13.20
-

Question 5**Vraag 5**

What is the smallest positive integer that is a multiple of four, six and ten?

Wat is die kleinste positiewe heelgetal wat 'n veelvoud van vier, ses en tien is?

- (A) 240 (B) 40 (C) 24 (D) 120 (E) 60
-

Question 6

Which number in place of Δ makes the following equation true : $\Delta \times \Delta \times \Delta = 729$?

- (A) 243 (B) 6 (C) 9 (D) 19 (E) 7
-

Vraag 6

Watter getal moet in die plek van Δ wees om die volgende vergelyking waar te maak : $\Delta \times \Delta \times \Delta = 729$?

Question 7

Which of the following is closest to one million (10^6) seconds?

- (A) 1 day (B) 10 days (C) 100 days (D) 1 year (E) 10 years
(A) 1 dag (B) 10 dae (C) 100 dae (D) 1 jaar (E) 10 jare
-

Vraag 7

Watter van die volgende is die naaste aan 'n miljoen (10^6) sekondes?

Question 8

The number halfway between $\frac{1}{6}$ and $\frac{1}{4}$ is

- (A) $\frac{1}{10}$ (B) $\frac{1}{5}$ (C) $\frac{5}{24}$ (D) $\frac{7}{24}$ (E) $\frac{5}{12}$
-

Vraag 8

Die getal wat halfpad tussen $\frac{1}{6}$ en $\frac{1}{4}$ is

Question 9

What number should be removed from the list below so that the average of the remaining numbers is 6.1?

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

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

Vraag 9

Watter getal moet van die lys verwyder word sodat die gemiddelde van die oorblywende getalle 6.1 is?

Question 10

Gordon is 33 years old now. His three sons are 5, 6 and 10 years old now. In how many years from now will the three sons together be as old as their father?

- (A) 4 (B) 6 (C) 7 (D) 8 (E) 12
-

Vraag 10

Gordon is 33 jaar oud nou. Sy seuns is 5, 6 en 10 jaar oud nou. In hoeveel jaar van nou sal die drie seuns se totale ouderdom net soveel wees soos hul pa se ouderdom?

Question 11

In a game you call out all the numbers from 1 to 100. You clap every time you say either a multiple of 3 or a number ending on 3. How many times would you clap?

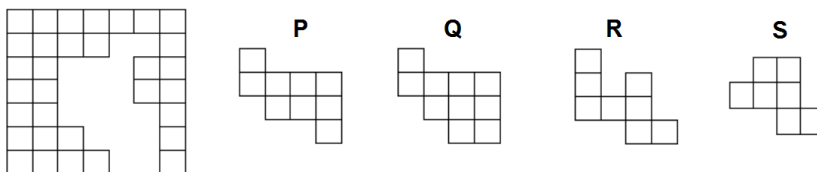
- (A) 30 (B) 33 (C) 36 (D) 39 (E) 43
-

Vraag 11

In 'n speletjie tel jy al die getalle van 1 tot 100. Elke keer as jy 'n getal deelbaar deur 3 noem of 'n getal wat eindig op 3 moet jy jou hande klap. Hoeveel keer klap jy jou hande?

Question 12

Which TWO of these figures on the right can one use to cover the empty area in the square exactly?



- (A) $P + R$ (B) $Q + S$ (C) $Q + R$ (D) $P + S$ (E) $R + S$
-

Vraag 12

Watter TWEE van die figure aan die regterkant kan jy gebruik om die leë area in die vierkant presies te dek ?

Question 13

What is the 2015th letter in the sequence UPCOMPUPCOMPUPCOMP... ? (UPCOMP gets repeated.)

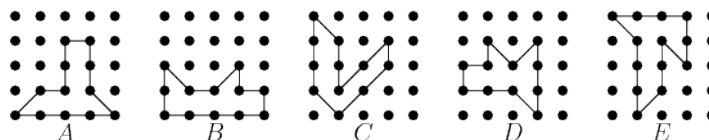
- (A) U (B) P (C) C (D) O (E) M
-

Vraag 13

Wat is die 2015ste letter in die reeks UPCOMPUPCOMPUPCOMP... ? (UPCOMP word herhaal.)

Question 14

Which one of the following polygons has the largest area?



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

Vraag 14

Watter van die volgende veelhoeke het die grootste area?

Question 15

If the length of a rectangle is increased by 20% and its width is increased by 50%, then the area is increased by

- (A) 30% (B) 70% (C) 80% (D) 87.5% (E) 100%
-

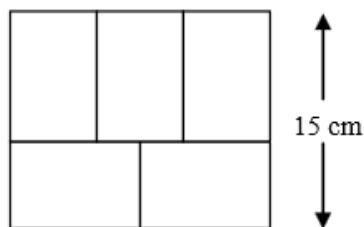
Question 16

A film starts at 21 : 16, has three advertisement breaks of 3 minutes each and ends at 23 : 08. For how long does the film last in minutes?

- (A) 100 (B) 103 (C) 106 (D) 109 (E) 112
-

Question 17

Five identical rectangles fit together to form the figure below. What is the area of the figure?



- (A) 270 cm^2 (B) 300 cm^2 (C) 330 cm^2 (D) 360 cm^2 (E) 450 cm^2
-

Question 18

A prime number is an integer with only two positive factors: itself and one. The smallest prime numbers are 2, 3, 5 and 7. Some numbers like 9 and 15 are not prime numbers. Which of the following is a prime number?

- (A) 301 (B) 303 (C) 305 (D) 307 (E) 309
-

Vraag 15

As die lengte van 'n reghoek met 20% vermeerder word en die breedte met 50% vermeerder word, word die oppervlak vermeerder met

Vraag 16

'n Fliiek begin om 21 : 16, het drie advertensies breke wat elk 3 minute lank is en eindig 23 : 08. Hoe lank was die fliiek in minute?

Vraag 17

Vyf identiese reghoeke vorm saam om die figuur hieronder. Wat is die oppervlakte van die figuur?

Vraag 18

'n Priemgetal is 'n getal met net twee positiewe faktore: homself en een. Die kleinste priemgetalle is 2, 3, 5 en 7. Sommige getalle soos 9 en 15 is nie priemgetalle nie. Watter een van die volgende is 'n priemgetal?

Question 19

A bath fills in 12 minutes if the plug is in. It empties in 18 minutes when the tap is off. If the tap is running and the plug is out, how long will it take to fill the bath?

- (A) 36 min (B) 18 min (C) 24 min (D) 48 min (E) 15 min
-

Vraag 19

'n Bad loop in 12 minute vol met die prop in. Dit loop in 18 minute leeg as die kraan toe is. As die kraan oop is en die prop is uit, hoe lank neem dit die bad om vol te loop?

Question 20

Captain Sparrow and his pirate crew dug up several gold coins. They are dividing the coins amongst themselves so that each person gets the same number of coins. If there were four less pirates, then each person would get 10 more coins. However, if there were 50 less coins, then each person would get 5 less coins. How many coins did they dig up?

- (A) 80 (B) 100 (C) 120 (D) 150 (E) 250
-

Vraag 20

Kaptein Sparrow en sy seerowers het 'n paar goue munte gevind. Hulle verdeel die goue munte sodat elke persoon ewe veel kry. As daar 4 minder seerowers was, sou elke persoon 10 goue munte meer gekry het. As daar 50 minder goue munte was, sou elke persoon 5 minder goue munte gekry het. Hoeveel goue munte het hulle gevind?