Jet SA Mathematics Challenge

GRADE 5 FIRST ROUND
AUGUST 2011

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!

Jet SA Wiskunde-uitdaging

GRAAD 5 EERSTE RONDE
AUGUSTUS 2011

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!

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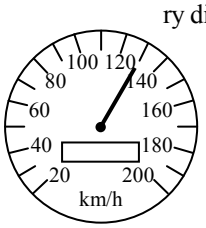
1. The sketch shows the speedometer of a car. At what speed is the car travelling?

1. Die skets wys die spoedmeter van ’n motor. Hoe vinnig ry die motor?



(A) 135 km/h (B) 121 km/h (C) 125 km/h (D) 130 km/h (E) 120 km/h

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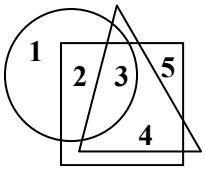
2. Which number is in the square and the circle but is not in the triangle?

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



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

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

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

(A) 4 (B) 6 (C) 7 (D) 8 (E) 9

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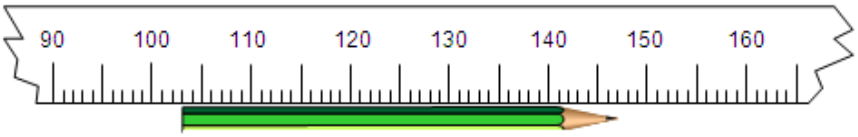
4. How long is the pencil?

4. Hoe lank is die potlood?



(A) 147 mm (B) 154 mm (C) 54 mm (D) 44 mm (E) 84 mm

SAMF
SOUTH AFRICAN MATHEMATICS FOUNDATION

AMESA
The Association for Mathematics Education of South Africa

5. 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 (D) 13:00 (E) 14:00

5. As my horlosie nou 10:00 wys, hoe laat sal dit wees 100 uur van nou af?

(A) 10:00 (B) 11:00 (C) 12:00 (D) 13:00 (E) 14:00

6. What number in the place of ∇ will make this sentence true?

$$8 - 3 = \nabla - 8$$

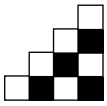
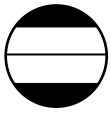
(A) 3 (B) 5 (C) 13 (D) 11 (E) 12

6. Watter getal in die plek van ∇ sal hierdie sin waar maak?

$$8 - 3 = \nabla - 8$$

(A) 3 (B) 5 (C) 13 (D) 11 (E) 12

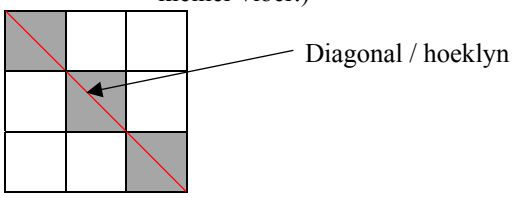
7. In which one of the following is half of the figure shaded?

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

7. In watter een van die volgende is die helfte van die figuur verdonker?

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

8. A square floor is tiled using 400 square tiles. How many tiles are there in a diagonal of the floor? (The sketch below shows the diagonal for a smaller floor.)



(A) 20 (B) 400 (C) 200 (D) 100 (E) 150

8. 'n Vierkantige vloer is met 400 vierkantige teëls geteël. Hoeveel teëls is daar in 'n hoeklyn van die vloer? (Die diagram hieronder toon die hoeklyn van 'n kleiner vloer.)

(A) 20 (B) 400 (C) 200 (D) 100 (E) 150

9. *Row 1:* •
Row 2: • • •
Row 3: • • • • •
Row 4: • • • • • • •

How many dots would be in *Row 7*?

(A) 13 (B) 10 (C) 11 (D) 7 (E) 15

9. *Ry 1:* •
Ry 2: • • •
Ry 3: • • • • •
Ry 4: • • • • • • •

Hoeveel kolletjies sal daar in *Ry7* wees?

(A) 13 (B) 10 (C) 11 (D) 7 (E) 15

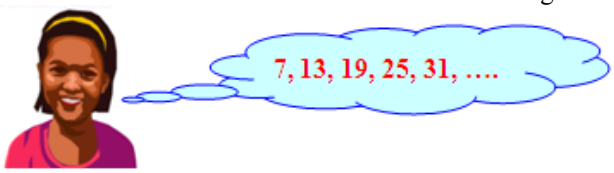
10. In the previous question: How many dots would be in *Row 70*?

(A) 137 (B) 139 (C) 140 (D) 141 (E) 130

10. In die vorige vraag: Hoeveel kolletjies sal daar in *Ry 70* wees?

(A) 137 (B) 139 (C) 140 (D) 141 (E) 130

11. Lindiwe counts like this: 7, 13, 19, 25, 31, ...
What is the 100th number she will count?



(A) 700 (B) 607 (C) 600 (D) 706 (E) 601

11. Lindiwi tel so: 7, 13, 19, 25, 31, ...
Wat is die 100ste getal wat sy sal tel?

(A) 700 (B) 607 (C) 600 (D) 706 (E) 601

12. In Mooitown school there are 5 boys for every 6 girls. If there are 150 girls, how many boys are there in the school?

