SOUTH AFRICAN MATHEMATICAL LITERACY OLYMPIADS

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Mathematical Literacy Olympiad GRADE 12

DATE: 5 AUGUST 2025

TIME: 90 MINUTES

INSTRUCTIONS:

1. This booklet has 10 multiple choice and 10 open ended questions.
2. Use the answer sheet provided.

   Circle the letter corresponding to your answer.
3. All working details must be done in the space provided.
4. Calculators are permitted.
5. Diagrams are not necessarily drawn to scale.
6. The first 15 problems carry 1 mark each and the next 5 carry 2 marks each.
7. You have 90 minutes for the paper which works out to an average of 4.5 minutes per question.
8. Read the questions carefully before answering.
9. Visit the website: www.saolympiads.co.za.

ENJOY THE OLYMPIAD.

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Grade Twelve Mathematical Literacy Olympiad 2025

1. Evaluate: 256 x 333 – 246 x 333

   (A) 1 750 (B) 1 650 (C) 3 330 (D) 2 560

2. If the average inflation rate is 6% per annum then what will goods costing R5 000 now, cost, in 5 year's time?

   (A) R6 400 (B) R6 500 (C) R6 600 (D) R6 800

3. Write correct to 2 significant figures:

   1 745km

   (A) 1 700km (B) 1 750km (C) 1 745km (D) 1 740km

4. Senzo runs at a rate of 7.5m/sec. If he maintains this rate, then determine how many seconds will he take to complete the 120m?

   (A) 13 (B) 14 (C) 15 (D) 16

5. If 5 litres of olive oil cost R875 then what will 240ml of olive oil at this rate cost?

   (A) R50 (B) R48 (C) R42 (D) R40

6. Write in Scientific notation:

   7900000000

   (A) 7.9×10^9 (B) 8×10^{11} (C) 7.9×10^{10} (D) 0.79×10^8

7. One needs 2.5 litres of milk to cook 300 grams of mealie meal. How much of milk in litres would one need to cook 720 grams of mealie meal?

   (A) 2.1 (B) 2.2 (C) 2.3 (D) 6

8. A group of 5 waitrons earned service charges of 9% on sales. If the takings for the day was R65 400 (including service charges) then determine the service charges received by each of the 5 waitrons, if each of them received the same amount.

   (A) R750 (B) R1080 (C) R850 (D) R900

9. A cyclist travels at 36km/h. How long in minutes will it take the cyclist to cover a distance of 1.5km travelling at the same rate?

(A) 1.8 (B) 2 (C) 2.5 (D) 2.8

10. By cutting out 450 calories a day one can lose 1 kg a week. Danny cut out on 75600 calories. How many days did he take to lose 24 kg?

(A) 168 (B) 25,55 (C) 27,53 (D) 26,54

11. 136 litres of petrol is required to get from Durban to Cape Town which is 1700km from each other. Determine the rate as litres per 100km (Please provide the number only).

12. Four cows graze on a 4 metres by 5 metres rectangular plot.
What is the maximum number of cows that can graze on a farm 260 metres by 182 metres?

13. A company manufactures school desks.
The following is a breakdown of costs:
    - Fixed cost (FC) = R450 000
    - Variable cost (VC) = R300
    - Selling price (SP) = x

Use the break-even point formula $\frac{FC}{SP-VR}$ to determine the value of x if the break even value is R300.

14. Mr. Modise will travel from Belabela to Richard Bay to pick up his son. His car travels 19,6 km with 1 litre of petrol and the cost of petrol is R22,50 per litre. The distance between Belabela is about 744,8km.
Determine the cost of petrol needed to travel from Belabela to Richard Bay (2 decimal places).

15. 20 workers manufacture 72 car components. How many workers are needed to manufacture 180 components?

16. The following exchange rates apply
16 P for 1D
8 P for 9 S

How many S's can one get for 1 D?

17. It takes 18 workers to dig a trench in 5 days working at the same rate.
How many days will it take 15 men working at the same rate to dig this trench?

18. A rectangular container with dimensions 10m by 4m by 3m was used for the purposes carrying boxes measuring 40cm by 40cm by 40cm.
    How many boxes can be packed in this container?

19. A Sports Club has 105 members who play padel; chess or both. The number who play padel only is twice the number who play chess.
    Determine the number who play both padel and chess if 25 play chess only.

20. Sipho decides to buy a pair of sneakers online. The sneakers cost $178,50 in New York (USA) and the same pair of sneakers costs £156,40 in London (UK).
    The exchange rate for the US dollar and the UK pound.
    $1: ZAR 14,60
    £1: ZAR 18,80
    Determine the cost of the sneakers in both cities in ZAR and calculate how much Sipho would save if he buys the sneakers from the cheapest city.

MARKS: 15 x 1 = 15
5 x 2 = 10
TOTAL: 25