

SA Mathematics Challenge 2015

GRADE 6 FIRST ROUND

SA Wiskunde-uitdaging 2015

Graad 6 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. What is the value of the 8th number in this sequence?

3; 7; 11; 15; 19...

- (A) 19 (B) 23 (C) 27 (D) 31 (E) 35

2. Which fraction is halfway between $\frac{3}{5}$ and 1?

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

3. a , b and c are any three consecutive numbers, for example 2; 3; 4 or 15; 16; 17. If $a + b + c = 150$, what is the value of a , the smallest of these numbers?

- (A) 32 (B) 48 (C) 51 (D) 49 (E) 55

4. Nadine subtracted 11 from a number instead of dividing the number by 11. Her answer was 55. What should the correct answer be?

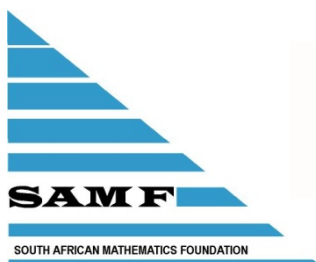
- (A) 5 (B) 6 (C) 7 (D) 11 (E) 66

5. If Nkosinathi packed 40 apples in each crate, what is the minimum number of crates he needs to pack 4860 apples?

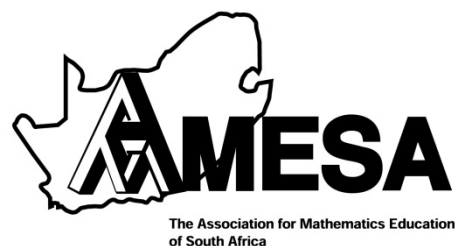
- (A) 121 (B) 122 (C) 123 (D) 124 (E) 125

6. Two chocolates and three Cokes cost R51, but one chocolate and two Cokes cost R31. What does one Coke cost?

- (A) R9 (B) R10 (C) R11 (D) R12 (E) None of these
Nie een hiervan nie



sasol
reaching new frontiers

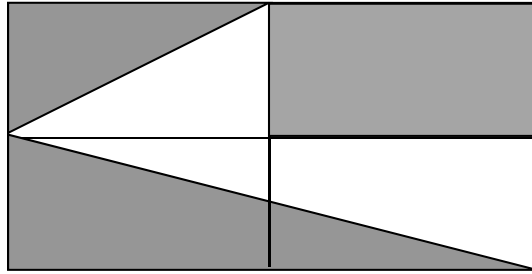


12. Chocolate cupcakes are sold in packs of 6, 9 or 20. So you can buy 15 (6 + 9) cupcakes, but not 14. What is the largest number of cupcakes that is NOT possible to buy?

- (A) 44 (B) 43 (C) 42 (D) 41 (E) 17

12. Sjokolade koekies word verkoop in pakke van 6, 9 of 20. Dus kan jy 15 (6 + 9) koekies koop, maar nie 14 nie. Wat is die grootste getal koekies wat NIE gekoop kan word nie?

13. The rectangle below is divided into four smaller equal rectangles. What fraction of the large rectangle is shaded?



- (A) $\frac{1}{4}$ (B) $\frac{3}{8}$ (C) $\frac{1}{2}$ (D) $\frac{5}{8}$ (E) $\frac{3}{4}$

13. Die reghoek hieronder word in vier kleiner gelyke reghoeke verdeel. Watter breuk van die groot reghoek is verdonker?

14. Thabo is twice the age of Sarah and 13 years older than James. If the sum of their ages is 27, what is Sarah's age?

- (A) 8 (B) 3 (C) 4 (D) 5 (E) 7

14. Thabo is twee keer so oud as Sarah en 13 jaar ouer as James. As die som van hul ouderdomme 27 is, hoe oud is Sarah?

15. In a particular card game, animals are given values:
50 cats = 20 frogs
30 frogs = 12 fish
120 fish = 1 dog

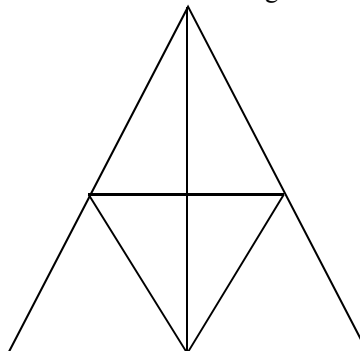
How many cats equal 1 dog?

- (A) 50 (B) 120 (C) 200 (D) 750 (E) 1000

15. In 'n kaartspeletjie word punte gegee aan diere:
50 katte = 20 paddas
30 paddas = 12 visse
120 visse = 1 hond

Hoeveel katte is gelyk aan 1 hond?

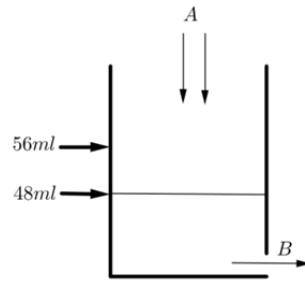
16. How many triangles of all sizes are there in this diagram?



- (A) 7 (B) 12 (C) 11 (D) 10 (E) 13

16. Hoeveel driehoeke van alle groottes is daar in hierdie figuur?

17. Water enters a tank from A at 78 mL every minute and leaks at B. If the water level moved from 48 mL to 56 mL in 4 minutes, how many millilitres water is the tank leaking every minute?



17. Water loop in 'n tenk in by A teen 78 mL elke minuut en lek water by B. As die watervlak verander het van 48 mL tot 56 mL in 4 minute, hoeveel milliliter water lek die tenk elke minuut?

- (A) 104 mL (B) 80 mL (C) 76 mL (D) 22 mL (E) 86 mL

18. Lamp posts are placed in a straight line equal distances apart. The distance between the first and the sixth lamp post is 85 m. The distance between the second and the last lamp post is 187 m. How many lamp posts are there?

18. Lamppale word in 'n reguit lyn op gelyke afstande geplant. Die afstand tussen die eerste en die sesde lamppaal is 85 m. Die afstand tussen die tweede en die laaste lamppaal is 187 m. Hoeveel lamppale is daar?

- (A) 11 (B) 12 (C) 13 (D) 14 (E) 15

19. In order for Siphon to walk a kilometre (1000 m) in his rectangular backyard, he must walk the length of the yard 25 times or walk its perimeter 10 times. What is the area of Siphon's backyard?

19. Vir Siphon om een kilometer (1000 m) in sy reghoekige erf te stap, moet hy die lengte van die erf 25 keer stap, of 10 keer om die erf (die omtrek) stap. Wat is die oppervlakte van Siphon se erf?

- (A) 40 m² (B) 200 m² (C) 400 m² (D) 500 m² (E) 1000 m²

20. In this alpha puzzle, each letter stands for a unique digit so that the sentence is true. What is the value of C?

20. In hierdie alfa-raaisel staan elke letter vir 'n unieke syfer sodat die getalsin waar is. Wat is die waarde van C?

$$C + CA = ATT$$



- (A) 9 (B) 8 (C) 7 (D) 6 (E) 5