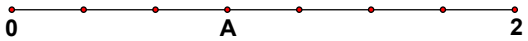
(A) 125 (B) 120 (C) 180 (D) 30 (E) 250

12. In Mooitown skool is daar 5 seuns vir elke 6 meisies. As daar 150 meisies is, hoeveel seuns is daar in die skool?

(A) 125 (B) 120 (C) 180 (D) 30 (E) 250

13. A number line from 0 to 2 is divided into seven equal pieces. What fraction names point A?

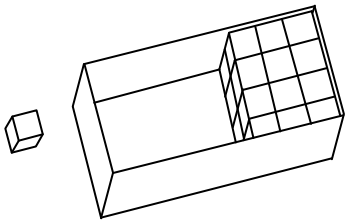
13. 'n Getallelyn van 0 tot 2 word in sewe gelyke dele verdeel. Watter breuk is A?



(A) $\frac{6}{7}$ (B) $\frac{3}{7}$ (C) $\frac{1}{2}$ (D) $\frac{7}{6}$ (E) $\frac{1}{3}$

14. 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?

14. 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?



(A) 32 (B) 14 (C) 24 (D) 64 (E) 48

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

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

(A) 64 (B) 52 (C) 40 (D) 32 (E) 56

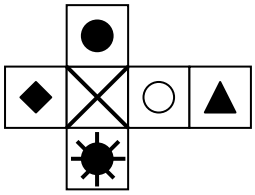
16. Manual must number the 100 room doors in a new hotel with plastic digits, from room 1 to room 100. How many digits 7 does he need?

16. Manual moet die 100 kamerdeure in 'n nuwe hotel met plastieksyfers nommer, van kamer 1 tot kamer 100. Hoeveel syfers 7 het hy nodig?

(A) 18 (B) 19 (C) 20 (D) 10 (E) 11

17. Which of these cubes *cannot* be folded from this net?

17. Watter kubus kan *nie* gevou word uit hierdie net nie?



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

18. Sara buys a little 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?

18. Sara koop 'n boompie 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?

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

(A) 55,5 cm (B) 57 cm (C) 36 cm (D) 50 cm (E) 165 cm

19. In the previous question: After how many days would the tree be 1,5 m high?

19. In die vorige vraag: Na hoeveel dae sal die boom 1,5 m hoog wees?

(A) 100 (B) 95 (C) 93 (D) 92 (E) 105

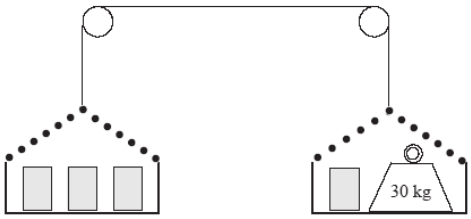
20. A clock takes three seconds to strike 4 o'clock. How many seconds will it take to strike 8 o'clock?

20. 'n Klok neem drie sekondes om 4-uur te slaan. Hoeveel sekondes sal dit neem om 8-uur te slaan?

(A) 10 (B) 5 (C) 6 (D) 8 (E) 7

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

21. 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?



(A) 15 kg (B) 60 kg (C) 90 kg (D) 30 kg (E) 45 kg

22. The combined ages of the five people in the photograph is 121. What will their combined ages be in ten years time?

22. Die gesamentlike ouderdom van die vyf mense in die foto is 121. Wat sal hulle gesamentlike ouderdom oor tien jaar wees?

(A) 171 (B) 131 (C) 141 (D) 161 (E) 151

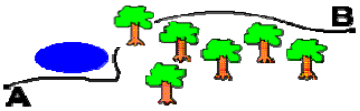
23. Jackie has four cards (see below). How many different two-digit numbers (e.g. 32 and 41) can she make with these cards?

23. Jackie het vier kaarte (sien hieronder). Hoeveel verskillende tweesyfer-getalle (bv. 32 en 41) kan sy met hierdie kaarte maak?

(A) 8 (B) 12 (C) 16 (D) 18 (E) 24

24. Xholili starts walking from point A on the map following the road towards B. Thandi starts walking at the same time from B towards A. Xholili can walk 4 km in one hour and Thandi can walk 3 km in one hour. If the road is 21 km long, after how many minutes will they meet?

24. Xholili begin by punt A op die kaart en stap padlangs in die rigting van B. Thandi begin terselftertyd by B en stap padlangs in die rigting van A. Xholili kan 4 km in een uur stap en Thandi kan 3 km in een uur stap. As die pad 21 km lank is, na hoeveel minute sal hulle ontmoet?



(A) 60 (B) 120 (C) 150 (D) 180 (E) 210

25. At *Pizza Inn* 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?

25. By *Pizza Inn* 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?

(A) R28,75 (B) R23 (C) R27,50 (D) R34,50 (E) R41,50