SOUTH AFRICAN MATHEMATICAL LITERACY OLYMPIADS

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SA Olympiads MathsLit

GRADE 12

DATE: 4 AUGUST 2026

TIME: 90 MINUTES

INSTRUCTIONS:

1. This booklet has 10 multiple-choice questions (Questions 1–10) and 10 open-ended questions (Questions 11–20).
2. Use the answer sheet provided. For the multiple-choice questions, 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. Questions 1–15 carry 1 mark each; Questions 16–20 carry 2 marks each.
7. You have 90 minutes for the paper (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.

SA Olympiads MathsLit 2026 — GRADE 12

SECTION A — MULTIPLE CHOICE (Questions 1–10 • 1 mark each)

1. Evaluate: (5/12) × 222 + (1/4) × 222 − (1/6) × 222

(A) 110 (B) 111 (C) 222 (D) 333

2. If the average inflation rate is 7% per annum, what will be the monthly increase in the salary of a pensioner who earns R40 000 per month?

(A) R2800 (B) R3200 (C) R240 (D) R233

3. The distance between two towns, Landy and Aviary, is 4675 km. Write down this distance correct to 2 significant figures.

(A) 4690 km (B) 4600 km (C) 4680 km (D) 4700 km

4. Thando runs at a rate of 25/3 m/sec. If she maintains this rate, determine how many seconds it will take to complete the 200 m race.

(A) 26 (B) 25 (C) 24 (D) 22

5. If 150 ml of special liquid cost R75, what will 5 litres at the same rate cost?

(A) R2200 (B) R2500 (C) R2750 (D) R3000

6. The cost of 12 m² of carpeting is R5400. How much will 20 m² of carpeting at this rate cost?

(A) R9000 (B) R8800 (C) R8600 (D) R8400

7. One needs 2 litres of coconut milk to cook 250 grams of white rice. How much coconut milk (in litres) is needed for 800 grams of white rice?

(A) 5.4 (B) 5.7 (C) 6 (D) 6.4

8. A group of 10 workers earned a bonus of 15% on sales. If the total sales were R103 500 (with the 15% bonus already included in this figure), determine the bonus each of the 10 workers received if each received the same amount.

(A) R1800 (B) R1500 (C) R1350 (D) R1200

9. A truck travels at 24 km/h up a hill. How long in minutes will it take this truck to travel a distance of 4.2 km at the same rate?

(A) 9.5 (B) 10.5 (C) 12.5 (D) 13.5

10. Write 0.0037 in scientific notation.

(A) 3.7×10^{-4} (B) 3×10^{-4} (C) 3.7×10^{-3} (D) 3.7×10^{3}

SECTION B — OPEN-ENDED (Questions 11–15 • 1 mark each • write your answer in the space provided or the answer sheet)

11. 40 litres of petrol are used for a distance of 640 km. Determine the rate as litres per 80 km.

12. A rectangular pool 25 m by 10 m has a 2-metre border which is tiled. Tiles are 500 mm by 400 mm. How many full tiles are needed to cover the border?

13. The distance in metres a dart travels in t seconds is given by $d(t) = -(1/4)t^2 + 16t + 68$. Determine the height when t = 32 seconds.

14. The following exchange rates apply: 1 R for 3 Y; 4 Y for 7 M. How many Rs can one get for 21 Ms?

15. Two cyclists ride around a cycling track with lap times of 5 minutes and 4 minutes respectively, in the same direction and starting from the same point. How many times will the faster cyclist pass the slower cyclist in 2 hours?

SECTION C — OPEN-ENDED (Questions 16–20 • 2 marks each • write your answer in the space provided or the answer sheet)

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16. A company manufactures car components. Fixed cost (FC) = R900 000; Variable cost (VC) = x; Selling price (SP) = 2x. Use the break-even point formula FC ÷ (SP − VC) to determine the value of the variable cost if the break-even quantity is 2500.

17. It takes 10 workers to assemble 200 chains in 40 hours working at the same rate. How many hours will it take 20 workers working at the same rate to make 100 chains?

18. Pedestrians were reminded to walk 2 metres outside the edges of a square which is 20 metres long on each side. Determine the total distance in metres covered by walking once around this 2-metre buffer (use π = 22/7).

19. At a girls' school, 240 girls play either netball or cricket or both. The number who play both codes is twice the number who play cricket only. The number who play cricket only is one-third the number who play netball only. Determine the number who play both netball and cricket.

20. Sandra has 5 plastic digits: 4, 5, 8, 2 and 3. She makes 3-digit numbers by placing 3 of her digits side by side (no repetition). What is the probability that a randomly selected 3-digit number is divisible by 3?

MARKS: 15 × 1 = 15

5 × 2 = 10

TOTAL: 25